

PUBLISHED EVERY WEEK. \$1.50 PER YEAR

# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE  
SUCCEED  
FOUNDED 1877

AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE

Consolidated and Statistics  
Dept. of Agriculture  
Dec 31, '09

Vol. XLV.

LONDON, ONTARIO, MARCH 24, 1910.

No. 913



"THE EEL" 2024

## Makes Each Animal Worth 25 per cent. Over Its Cost



At a cost of only two-thirds of a cent a day per Animal, Royal Purple Stock Specific makes each Animal worth 25 per cent. more.

You never heard of any other Specific, or "Stock Food," doing likewise.

Royal Purple will permanently cure the Bots, Colic, Worms, Skin Diseases and Debility, and restore run-down Animals to plumpness and vigor.

It will increase the milk-yield three to five pounds per cow a day inside of from two to three weeks. It makes the milk richer than ever before.

MR. ANDREW WEGRICH, of Wainfleet, Ont., says: "This is to certify that I have tried your Royal Purple Stock Specific for two weeks, on one cow. On the 16th I weighed her milk as 17 pounds. I noticed a change after 5 or 6 days, as there was an extra weight of milk. On the 29th, I carefully weighed the milk, and she gave 22 pounds. I am giving an order for 5 boxes, as I consider it the best I have ever used."

"Stock Food" will not do this. Because "Stock Food" is nothing more or less than a mixture of the very things which you, yourself, grow on your own farm.

It is not more food your Animals need. They must have something to help their bodies get all the nourishment from the food they are getting. So that they will fatten, and stay fat, all the year 'round.

They need something to prevent disease, to cure disease, and to keep them in the best of health, all the time.

### Not a Stock Food

Royal Purple is not a "Stock Food," nor a "medicine." It is a Conditioner.

It does not contain Grain, nor farm products. Nor does it contain "Dope," or any other injurious ingredient. Royal Purple does not merely temporarily boost or inspire the Animal. It fattens and strengthens it, permanently.

No other Specific has ever added such a quickly effective result. It is a week's yield of milk. It is a week's extra weight of fat. It is a week's extra health. It is a week's extra life.



Royal Purple makes naturally-thin Animals fat and heavy. And it builds up the health and restores the former plumpness and vigor of run-down stock, in little or no time.

The very best time to use this Conditioner is NOW. It digests the hard food properly and prevents the animals getting indigestion or losing flesh.

### 50 per cent. Cheaper

One 50-cent Package of Royal Purple will last one Animal 70 days. This figure a little over two-thirds of a cent per day.

Most "Stock Foods" in 50-cent Packages last but 50 days, and are given three times a day.

But Royal Purple Specific is given only once a day, and lasts 50 per cent. longer.

(A \$1.50 Pail, containing four times the amount of the 50-cent Package, lasts 280 days.)

# Royal Purple

## STOCK AND POULTRY SPECIFICS

So, you see, it is only necessary to give Royal Purple Specific once each day.

Just think of making each Animal worth 25 per cent. over its cost! What will that mean to you, Mr. Stock Owner!

Royal Purple creates an appetite for food, and helps nature to digest and turn it into flesh and muscle.

As a Hog fatterer, Royal Purple has no equal.

### Never Off Feed

Ben McEwen, the horseman, says:

"I have used Royal Purple Stock Specific persistently in feeding 'The Bel'—Springer-persistent winner of any pacer on Grand Circuit, in 1908 and 1909, and Grand Circuit, in 1904, brother of 'Henry Winters'—trial 2,054; brother of 'Springer'—winner of \$25,000 in starting stakes."

"I have used Royal Purple Stock Specific in feeding my horses, and it is my best friend. It will keep them in my best of health, all the time."

### For Poultry

Royal Purple Poultry Specific is our other Specific. It is for Poultry—not for stock.

It makes the Hens lay Eggs in Winter as well as in the Summer.

MRS. WM. BURNHAM, Sanford, Ont., says: "Dear Sirs,—This is to certify that I have used two boxes of your Poultry Specific for my hens. They laid so well while feeding it to them, I wondered if you would mind sending me word how or where I could get some this winter. I bought it from your agent last winter. I had 32 hens, and some days I got two dozen eggs a day in February and March, while feeding them the Specific."

Royal Purple Poultry Specific prevents Fowls losing flesh at moulting time, and permanently cures every poultry disease. It makes their plumage bright and keeps them always in prime condition.

It makes your Poultry worth more than they could ever be without it.

If you are not satisfied, after testing it, you don't lose anything, do you?

Centralia, Ont., Feb. 7, '10.

The W. A. Jenkins Mfg. Co., London, Ont.:

Gentlemen,—We have been using Royal Purple Poultry and Stock Specific for the last three weeks, and must say that results are remarkable. Am feeding the Stock Specific to two milking cows, and they have increased 30 per cent. in their milk. The Poultry results are even more marked than this. We have about 60 hens, laying age. When we commenced feeding, we were getting five and six eggs a day, and in the last five days the same flock of hens laid 150 eggs, almost an average of 31 each day, and those five days have been the coldest this winter.

You can see results plainly in two or three days after the use of "Royal Purple," and the poultry have the same hustle and appearance now as in the summer time. With cows and poultry, am using exactly the same feed and care as before starting to feed "Royal Purple."

When farmers and stockmen get acquainted with Royal Purple, it will have a greater demand than all other tonics and stock foods on the market combined.

Yours truly, ANDREW HICKS.

### Free Book on Diseases

Ask your dealer for our 32-page Free Book on Cattle and Poultry Diseases.

This valuable little Book also contains many cooking recipes, as well as full details about Royal Purple Stock and Poultry Specifics.

It is worth many, many dollars to every owner of Stock or Poultry. Yet it costs you nothing. It ought to be in the home of every Stock and Poultry owner in Canada.

It gives the symptoms of all Animal and Poultry diseases, and tells the best drugs to be used in cases of emergency.

If your dealer cannot give you this book, write us, and we'll promptly mail it to you, Free, postpaid.

If your dealer cannot supply you with Royal Purple Stock and Poultry Specifics, we will supply you direct, express prepaid, upon receipt \$1.50 a Pail for either Poultry or Stock Specifics.

The W. A. Jenkins Mfg. Co.  
London, Ontario.



## Bagpipes



We're the largest Bagpipe dealers in North America.

Lowrie's famous make is the kind we sell. Write to-day for

FREE CATALOGUE

We're from the Old Country ourselves, and know all about the Pipes.

Chesters, Bags, Reeds, Etc., in big stock.

Repairs promptly done. Write for catalogue to-day.

**C. W. Lindsay**  
LIMITED,  
Ottawa, Ontario.

## Northern Ontario

The forest and mineral wealth of Northern Ontario has attracted many people from all parts of the civilized world.

One ninth of the world's reported output of silver in 1908 was taken from Ontario mines.

New discoveries of undoubted richness are being constantly reported from sections far distant from the far-famed Cobalt. Yet a more certain reward is insured to the settler who acquires for himself 160 acres of the rich agricultural lands now open for settlement and made accessible through the construction of railways and Colonization Roads.

The Fertility of the soil is unsurpassed. The timber is in demand at a rising price. Mining, railway and Colonization Road construction, lumbering, etc., afford work in abundance to those who have not the means to remain on their farms continually. These also provide a market for far n produce at prices unequalled anywhere.

Cochrane, the terminus of the T. & N. O. Ry., on the G. T. P. Transcontinental Railway, now under construction, is in the same latitude as the southern part of Manitoba, and 800 miles nearer the seaboard.

That the experimental stage is past is clearly demonstrated. The country is rapidly filling up with settlers from many of the other Provinces, the United States and Europe.

For information as to terms of sale, homestead regulations and for special colonization rates to settlers and for settlers' effects write to

**D. SUTHERLAND, The Director of Colonization,**  
Parliament Buildings, TORONTO.  
HON. J. S. DUFF,  
Minister of Agriculture.



### Synopsis of Canadian North-west Land Regulations.

ANY person who is the sole head of a family, or any male over 18 years old, may homestead a quarter-section of available Dominion land in Manitoba, Saskatchewan, or Alberta. The applicant must appear in person at the Dominion Lands Agency or Sub-Agency for the district. Entry by proxy may be made at any agency, on certain conditions, by father, mother, son, daughter, brother or sister of intending homesteader.

Duties—Six months' residence upon and cultivation of the land in each of three years. A homesteader may live within nine miles of his homestead on a farm of at least 80 acres, solely owned and occupied by him, or by his father, mother, son, daughter, brother or sister.

In certain districts a homesteader in good standing, may pre-empt a quarter-section alongside his homestead. Price, \$3.00 per acre. Duties—Must reside six months in each of six years from date of homestead entry (including the time required to earn homestead patent) and cultivate fifty acres extra.

A homesteader who has exhausted his homestead right, and cannot obtain a pre-emption, may take a purchased homestead in certain districts. Price, \$3.00 per acre. Duties—Must reside six months in each of three years, cultivate fifty acres, and erect a house worth \$300.

W. W. CORY,  
Deputy of the Minister of the Interior.  
N.B.—Unauthorized publication of this advertisement will not be paid for.

### PRIME SEED CORN FOR SALE

Our own grown White Cap Yellow Dent, Early Leaming, Pride of the North, King of the West, Bailey, Compton's Early. Guaranteed the best that can be found. Write for prices.

L. C. PALMER, Kingsville, Essex Co.

## Galvanized Rust-Proof— But Won't Scale



Extreme weather changes in Canada is the reason why so much Wire Fence rusts about 12 or 15 years sooner than it should.

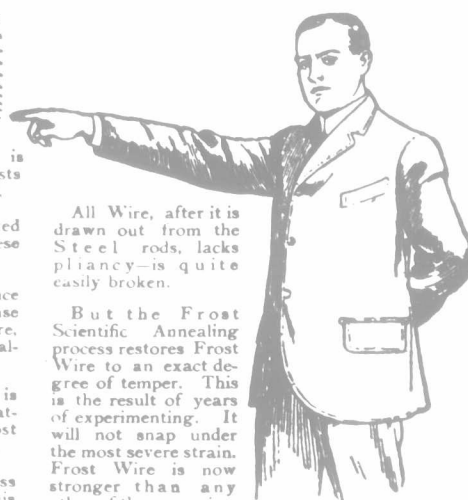
Nearly every Wire Fence is Galvanized too thinly to fight off the result of these weather extremities.

Two-thirds of the life of a Wire Fence depends upon its Galvanizing. Yet, because Zinc costs four times more than steel Wire, much Wire is wiped almost clean of its Galvanizing.

And, besides this, nearly all Wire is merely "coated" with Zinc. This "coating" will peel off years before the Frost Fence begins to even show signs of wear.

You see, all Wire, because of its process of manufacture, has a greasy surface. This dirt a scale must be thoroughly removed before Galvanizing will stick.

You can't expect Zinc to adhere permanently to greasy, scaly Wire, can you?



All Wire, after it is drawn out from the Steel rods, lacks pliancy—is quite easily broken.

But the Frost Scientific Annealing process restores Frost Wire to an exact degree of temper. This is the result of years of experimenting. It will not snap under the most severe strain. Frost Wire is now stronger than any other of the same size.

The man who makes this Frost Wire has been making some of the best in the States for 25 years. He ought to know how.

### Not Merely Excuses

Any Wire Fence without "coils" will snap when severely contracted. And it will sag, lose its shape when expanded.

But the Frost Fence has the essential coils. And they act exactly like a Spring. When contracted, these coils "give out" their surplus Wire, instead of snapping. And when expanded, this surplus returns to the Frost coils, instead of sagging.

The Frost Woven Fence is the only Machine-made Fence with necessary give-and-take features.

Lots of Fence has such things as Tensions, Curves, or Kinks. These excuses are so short that they'll snap with severe contraction. And they simply cannot "take in" when expanded.

Both the Frost Woven and the Frost Field-Erected Fence have the extra contraction and expansion provisions. These Frost Coils always act the same, regardless of number of times contracted or expanded.

Write for free booklet and samples.

The Frost Wire Fence Co., Ltd.  
Hamilton, Ontario

Agents Wanted in Open Districts

### Cleaned Three Times

But Frost Wire goes through three Cleansing processes before it ever sees a Galvanizing Furnace.

This makes the surface as clean as a pin. It enables Frost Wire to be double-Galvanized, without fear of peeling off.

When Frost Wire goes through its double Galvanizing process, the Zinc not only spreads over the surface, but goes into the Wire, becoming a part of it.

The Frost Fence will now endure those awful weather variations from 10 to 15 years longer than any other Fence made.

### Make Our Own Wire

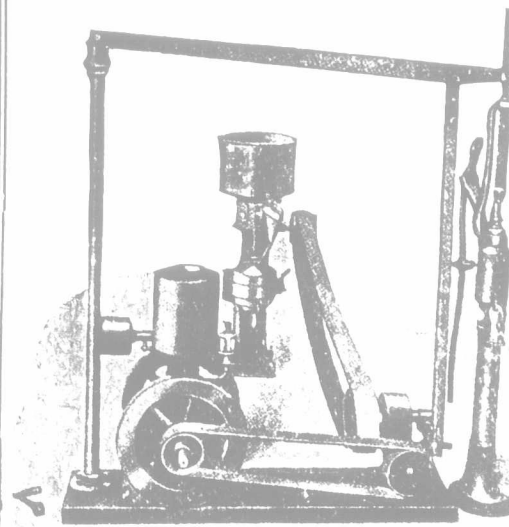
We are the only exclusive Fence Company in Canada who Make and Galvanize Wire. The Wire formerly used for the Frost Fence was made under our own specifications. It was as near to what we wanted as we could buy.

But we knew that we could make better, so we built and equipped our own Mills. We are now making the best Wire ever used for a Fence in Canada.

# Frost Fence

## IDEAL GASOLINE ENGINES

1 1/2 TO 40 HORSE-POWER.



Windmills,  
Grain Grinders,  
Pumps,  
Tanks,  
Water Boxes,  
Concrete Mixers,  
Etc., Etc.

Send for catalogue.

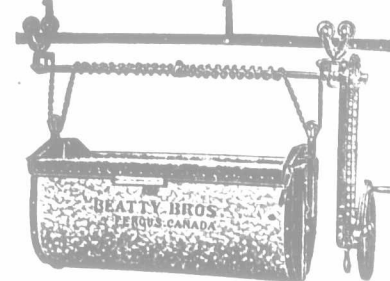
**GOULD, SHAPLEY & MUIR CO., LIMITED,**  
Brantford, Canada.

## Build Concrete Silos

Always with the London Adjustable Silo Curbs. Wood Silos rust and fall apart. Steel Silos have a very short life, as the acid from the contents of the silo eats them out. There is always danger of silos bursting from the pressure caused by freezing. A CONCRETE SILO will last for years and years, and there is absolutely no waste of contents. It is the only safe silo. Write to the Machinery Co. for a free catalogue. We have the largest line of Concrete Machinery. Tell us your requirements. Write to Machinery Co. Ltd. 19 Margara St. London, Ontario

Agents for the Dominion: W. H. C. G. & Co., Ltd., 52 Prince Street, Toronto.

## THE "BT" LITTER CARRIER



Note the double purchase in lifting and the simplicity in construction.

No machine on the farm is used as many days in the year, or saves as much hard, disagreeable work as a Litter Carrier. A boy can fill, wind up and push out in a "BT" LITTER CARRIER four barrows of manure with ease, no matter how much mud or snow there is in the yard. The manure can then be dumped into a wagon or sleigh, and put directly on the land, with very little if any more labor and time than is required to pile it in the yard with the old method, where the greater part of the fertilizing value of the manure is wasted.

Write for free catalogue showing best method of erecting Litter Carriers, and telling why you should buy a "BT" LITTER CARRIER.

**BERRY BROS. FERGUSON, ONT.**  
We also build Steel Stalls and Stanchions and Hay Carrier Goods.

### DO YOU KNOW

THAT WORN-OUT LANDS MAY BE MADE PRODUCTIVE AND PROFITABLE BY THE JUDICIOUS USE OF THE RIGHT KIND OF FERTILIZER?

NOW IF YOU HAVE A PIECE OF LAND THAT WON'T GROW ANYTHING BUT WEEDS, TALK WITH US ABOUT IT AND LET US SUGGEST

THE RIGHT FERTILIZER WE FEEL VERY SURE THAT WE CAN SHOW YOU HOW TO USE FERTILIZERS WITHOUT GREAT EXPENSE SO YOUR LAND WILL PAY CONSULT US FREELY IT IS OUR BUSINESS TO KNOW

ENQUIRIES FREELY ANSWERED AGENTS WANTED FOR TERRITORY NOT TAKEN UP BY W. A. FREEMAN CO. LIMITED HAMILTON ONTARIO

## CIDER PRESSES

THE ORIGINAL M.T. GILEAD HYDRAULIC PRESS produces more cider from less apples than any other and is a BIG MONEY MAKER. Sizes 10 to 40 barrels daily, hand or power. Presses for all purposes, also cider evaporators, apple-butter cookers, vinegar generators, etc. Catalog free. We are manufacturers, not jobbers. HYDRAULIC PRESS MFG. CO., 110 Lincoln Avenue, Mous' Gilead, Ohio.

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STRATFORD, ONT. A Commercial school of the highest grade. A school without a superior in the Dominion. Catalogue free. ELLIOTT & McLAHLAN, PRINCIPALS

## Corn that Will Grow

Canadian grown seed corn. Your money back if not satisfied. J. O. DUKE, RUTHVEN, ONTARIO

Seed Oats and Barley—Improved Ligowa, pure, clean, plump sample; Manchurian barley, a grand lot. Satisfaction guaranteed. For prices, samples, write to WM BARNET & SONS, Ferguson P.O., C. P. R. and G. T. R.

**INVENTIONS** Thoroughly protected in all countries. EGERTON R. CASE, Registered U.S. Patent Attorney, TEMPLE BUILDING, TORONTO. Booklet on Patents and Drawing Sheet on request.





**Two Good Things For Farmers**  
—a trouble-proof fence and a trouble-proof fencepost.

**STANDARD Woven Wire Fence**

is all No. 9 hard drawn steel wire, heavily galvanized—with "The Tie That Binds", which locks on the running wire and lies smooth on both sides.

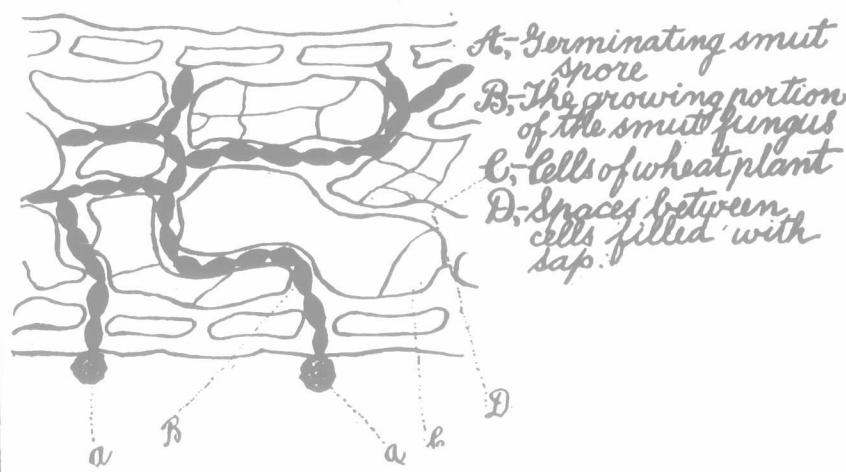
OUR NEW STEEL POSTS are bent at right angles, which gives the necessary strength without the expense of solid or tubular steel.

Don't buy blindly. Learn the facts about wire fences in our book. Sent free if you write—also sample lock.

The Standard Wire Fence Co. of Woodstock Limited, Woodstock, Ont. and Brandon, Man.

# SMUT

## and its attack upon grain



When the smut fungus gains entrance to the growing stalk of wheat, it pushes its way in all directions, travelling in the spaces that surround the cells of the wheat-plant, and derives its nourishment from the sap carried in those spaces intended for the nutrition of the growing grain. At this stage no damage is apparent to the grain.

- A—Germinating smut spore.
- B—The growing portion of the smut fungus.
- C—Cells of wheat-plant.
- D—Spaces between cells filled with sap.

### Formaldehyde Prevents Smut

WATCH FOR THE NEXT DRAWINGS

Pamphlet regarding Smut mailed free on request to

**THE STANDARD CHEMICAL COMPANY OF TORONTO, LIMITED**

Box 151, WINNIPEG.

MANUFACTURERS.



**RENNIE'S SEEDS**

Get Catalogue for 1910  
Ask your dealer, or write  
Wm. Rennie Co., Ltd.,  
TORONTO, also  
Montreal, Winnipeg  
Vancouver

## ONTARIO FARMS

sold on commission. If you want to sell, or if you want to buy a farm, write us. We list only those that can be sold at good value. We, therefore, offer only good value. Address:

THE UNION TRUST COMPANY, LTD.,  
Real-estate Department,  
174-176 Bay St., Toronto, Ont.

### Do You Intend Building a House, Barn, Green-house or Silo?

Send us your list of  
LUMBER (rough or dressed), LATH, SHINGLES, DOORS, SASH, TRIM, or anything in woodwork for building construction, and we will quote you promptly.

**John B. Smith & Sons, LIMITED,**  
TORONTO, ONTARIO.  
Established 1851.



**These Barns are Fire and Storm-Proof**

Are yours, Mr. Reader? Sometimes your whole fortune is stored in those buildings. Fire and Lightning are no respectors of persons.

"Galt" Galvanized Steel Roofing and Siding are the best Fire Insurance Policy ever issued. A prevention is better than a cure—don't forget that.

The new "Galt" Shingle with its patented Gale-proof Closed-end Side-lock and continuous interlocking and over-lapping bottom lock absolutely defies wind rain or snow to penetrate or injure it.

Covered nailing flanges at both top and sides insure a tenacious grip of the sheathing, which no gale can loosen.

The handsome Gothic Tile pattern warrants their use on the best buildings.

"Galt" Corrugated Steel Sheets are the best made. Straight, true, close-fitting corrugations make a weather-tight roof—fire and lightning proof at the cost of a wood roof.

All "Galt" Galvanized products are made from the Best British Galvanized Sheets which will last a lifetime.

Don't accept inferior goods—the "Galt" kind cost no more than the others.

Our free Catalog "B-3" tells about these goods.

THIS IS THE SHEET METAL AGE.

THE GALT ART METAL CO., LIMITED, GALT, ONT.  
Sales and Distributing Agents: Dunn Bros., Winnipeg and Regina.

# "Galt" Shingles



### The Hand Spramotor

No. 1 or No. 2 has 4 to 8 nozzles, all brass sprayer. The wheels and nozzles are adjustable from 26 inches to 36 inches. Vertical adjustment from rack 16 inches. Automatic vertical nozzle adjustment brass spramotor. Ball valves, automatic compensating plunger. Mechanical agitator.

It is mounted on a cart with strong, hardwood frame. Has 52-inch wooden wheels, with iron hubs and steel axles. For one horse.

Can be used for orchard, vineyard, mustard and potatoes, or for painting and whitewashing. Sold without cart as well. Guaranteed.

Write for free Treatise on Crop Diseases. AGENTS WANTED.  
SPRAMOTOR, LTD., 1360 KING STREET, LONDON, ONTARIO

# Bell Pipe Tone Organs

THE MOST SATISFACTORY ORGANS

FOR HOME USE

IN BUYING A

## Bell Organ

you secure one with the charming tone of a pipe organ, and at a price that will please you. Buy a Bell and get the best made. We are the only makers of the patent Pipe Tone Reed Cells. Send for free catalogue No. 40.

The BELL Piano & Organ Co.  
GUELPH, (Limited.) ONTARIO.  
Largest makers of Pianos, Organs and Player-pianos in Canada.

## GRAND TRUNK RAILWAY SYSTEM

### HOMESEEKERS' EXCURSIONS

### TO WESTERN CANADA

(VIA CHICAGO)  
Including certain points on Grand Trunk Pacific Railway. April 5, 19; May 3, 17, 31; June 14, 28; July 12, 26; August 9, 23; September 6, 20.

WINNIPEG and return - \$32.00

EDMONTON and return - \$42.50

Tickets good for 60 days. Proportionate rates to principal points in Manitoba, Saskatchewan and Alberta.

For pamphlets giving list and particulars of "Free Homesteads," "Lands for purchase along the Grand Trunk Pacific Railway," apply to E. DE LA HOOKE, City Pass, and Ticket Agent, E. RUSE, Depot Agent, London, Ont., or address J. D. McDONALD, D. P. A., G. T. Ry., Toronto.

## CONCRETE SILOS AND WATER TANKS.

### New system of construction.

Light hollow blocks of a special type core are laid up and poured full of concrete.

We are using the system for the coming season because it has the following advantages:

1. Solid, durable Monolithic wall.
2. Perfect bond between blocks.
3. Perfect bond between concrete and reinforcement.
4. Speedy construction in all kinds of weather.
5. No danger of collapse when concrete sets slowly.
6. No heavy or expensive moulds required.
7. Easy to build absolutely plumb.
8. Easy to make air-tight or water-proof.
9. Has the neat finished appearance of the block silo.
10. Cost is practically the same as of building by other systems.

Prospective builders or contractors should see this system at the cement show, London, March 29th to April 1st, or write for descriptive pamphlet to

L. S. ODELL, Engr. Contr.,

111 Wellington St., London, Ont.

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The first step towards entering any profession, or taking up a college course, is to pass the University Matriculation. If you wish to be a minister, a lawyer, doctor, dentist, druggist, civil engineer, mining or mechanical engineer, etc., you need Matriculation first. Instruction given in any single subjects of the full course for any university. Tuition fee good till you pass. Write for particulars now. Canadian Correspondence College, Limited, Dept. E., Toronto, Canada.





ORDER BY MAIL

**\$1.19** Each

## For Mail-order Customers

**WHITE LINEN WAISTS, \$1.19 Each**

An exact representation of this waist is shown here—a neatly-tailored style, made of linen-finished white vesting, with box pleat down front, and clusters of fine and ¼-inch tucks either side; back also tucked. Plain shirt sleeve, finished with laundered link cuff, detachable laundered collar.

Mail-order Special, **\$1.19** Each

All goods purchased by mail, or from sample, returnable at our expense and your money refunded if not up to your expectation.

See our announcement on this page in issue of March 10th and 17th for further particulars.



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595, 597, 599, RICHMOND ST.

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Express to any point within 200 miles of London, and postage anywhere on packages within postal regulation, size and weight, if purchases amount to \$5.00 or over.

Write for samples and make your selections at home.

Samples of New Spring Stocks Ready for Mailing.

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## HOMESEEKERS' EXCURSIONS



VIA TO **WESTERN CANADA**

LOW ROUND TRIP RATES

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May 3, 17, 31 July 12, 26 Sept. 6, 20

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TORONTO TO WINNIPEG AND WEST

Leave Toronto 2.00 p.m. on above days

Through First and Second Class Coaches, Colonist and Tourist Sleepers.

Apply to nearest C.P.R. Agent or write R. L. Thompson, D.P.A., Toronto.

ASK FOR HOMESEEKERS' PAMPHLET



## A FRIEND WHEN NEEDED

EVER READY FOR DAIRY STUNTS

### The DE LAVAL Cream Separator

CATALOGUE FREE AGENTS EVERYWHERE

The De Laval Separator Co.

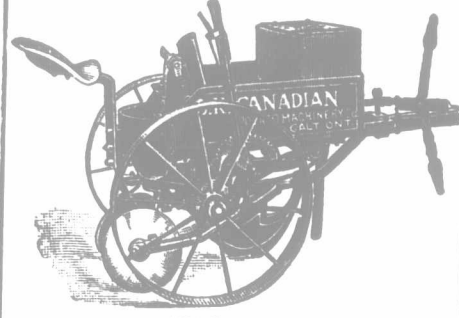
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## POTATO PLANTER



1909 MODEL.

With or without fertilizer attachment, opens the trench, drops the seed, covers it, and marks for the next row all in one operation. Does not bruise or mar the seed in any way. One man and team can plant from 4 to 6 acres per day. Write for catalogue.

CANADIAN POTATO MACHINERY CO. Limited  
145 Stone Road, Galt, Ont.

**Well DRILLING & PROSPECTING MACHINES**  
Fastest drillers known. Great money earners!  
**LOOMIS MACHINE CO., TIFFIN, OHIO.**

# FAIRBANKS-MORSE

Improved Skidded and Portable Evaporator Tank

## GASOLINE ENGINES

ESPECIALLY ADAPTED FOR GENERAL FARM USE.

Buy a Fairbanks-Morse Gasoline Engine for your farm, and make more money next season than you have ever made before.

The Canadian Fairbanks Co., Ltd. Montreal, Canada.

The engine is mounted complete on skids, as shown, making the outfit easily portable from place to place. Our engines meet every requirement demanded of an engine for general farm work. They are so simple that an ordinary farm hand can run them, and are practically foolproof. These engines have proved very popular with thousands of farmers. Will give you the same satisfaction.

Send for our FREE CATALOGUE G. E. 102, F.A., showing our full line of Fairbanks-Morse Vertical and Horizontal Gasoline Engines and Machinery for farm work. It means money saved for you. Write to-day.

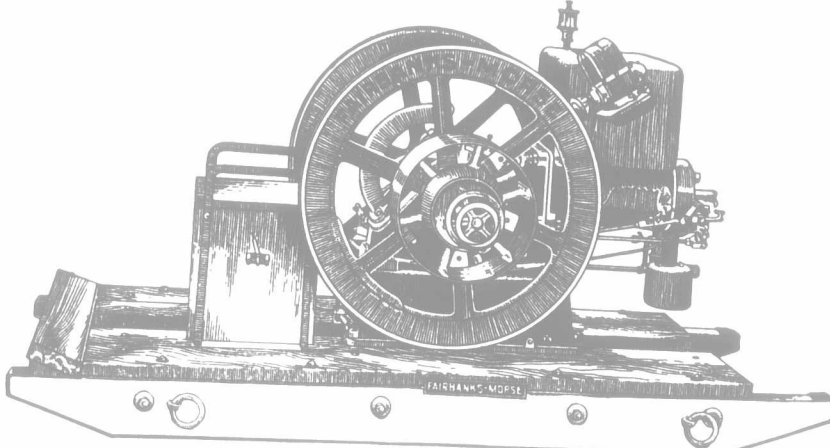
Please send me free catalogue G. E. 102, F.A.

Name .....

Address .....

**The Canadian Fairbanks Company, Ltd.**  
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BRANCHES: St. John, Toronto, Winnipeg, Calgary, Vancouver.



TERMS:

Special Terms to Farmers.

CUT OUT THIS COUPON TODAY



# The Farmer's Advocate

## and Home Magazine

"Persevere and Succeed."

Established  
1866

Vol. XLV.

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1874.  
LONDON, ONTARIO, MARCH 24, 1910

No. 913

### EDITORIAL.

Egg-selling associations are being organized in Minnesota.

Co-operative egg-selling associations are being organized in Minnesota.

Ninety-two million germs on a one-dollar bill! That looks like filthy lucre with a vengeance.

The merger crop is flourishing of late. A million-and-a-half-dollar cereal merger is one of the latest.

The West covets Ontario's range of crop production. Alberta rejoiced when she found that her acres could produce fall wheat. Now she exults in the fact that home-grown corn of good quality has been exhibited at her seed fairs.

If the tariff-makers keep on with their double schedules, conventions, treaties, surtaxes, and all the rest, the uncertainty and complexity of the international tariff situation will soon be almost as serious a bar to foreign trade as the duties themselves.

If your seed wheat or oats is not perfectly free of smut, sprinkle it with formaldehyde solution to destroy the spores. One pound of the liquid solution, costing about 75 cents, diluted in 35 gallons of water, will treat about 27 bushels of seed oats, or 32 of wheat. After treatment, be careful to avoid reinfection by contact of the seed with sacks, bins or drills that had held smutty grain.

There is no use trying to varnish the matter: Any elected representative of the people who will endeavor, by round-robin methods, or otherwise, to spring an increase in his indemnity, without giving his constituents opportunity to pass on the proposed action, is helping himself to that which he was never intended to have. What term would be applied to such action if done by a common citizen?

A vote of \$110,000 for the erection of a livestock arena on the grounds of the Canadian National Exhibition, may be taken as an earnest of the directors' intentions in this important matter. While there would appear to be little prospect of the building being erected this summer, it seems likely to come before long, as its necessity is recognized by the exhibition directorate. The site of the arena will be fixed to a certain extent by the space occupied by the eastern entrance of the street railway, which it is hoped will be constructed this summer.

Every time that grain is run through the fanning mill, with a good wind on, some of the smaller kernels are sifted out, and many of the larger but lighter grains are blown over. The large, heavy grain comes through. Prof. Zavitz, in reporting some of his experiments, says: "The average results show that, in every instance, the largest seed produced the largest yield of grain." Further, "In an average of six years' experiments, we have obtained an average increase in yield of grain per acre of 7.8 bushels from plump, as compared with shrunken barley, and of 5 bushels from plump, as compared with shrunken spring wheat." The grain that is cleaned out in the fanning-mill selection is not wasted in the least. It is just as useful as before for being ground into meal. It is not the best for seed. Do not sow it.

### Give Scientists Time to Work.

The bane of research work in America is the popular craze for quick results, a demand reflected in the parsimonious attitude of legislators toward any branch which does not promise early and tangible results of a pronounced or spectacular character. This is all wrong. Much of the most valuable investigation in the world has been accomplished by scientists who groped and delved, following a glimmer of hope, and oftentimes finding something quite different from what they sought. In a field like agriculture, where so much surface work remains to be done, it is well to have our scientists engaged in definite quests for needed light; but let us not, by a too narrow attitude, demand that they neglect patient work on the large problems for the sake of immediate results in the more trivial or ephemeral phases. We could well afford, for example, to keep a plant-breeder working fifty years in the hope of developing one variety of a staple kind of grain superior to anything now extant. Let us give our scientists and agricultural pioneers time to work, and cease the everlasting clamor for results, which keeps experimental station men and college professors tumbling over themselves to get quickly into the public eye.

### Butter from Butter-fat.

In his usual lucid manner, Prof. Dean explains the puzzling subject of overrun in buttermaking. Overrun is the excess of butter over the weight of butter-fat in the milk or cream from which it was made. Allowing for an ordinary percentage of loss of fat in skimming and churning, fourteen pounds of butter-fat will make about sixteen and a half pounds of good legal butter, containing 82.5 per cent. fat (which Prof. Dean considers ought to be a minimum). The other 17.5 per cent. consists of water, salt and curd. Now, sixteen and a half pounds butter represents an overrun of two and a half pounds, or nearly 18 per cent.; or, in terms of fractions, a little more than one-sixth. Figured out, this would mean that 100 pounds of butter might be made from a fraction less than 85 pounds of butter-fat. A good safe rule in estimating a cow's production of butter is to add one-sixth to her ascertained yield of butter-fat. Uniform adherence to this standard by all our dairy-breed societies would be greatly in the interest of simplicity.

### Clover Seed We Should Have Sown

During the five years, 1904-8, inclusive, Canada has exported about one hundred and forty thousand bushels of clover seed per year, representing an approximate value of a million dollars per annum, or about seven dollars a bushel. The figures are much larger than they should have been. That is to say, we should have sown all this and more at home, besides what we actually did sow. Taking the country over, there is not half enough clover seed sown in Canada. Too many meadows are left in sod longer than they should be; not enough of the grain crop is seeded down, and in many cases too little seed is sown per acre, resulting in a weak or scattering growth and weedy meadows. Here are a few facts to consider:

The common or medium red clover yields two crops a year. Timothy yields only one. Properly-cured clover hay is more valuable per ton for feeding on the farm than any other kind, save alfalfa. It contains nearly two and a half times as much digestible protein as timothy.

Animals fed clover hay will, other things being equal, produce a more valuable manure than those fed timothy. Analysis of clover and timothy hay shows that the former is about two-thirds richer

in nitrogen, not quite so rich in potash, but nearly two and a half times as rich in phosphoric acid.

By the decay of its roots and stubble in the soil, a clover crop adds fertility and improves the physical and bacteriological condition of the land to an extent comparable to the effect of a dressing of eight or ten tons of manure per acre.

A farmer who grows clover has the chance of obtaining a crop of seed from the second cutting. This is usually in the nature of a windfall.

As a rule, every white-straw grain crop should be seeded down to clover. If not needed for meadow, it may be plowed under, and will usually much more than repay the outlay for seed.

Except in special cases, or for special reasons, no arable field should be left more than one or two years in meadow, unless the new seeding of clover has failed.

The cost of clover seeding is small, considering that there is no outlay, save the two dollars per acre for seed, and the slight trouble of sowing. The preparation of the land for grain answers, at the same time, for the clover seeding.

The oftener clover is sown, the richer the soil becomes in vegetable matter, the less liable it is to bake, the better it holds moisture, and the easier it is to obtain good catches of clover, as well as good stands and yields of other crops. If you can't grow clover, grow buckwheat, peas, or something else that will get your land into condition to grow clover. Keep on trying till you succeed. Of course, excessively frequent clovering might get the land clover-sick, but this has rarely if ever occurred in Canada.

Follow a short rotation, sow clover often, nourish your stock, and build up your farm. We know many who have done this, and what man has done, man can do.

### Selection and Hybridization.

There are two great general principles or methods by means of which plant improvement is sought: First, selection alone, and, second, hybridization, followed by selection, to secure and fix the desirable attributes. Selection alone is a comparatively simple matter, though demanding expert discrimination and vast painstaking. Much good may be accomplished through mere selection, but it has its limitations. Hybridization—that is to say, the systematic crossing of different varieties—is a process promising more radical results. For instance, asked whether he considered selection or hybridization the more promising field of work, Prof. C. A. Zavitz, of Guelph, replied that you might as well ask whether pigs or sheep were more important to the country. He did not know of any chance of producing, by selection alone, a six-rowed barley that would ripen with the standard, heavy-yielding varieties of oats, but by hybridization it might be possible to produce one. "But supposing," the question was narrowed, "your sole idea were to increase yield, while, of course, retaining other merits of the parent strain, would selection of the most productive good varieties extant not be a more promising way of producing it than hybridization?" "Well, possibly, but I wouldn't like to say even as to that," was the cautious reply. "Some of our best-yielding varieties are undesirable in other respects, and hybridization of these with other kinds might in some cases prove a better means of producing superior, heavy-yielding varieties than selection of either parent. Both means are fraught with great potentialities of improvement."

"How is the work accomplished?" Selection, as it is commonly practiced, is simple enough. It consists in going out into the field, or plot, or garden, where the crop is growing, and selecting first the plants which exhibit desirable qualities



## THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE  
DOMINION.

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JOHN WELD, MANAGER

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as to thrift, type, yielding qualities, strength or stiffness of straw, etc. From the ears or heads of grain thus secured, the seeds may be again selected as to size, shape, color, and various other attributes. This work may then be continued for generations, selecting the best kernels from the best heads from the best plants grown in plots from selected seed.

In contrast to the above method of mass or multiple selection, a method now generally practiced by experts consists of carefully selecting individual plants of outstanding merit, and planting the good seed from each plant in a separate row. The value of the plants so selected can best be judged from the crop they produce, compared with other separate rows. Only the best row is selected for increase, after which continued selection is important to keep the strain of seed pure. By selection the Ontario Agricultural College has developed the No. 21 barley, which has out-yielded its parent, the Mandscheuri, when grown side by side with it in test plots. Likewise, the highest-yielding winter wheat grown on the plots at Guelph is one originated at the College by selection from Dawson's Golden Chaff, which itself was originally produced from a single plant selected by a Mr. Dawson, who lived near Paris, Brant Co., Ont. Likewise, the Red Fife wheat was produced by David Fife.

Hybridization is much more complex, and introduces a far greater element of chance. It may be followed out on various lines. The simplest method is to fertilize the pistil of a flower of one variety with pollen from another (taking precautions, of course, to prevent cross-fertilization by insects), crossing thus two varieties containing certain positive merits in considerable degree, in the hope of producing a plant that will combine the desirable characteristics of both parents, being thus superior to either. When the laws of heredity are thus countered, all sorts of diverse tendencies inherent in the parents commence to struggle for supremacy. The result will be, when the seed produced by cross-fertilization is sown, a very wide diversity in the character of the plants produced. Some will resemble chiefly the

one parent, some the other, and some neither. There may be produced plants superior to either parent, and plants inferior to either. Moreover, this tendency to variation will be exhibited in the second, and sometimes in the third and fourth generation; so that, after the plant-breeder has succeeded, by cross-fertilization, in producing a desirable type, and has selected it to his taste, his greatest problem still remains; that is, if he is working with plants that reproduce from seed. He must continue to grow and select his plants generation after generation, until he has fixed the desirable, and, in fact, all other characteristics in the strain, so that they will reproduce faithfully from generation to generation. Certain characteristics may be thus fixed in two or three years, but the careful scientist will not feel justified in sending out anything he might produce for several years, or until all its characteristics are fixed. The worker with flowers and other plants which reproduce by vegetative processes, tubers, cuttings, scions, runners, and the like, has a far easier task. Once he has produced a hybrid or sport to his liking, he can reproduce that almost infallibly by the means mentioned. A cutting or scion is a part of the original plant, just as a finger is part of a person's body, but a seed, especially when cross-fertilized, contains within itself an indefinite tendency to variation, so that when it is sown, you do not know what you will get until its hereditary tendencies have been fixed by generations of insistent and painstaking selection.

### Not a Fair Comparison.

Editor "The Farmer's Advocate":

I would like to say a few words in regard to Mrs. Hopkins' theory as to why the boys and girls are leaving the farm and going to the city. Now, from my point of observation, I believe the young people leave the farm for several reasons, two of the principal ones being, firstly, finding that their parents will not be able to supply them with suitable homes; secondly, the greater number feel that they are not adapted to the work of the farm, and so seek some other occupation more congenial to their tastes.

The cause of a great number of poor farmers to-day is brought about by the boy being persuaded to take the farm, when father gets old, just to keep the place in the family name.

Now, just a word for the ladies and dress. I can truthfully say that the ladies in this community dress just as well as any town lady.

Then, as to the view of the country boy feeling out of place when he is away from the shadow of his wagon, I think Mrs. Hopkins has failed to classify the social standing of the farmer boy who possibly does not see town more than three times a year, and the city gentleman who was so courteous. Why not contrast the gentleman-farmer with the city merchant, and the raw country lad with the laboring class of the city? I do not think the difference will be very marked.

It is a recognized fact that a merchant has to be courteous to his customers, in order to gain their patronage; while the farmer is not compelled to meet the cattle-buyer or machine agent with a pleasing smile. It is this independence that causes some farmers to be rather outspoken at times, and not the compliments of mother, sister or sweetheart.

And now, in conclusion, should anyone think my criticism rather harsh, I beg him remember that it comes from a farmer.

Bruce Co., Ont. L. H. McHUGH.

### Reply to Mrs. Hopkins' Critic.

Editor "The Farmer's Advocate":

In my turn, also, I have just finished reading the reply to Mrs. Hopkins, and if the editor will just spare me a corner for a few lines, I would like to express my opinion. I am sure, if the party who read Mrs. Hopkins' article would take time to re-read it, he would understand it much differently. I, for one, have lived in the country all my life, with just a glimpse of the city once in a while. Have seen farm life under all conditions, and realize that a good deal of Mrs. Hopkins' criticism, though very severe, is, nevertheless, not unjust, and many will profit by it, undoubtedly. I am sure "The Country Forever" has never been to the city on market day, or he would have seen the farmer's wife with the baskets, unless he shut his eyes to unpleasant facts. While you are about it, just show me a girl that expects to inherit the farm, when she has a brother, even if that brother should happen to be twenty years younger. Of course, you can't find one. Then, why go to the trouble of disputing the fact that the farm is for the boy? That has been an understood fact for generations. Of course, there are exceptions in all cases; surely we can understand that. Also, as for Mrs. Hopkins getting her share of criticism, "The Country Forever" can depend he will get his, and more.

"ONE CORNER OF KENT CO., ONT."

### Reflections from Good-roads Convention.

Editor "The Farmer's Advocate":

That the Good Roads Association is doing a good work in arousing municipalities to the importance of giving more attention to our highways, no one who has attended these large and representative gatherings will doubt. Their attention, however, has, so far, been confined almost exclusively to the work being done by the municipalities or counties that have adopted the good-roads system, availing themselves of the assistance given by the Provincial Government. Important as are these leading highways, to which so much attention is being given, I would like to draw the attention of the rural community generally to the almost entire inattention being paid to the many miles of earth roads at these conventions. We need all our roads made good as fast as possible. The expense in building permanent or macadam roads is a heavy drain on the finances of the municipalities, valuable as these roads are. When we consider the many farmers, living so far removed from any of these roads that they receive little or no benefit therefrom, although they contribute their share to build them, would it not be fair to the community generally to give these many miles of now neglected earth roads a little more consideration at these conventions, and distribute the grants more fairly? Is there any wonder that less than one-half of the counties in Ontario have not yet seen it to their interest to fall in line with the Provincially-aided good-roads system? If some system could be devised whereby the townships would receive a little aid for the improvement of earth roads, then these municipalities that have thus far stood aloof would unanimously fall in line with the present county good-roads system, and work in harmony for the improvement of all our highways. In New York State, and elsewhere, besides the aid given to the leading roads, the townships also receive a grant for the improvement of the earth roads, and I maintain we in Ontario are entitled to some consideration.

It is to be regretted that so many of the rural population are too backward in pressing their just claims, and hence the towns, cities and organizations that are specially interested in these leading roads have things too often go their way, to the neglect of the farmer. These annual conventions bring together principally the few official representatives from the various counties over the Province. If a series of good-road meetings would be held in every township, where the people generally could attend, and an increased interest be aroused, they would soon be educated to the importance of having better roads.

It is useless, or at least unwise, for county or township officials to try to introduce any improved system for the roads unless the people are ready. A delegate at these conventions may go away fully impressed with the importance of adopting the good-roads system, or any advanced ideas, and yet be powerless to act if his supporters are opposed. Hence, the need of road education by those to the back of the officials.

The work of building macadam roads is so different from that of earth roads that it might be even advisable to hold special meetings to discuss the best ways and means to construct and maintain the latter. I trust there are others enough interested for the improvement of the earth roads to give their views to the public.

I may say, in Clinton Township we have for several years been advocating better earth roads. We have already succeeded in greatly improving them, and will continue the good work till every road is put and kept in the best condition in which it is possible to have an earth road. May other municipalities, too, aim at this high ideal, and not rest content till it is attained.

Lincoln Co., Ont. W. B. RITTENHOUSE.

### Take Notice.

We do not answer questions for non-subscribers.

We do not undertake to answer inquiries by mail, unless a fee of one dollar is enclosed.

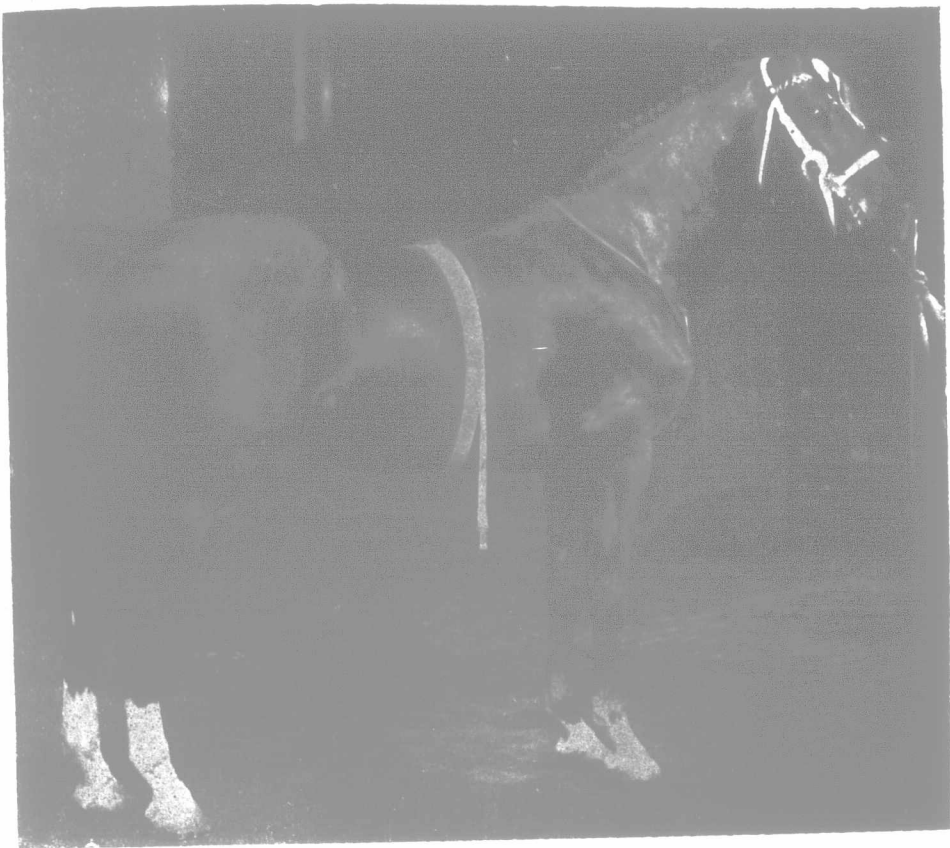
We do not answer questions for anybody unless the full name and address of the inquirer is submitted along with the inquiry.

We toss into the waste-paper basket every week dozens of communications from persons who fail to comply with these rules.

We are working over-hours at this season answering questions from bona-fide subscribers who do comply with our rules.

It costs us money to answer questions—often more to answer foolish than sensible ones. Be reasonable; do not propound queries for the fun of asking them. What is fun for you is wearing our editors thin.





Kirkburn Toreador (8534).

Hackney stallion; chestnut. First in class, and supreme champion, London Hackney Show, 1910. Age, 8 years. Sire Rosador.

**HORSES.**

**The Thoroughbred Cross.**

Editor "The Farmer's Advocate":

Will you kindly allow me a brief space in which to thank Mr. Hendrie for calling attention to an error in my letter on "The Hackney Horse"?

I used the term "half-bred" in its commonly-accepted sense, viz., the produce of a Thoroughbred sire, but the printer, by the omission of a comma, completely changed my meaning. The superiority of the Thoroughbred cross was clearly shown in the early eighties, in the get of the Hackney stallion, Fordham, and I am glad to add my testimony to the evidence given before the Select Committee at Ottawa. JAS. A. COCHRANE. Sherbrooke Co., P. Q.

**London Hackney Show.**

The 26th annual show of the Hackney Horse Society of Great Britain and Ireland took place in the Royal Agricultural Hall, Islington, London, on March 1st to 4th. The entries were numerous, and the quality of the stock up to a high standard of excellence.

In the class for stallions 5 years old, and over 15.2 hands high, there were 33 entries, and 12 horses got money or commended tickets. They were a useful lot, big, and good goers, as a rule. The order of their placing was: 1, F. W. Buttle's Kirkburn Toreador, by Rosador; 2, Arthur Hall's Copmanthorpe Performer, by Garton Duke of Connaught; 3, Frank Batchelor's Admiral Crichton, by Royal Danegelt.

Stallions, five years and upwards, and under 15.2 hands, numbered ten entries, and the awards were: 1, R. P. Evans' Evanthis, by Polonius; 2, W. B. Tubbs' Leopard, by Leopard (8218); 3, J. F. Christie's Westfield Polonius, by Paddock Polonius.

Four-year-old stallions were divided into two classes, those over 15.2 hands, and those over 14 and not exceeding 15.2 hands. The class over 15.2 had 37 entries, and the awards were: 1, M. Beal's King of the East, by Kirkburn Toreador; 2, Sir Walter Gilbey's Flash Cadet, by His Majesty; 3, H. Hinrichson's Kirkburn Masher, by Kirkburn Toreador. Mr. Tennant, of Duffield, was fourth with Local Authority, by the grand old sire, Connaught.

The leader in the five-year-old class not exceeding 15.2 hands was found in Dr. Bowie's celebrated Mathias A 1, by Mathias. Second was A. D. Oates' Cressbrook Wildfire, by Lord Kimberley, and third was Mr. Thompson's Roos Denmark.

Three-year-old stallions had also two classes, the first for horses not over 15.1 hands, the second for those over 15.1. In the former class of 22 entries, the awards were: 1, Mr. Rycroft's Heaton Performer, by Royal Danegelt; 2, Alex. Morton's Lochiel, by Mathias; 3, R. P. Evans' Copperus, by Copper King. In the class of 35 entries over 15.1, the first was found in Sir Walter Gilbey's noted Antonious, by Polonius. Second was Walter Briggs' Albin Wildfire, another son of Polonius, and third was John Lett's Rillington Primus, by St. Thomas.

In a strong class of 24 two-year-old stallions, the awards were: 1, John MaKeague's King's Proctor, by Mathias, a big colt, with remarkably fine action; 2, Sir Walter Gilbey's Sprightly Spark, by Polonius; 3, H. V. Sheringham's Creake Royal Dane, by Kirkburn Toreador.

In the yearling class, which was weak, Sir Walter Gilbey was first with Sparkling Cadet, by Royal Danegelt.

The Championships.—The senior cup and supreme championship went to Kirkburn Toreador, the reserve being Copmanthorpe Performer. The junior champion was Sir Walter Gilbey's Antonious. The supreme champion female was the first-prize brood mare, Adbolton St. Mary, by St.

Thomas, shown by A. W. Hickling, the reserve being the three-year-old Lady Beckingham, by Beckingham Squire.

**The Thoroughbred.**

By Dr. J. Hugo Reed.

The Thoroughbred is doubtless the oldest and purest breed of horses in existence. I may just here state that this horse is the only animal in the world to which the term "Thoroughbred" can be properly applied. We sometimes hear and read of "thoroughbred" cattle, sheep, swine, dogs, etc., and in speaking of horses, of "thoroughbred" Clydesdales, Shires, Hackneys, etc. It is wrong. The term is correctly used only in speaking of the pure-bred descendant of the English race-horse. When purity of breeding, in respect to other classes of stock, is wished to be emphasized, the term "pure-bred" should be used.

The Thoroughbred is essentially a British production. The native British horses were, at a very early period, deficient in size, speed and stamina, and the attention of the early rulers of the kingdom was directed to their improvement. The idea of improvement commenced with the conquest of the Island by the Saxons. The first object seems to have been to increase the size by the importation of horses from Normandy, Flanders and Germany, but later on it was decided that speed, quality and stamina points to be considered, and the introduction of Oriental blood was thought of, and, to effect this, the Arab, Turk and Barb were imported from the Orient. The Briton, even at that time, appears to have been passionately fond of horse-racing, and from then until the present time contests for supremacy upon the turf have stirred the British heart as no other sport has ever done.

Hence, with the object of producing a horse that could gallop fast, and stay for long distances with weight up, the gradual improvement of horses, by careful selection and infusion of Oriental blood, succeeded in establishing the breed of horses known as "Thoroughbreds."

The foundation of the breed was a somewhat promiscuous mingling of the native horses of

Great Britain with the larger horses of Europe, and subsequently with the lighter, more agile and graceful horses of Spain. Frequent importations were also made from Egypt, Morocco and Tunis, also from Arabia and various parts of Turkey, until this Oriental blood permeated most of the light-horse stock of Great Britain.

As early as the reign of Charles II., the ability to win a race under saddle was regarded as the principal test of merit in horses, and those most successful on the turf were most highly prized for breeding purposes. During the last half of the seventeenth century, breeding for speed and endurance upon the race-course began to be conducted upon a somewhat definite plan. Records of turf performances were carefully kept. Special attention was paid to the pedigrees of horses designed for the turf, and an aristocracy of blood came to be recognized in the horses of England. Charles II. sent his "Master of the Horse" to the Levant to purchase horses to form a breeding stud. His purchase consisted of three famous Turkish stallions and some mares, that were called "Royal Mares," and these mares are supposed by many to be the foundation of the Thoroughbred. Still, there were other mares imported from the Orient, and other mares not related to the "Royal Mares," the produce of which distinguished themselves on the turf, and were considered as "Thoroughbred."

About the middle of the eighteenth century, the publication of the "English Racing Calendar" was commenced. In this the names and performances of all horses that had distinguished themselves on the turf appeared, and it soon became customary to also mention the sires of such.

In 1786, a collection containing the pedigrees of all horses that had distinguished themselves on the turf was published, and in 1791 the English Studbook, in its present form, was commenced. The standard of admission to the first volume appears to have been creditable performance upon the turf, and practically no animals have been admitted to registry since then that do not trace directly to individuals recorded in that volume, or to subsequent importations of Oriental blood. Hence, we are justified in claiming that the "Thoroughbred" is the purest-bred horse in existence.

It is generally conceded that the Oriental stallions that contributed most largely to the formation of the breed were Place's White Turk, the Berley Turk, Lister's Turk, Darley Arabian, Curwen's Barb, Lord Carlisle's Turk, Godolphin Arabian, Leeds Arabian, Honeywood's White Arabian, Combe's Gray Arabian, Bell's Gray Arabian, D'Arcy's Turk, Selaby's Turk, Ancaster Turk, Compton's Barb, the Toulouse Barb, Stawyan's Arabian, Louthers' Barb, Taffolet Barb, Hatton's Gray Barb, Honeywood's Arab, Sedley's Barb, and Wellesley's Arabian. Of these, Lister's Turk got Brisk and Suske; Darley's Arabian got Flying Childers; Carlisle's Turk got the Bald Galloway; and Godolphin Arabian got Blank, Regulus and Code.

The Thoroughbred of to-day is greatly superior in size, speed and stamina to his Oriental ancestor, but is probably not so beautiful or docile. The Thoroughbred, having been bred for so many generations with especial reference to speed, and such care having been taken to avoid the introduction of other blood, we are not surprised that he has acquired characteristics of form, temper



Adbolton St. Mary (18848).

Hackney brood mare; chestnut. First in class, and grand champion female, London Hackney Show, 1910. Age, 4 years. Sire St. Thomas.



and individuality especially his own, and has also acquired greater prepotency than horses of any other breed.

The main characteristic of horses of this class is the possession of strength, endurance, courage and speed, without great bulk. Every part of his anatomy is hard and compact, without being large; his muscles, tendons, ligaments and bone are of finer texture and of comparatively less bulk than those of other horses. In fact he possesses, to a most marked degree, what the horseman calls "quality," a word that is hard to define, but



Florizel II., by St. Simon.

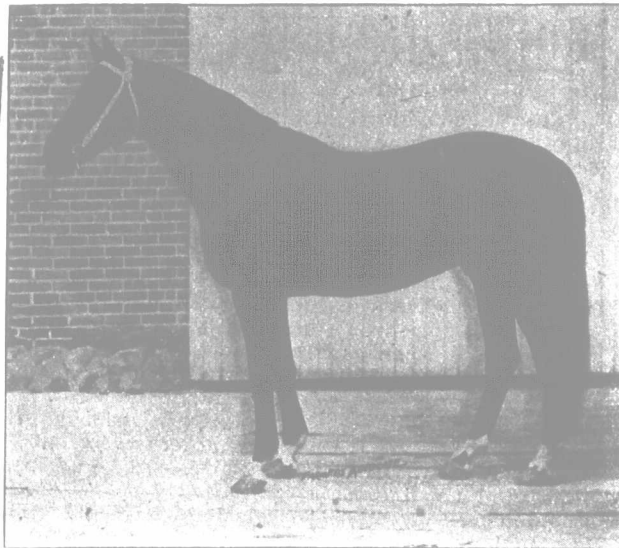
easily recognized by a horseman. His head should be fine and bony; the muscles of the cheek strong and hard, but not bulky; the ears rather small, pointed, and moved with quickness, and held in good position in whatever direction they are pointed; his forehead should be broad and flat; his eyes prominent and lively, with an absence of vicious appearance; muzzle, face, mouth and lips rather small and compact; the whole head—in fact, the whole horse—of an angular, bony appearance, without bulky muscles. The neck should be long; crest, whipcordy, but not so bulky as in other breeds; a line of demarcation should be noticed where the neck ceases and the withers commence; even in a stallion in gross condition this is desirable. The withers should be high, sharp, and long, gradually disappearing into the back, which should be rather short and strong, and ending in well-developed loins; the croup long, with medium obliquity; tail coming out well up, and well carried. The chest should be cone-shaped, with broad base behind; ribs well sprung, and long; the chest gradually becoming narrow as it approaches the shoulder, which makes the breast narrower in proportion than in other breeds, but the muscles should be hard, and extending well out in front. The shoulder should be oblique, and well clothed with hard but not bulky muscles; the forearm long and well muscled; knee large and angular in all directions, and straight; the cannon hard and razor-shaped, tendons and ligament standing well out behind; fetlock strong; pasterns long, with well-marked obliquity; feet rather small, of good quality, and he must stand straight, not turning toes either inwards or outwards. The haunch and gaskin strong, and well clothed with hard muscles; the back large and angular, with an entire absence of puffiness or beefiness; from hock to foot, the same as from knee to foot; the hind feet of good quality, with the toes turned slightly out when standing. The action should be free and elastic; he should go rather close to the ground at all gaits, especially at the canter, at the same time lifting the feet sufficiently high

to avoid danger of stumbling. He must go straight, neither padding nor rolling with fore feet, and going close behind, but not close enough to interfere. He should be lively and courageous, but his temperament should not be vicious. He should be 15½ to 16½ hands in height, and weigh from 1,000 to 1,300 pounds. In fact, the larger we can get him (for general purposes), the better, so long as he retains the quality and general characteristics that are desirable.

The differences between the points of a stallion and a mare or gelding are principally that, in the latter we want an absence of the masculinity that is demanded in the former. This is more easily recognized than described. It consists chiefly in development of crest and general appearance, chiefly about the head—we may say, general physiognomy. We want more impetuosity of temper and a little greater size in the stallion.

The Thoroughbred is the foundation of many of the recognized breeds of light horses, and infusion of his blood has more or less regularly been introduced into such, even since their respective studbooks have been established.

Many horses, both sires and dams, of this breed have been imported into Canada. Some Canadians have made a specialty of breeding Thoroughbreds for racing purposes, and many Canadians have made a success of it, but this is the rich man's game or hobby, hence we will pass it over with mere mention, and consider briefly why the Canadian farmer should patronize the Thoroughbred sire in certain cases. There are many good mares in Canada that cannot be said to belong to any special class, mares without any particular breeding or individuality, at the same time useful animals, with fair size, reasonable action, and capable of performing a reasonable amount of ordinary work, at the same time not large enough to produce draft or agricultural horses if mated with a draft stallion, nor with sufficient quality or individuality to produce carriage or roadster horses if mated with suitable sires. Now, when



Wiley Buckles (American-bred).

a man wants to breed such mares, what is he to do? The Thoroughbred is undoubtedly the sire he should select. This horse has sufficient prepotency to stamp his individuality in a marked degree upon his progeny, even when mated with a mare of tolerably cold blood, and thereby produce a colt that will make a good saddle horse, and give good service in harness; or, if the mare have considerable action, make a good carriage horse, and give reasonable satisfaction in saddle.

We must not consider, from these statements, that good results will follow the mating of any mare with a Thoroughbred. The cross must not

be too violent. A draft mare, mated with one, will seldom give good results. The prepotency of the Thoroughbred has its limits. Crossing the Thoroughbred with the Hackney, or a mare of Hackney type and action, often produces our very best heavy-harness horses. It should be remembered that care should be exercised in selecting a Thoroughbred as a sire. Good size, quality, soundness, action and temperament should be looked for. On account of his prepotency, he has the power of transmitting his undesirable qualities, as well as his desirable qualities, to his



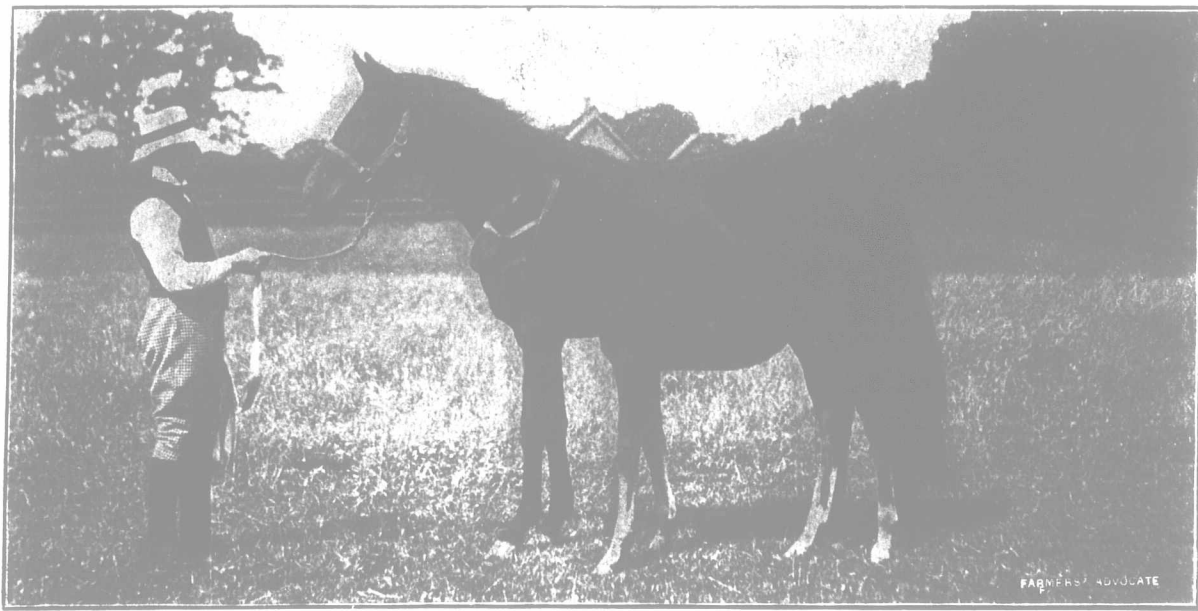
Cylene, by Bonavista.

progeny, and we often notice that an unsound Thoroughbred, or one with undesirable qualities, either of temper or conformation, will produce foals, a large percentage of which will possess these undesirable qualities in a much more marked degree than their sire. Hence, it is not wise to breed to a Thoroughbred simply because he is a "Thoroughbred." Contrary to the too common idea that the produce of the Thoroughbred, if not good enough to make a high-class saddle or harness horse, is practically useless, observation and experience tells us that if he is of fair size (and a breeder should not breed a small mare to a small Thoroughbred), we find that he makes a first-class general-purpose horse. In proportion to size, he will do with reasonable satisfaction more work than horses of similar size of other breeds, and for light work or road purposes is very useful. While seldom possessing great speed, he will drive at a reasonable road gait, and stay for long journeys much better than crosses of other light horses' out of ordinary mares. The writer considers it almost a calamity that there are not more good-sized Thoroughbreds at stud in this country. When special-purpose horses are not bred (and they cannot be bred out of many of the mares in the country), the intelligent use of the Thoroughbred stallion can not and will not fail to improve the class of horses at present too commonly produced. The produce out of ordinary mares by such well-known Thoroughbred stallions in Canada as Terror, Sharpcatcher, Wiley Buckles, Woodburn, Jim Wassen, Marquis, Glengyle, Citizen, and many others, horses that gained more than local fame as saddlers and hunters, and that sold for fancy prices, only goes to demonstrate the wisdom of the intelligent use of horses of this breed.

### Working Stallions.

Editor "The Farmer's Advocate":

I received some time ago a communication from you, asking me to give you a letter describing what satisfaction I have had working stallions. I



Lady Disdain and Foal.

An English Thoroughbred mare, by Bend Or; foal by Mimic.



Working Stallions.

Pair of entire horses plowing on farm of Neil Blair.

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have been the owner of four stallions for the last ten years. For the first eight years I kept them in box stalls, and kept a team, besides, to do the necessary farm and other work. I found out, after some years, that those stallions were not in shape for the season's work, as they should be. It cost me many days' work, coming near the beginning of the season, to lead those stallions around for exercise. I have tried letting out in paddock, and some of them would stand, and, therefore, received little or no exercise. Then, I have had two young stallions that served mares the three first weeks of season, and never foaled a mare. I laid this entirely to want of exercise. Then, their foals were not so strong as from stallions that have moderate work the ten months they are off service. I myself, as a breeder, would not breed a mare to a stallion that could not work. I work a team of stallions very satisfactorily. I sold the team that used to do all the work, while all those big fellows stood for ten months, pawing the floor up or tearing their mangers down. Now they go to work every morning, and are in the best of heart, and will have the best of muscle for the road when crop is in. They will not be just as fat, but will be far surer, and get stronger foals; and, as long as ever I keep stallions, I never will starch them up like fat steers, and spend hours walking them out for exercise. I will exercise them on the plow. NEIL BLAIR.  
Lanark Co., Ont.

LIVE STOCK.

The Cow and Her Calf.

In justice to the cow, she should be allowed to go dry at least two months before the date when she is due to calve again. It is unnatural and unreasonable to require her to contribute to the dairy when she is giving sustenance to a calf in-utero nearly three-quarters of a year old. Such a course must of necessity prove a heavy drain upon her own vitality, and also upon that of the calf she is carrying, and she certainly cannot do as good work at the pail the following year as she would had she been given a reasonable period of rest, with liberal feeding, before calving. The theory that there is economy and safety in keeping the dry cow, due to calve soon, on short allowance, should be relegated to the rubbish-heap. Observation teaches that the cow that has been dry for a few months on grass or generous stall-feeding, almost invariably does much better work in her next milking period than she had formerly done, after being milked nearly up to calving. The boast, not infrequently heard, that a cow gives milk the year round, and cannot be forced dry, is often less complimentary to her capability and her owner's common sense than is generally conceded, for the reason that, as the cow comes near the date at which she is due to calve, she is naturally "springing" to provide for the coming calf, while, by milking her, that calf is being robbed of part of the sustenance it would have received had the mother been given a rest. Such a course may well account for the many instances of calves being born with little more vitality than one classed as an abortion. Such a practice must tend to shorten the period of usefulness, if not the life of, the cow herself, and also to weaken the constitution of her progeny. If the object be to make a strong record of yearly performance at the pail, it would surely be better policy to delay breeding the cow again for four or five months after calving, as she will naturally give more milk while not in calf than after conception, the milk flow in some cows being noticeably lessened at an early stage of pregnancy.

A cow, as a rule, will give more milk in 300 days than in 365 days two years in succession, if fed liberally during the time she is dry, and will bring stronger and more robust calves. The theory that a cow is more liable to milk fever when well fed before calving, and that she must, for safety, be half starved for a time, has lost much of its force since stockmen have learned to follow nature's way, by only partially milking the cow for the first few days after calving, just as the calf would do if left with her. The losses from this malady have been very largely reduced since dairymen have adopted this sensible practice. And thousands of dollars have been saved to dairymen by the simple use of the air pump in arresting the disease, while formerly few cows recovered, and many were killed by dosing with medicines when the cows were paralyzed and incapable of swallowing, the drugs passing into the lungs, and causing sudden death.

Worth Many Times the Price.

We could not do without "The Farmer's Advocate," even if the subscription price were a good many times what it is. Everybody at our house watches every week for "Advocate Day." There is always some useful information in it for all. I do not hesitate to say that it is the best agricultural paper published in Canada to-day, regardless of cost. A. R. H.  
Northumberland Co., Ont.

Conserving the Public Health.

"Biological Laboratory, 1907," graven in stone over the entrance to a plain little building on the fringe of the Experimental Farm, a few miles out of Ottawa, will not impress the casual visitor like the imposing observatory across the way, wherein dwell the astronomers. And yet it stands in vital and immediate relation to the health of men and animals all over Canada. It is an important link in the chain or agency in the far-reaching service growing up under Dr. J. G. Rutherford, Live-stock Commissioner and Veterinary Director-General in the Canadian Department of Agriculture. Conservation is the magic watch-word nowadays, but here we have the real thing: conserve men, women and children by protecting them from disease. There is the outside veterinary service, on which some 175 men are employed, which certifies to the soundness of breeding animals for export, deals with outbreaks of rabies or hog cholera, that may crop up in Ontario; glanders, farcy, or mange, on the Western prairie; blackleg or bovine tuberculosis anywhere. Then there is, under the Meat and Canned Foods Act, a staff of some 70 inspectors for packing establishments doing an export or inter-provincial trade. Just here it might be mentioned that Dr. Rutherford finds no little difficulty in securing a sufficient number of men adequately qualified for the growing demands of this branch, although offering remuneration that would be tempting, compared with the emoluments of a good many veterinarians who have been knocking their heels together in livery stables that adjoin their offices. There is also a chief inspector at Ottawa, and travelling officers. That these inspectors have been getting busy, may be seen from the report of 9,308 carcasses of animals condemned in the year ending April 1st, 1909, of which 4,397 were for tuberculosis, and 2,570 for immaturity (slink veal); and 280,591 portions, the principal causes being tuberculosis (183,263), modules, flukes and parasites, abscesses, bruises, cripple, and necrosis. When disputes arise in the course of inspection, organs or portions of carcasses, or dubious coloring or other preparations used in the packing-house, are sent to headquarters at Ottawa for pathological or bacteriological determination by Dr. C. H. Higgins, D. V. S., at the Laboratory. In the rooms of the second story he has a growing museum of diseased portions and organs preserved in alcohol, a survey of which might impress some apathetic householders of the need for properly-inspected slaughter-houses and abattoirs in their respective localities.

In other rooms the manufacture is carried on of tuberculin for testing cattle suspected of tuberculosis; the vaccine which, properly used, affords protection from blackleg in cattle; and mallein, the diagnostic preparation for use in cases of glanders or farcy in horses. Infinite care and skill is required in the preparation of these materials in doses for injection, and some idea of the work entailed may be gathered from the fact that about 50,000 doses of mallein, 40,000 of blackleg vaccine, and 10,000 of tuberculin, were dispensed last year. That the pathologist and his assistants are busy men, will be apparent to the most casual observer, as may indeed be inferred from the foregoing reference. Though dropping in upon the Laboratory recently without any prior appointment, the editorial representative of "The Farmer's Advocate" found everything running

smoothly, and in most scrupulous good order. The labor-saving ingenuity and technical skill displayed by Dr. Higgins, in utilizing the space at his disposal, are worthy of comment. Thus far the staff does not include a chemist, any cases requiring analysis being referred to Prof. F. T. Shutt, of the Central Experimental Farm staff.

Another member of the pathological staff is Dr. S. Hawden, D. V. S., who is at present engaged in investigating the troublesome disease known as Red Water, which has existed for many years among the cattle of British Columbia. Dr. Hawden has recently had some most valuable experience in connection with this disease, having co-operated with Professor Nuttall, at Cambridge, in a series of most exhaustive experiments in connection with the South African type of the malady. He has received great credit from Prof. Nuttall, as also from many scientific bodies, for the excellence of his work when in England; in fact, so much was it appreciated, that, in order to allow of its being brought to a successful conclusion, his leave from the Canadian Department of Agriculture was specially extended for some months, on the cabled request of the British Government, through Earl Crewe, Colonial Secretary.

At Lethbridge, also, there is a branch laboratory, which is in charge of Dr. A. Watson, V. S. At this laboratory the special subject of research is the disease known as dourine, which exists to some extent among horses in Alberta. Dr. Watson is a most careful and painstaking investigator, having succeeded, some three years ago, in identifying the special blood parasite to which the disease is due, this being the first occasion on which it was recognized on this continent, although the disease has existed in America for nearly thirty years.

Professor J. L. Todd, of McGill University, one of the highest authorities on bacteriology on the continent, is also at present engaged, on behalf of the Department, in the study of Swamp Fever, two horses affected with that disease having recently been shipped to him from Manitoba through an arrangement reached with the Veterinary Director-General.

Dr. Rutherford, who is responsible for the carrying on of the whole of this research work, easily justifies it on the ground that knowledge is power, and that, without accurate information as to the nature of a disease, it is impossible to take intelligent steps for its control and ultimate eradication.

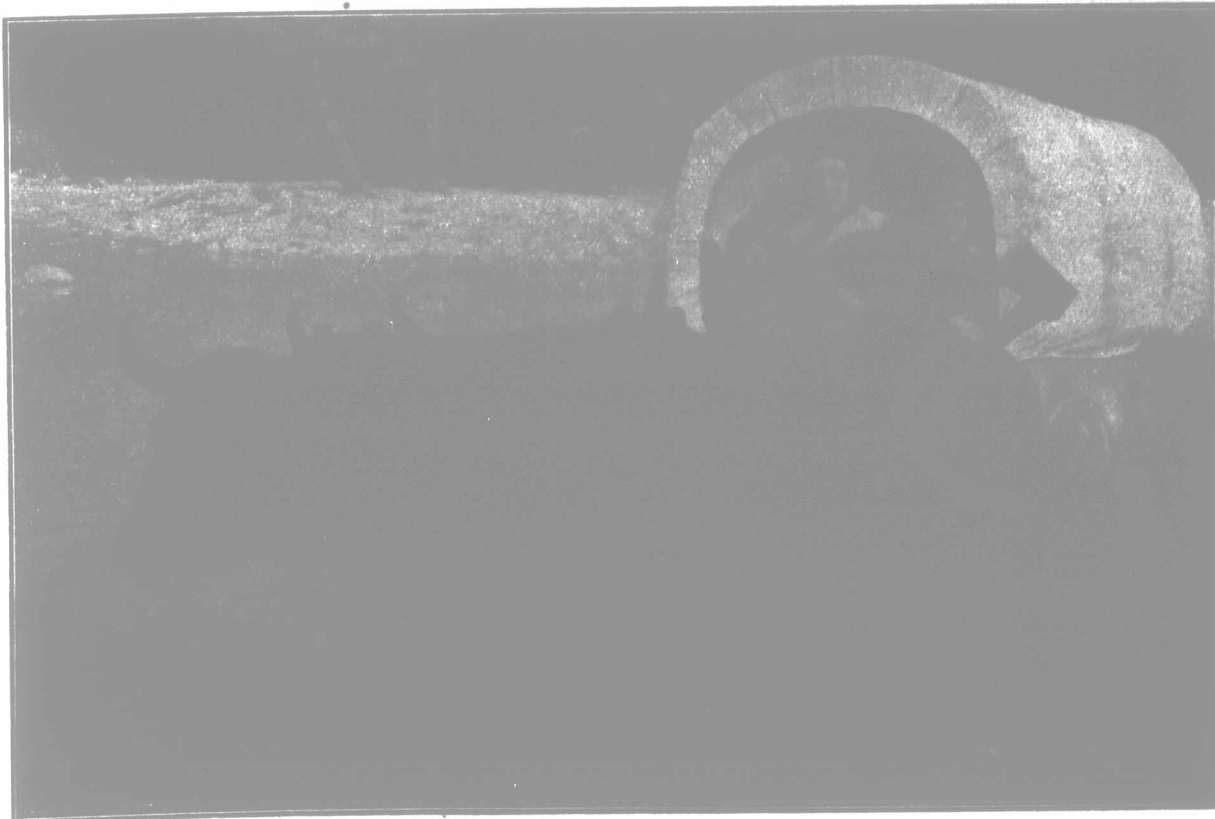
THE FARM.

Plant a Tree for Every One Cut.

Editor "The Farmer's Advocate":

A farmer, not long ago, said, if he knew twenty years ago what he knows to-day, he would have planted at least two trees for every one he cut down. He also said that there are few things in which time and money can be better invested than in planting trees.

Seven or eight years ago, a farm which was advertised for sale would not sell for six thousand, because that price was considered too high. Only last week, a man offered the owner eight thousand dollars for the very place, and let me say that the farm is not in as good condition now as it was eight years ago. True, land has risen



The Homeseekers.

From a painting by G. A. Reid. Exhibited at the Canadian National Exhibition, Toronto, 1909.



in value to some extent, but this farm, under ordinary conditions, would sell for seven thousand, at the highest, simply because the owner planted trees along the road and lane, and permanent fences, and a few evergreens around his house, which did not cost him more than thirty dollars, labor and price of trees included. He now is offered at least one thousand dollars more for the place, which is by no means an exception. One could give dozens of similar instances, where high prices have been paid for farms, be they large or small, where the buyer paid very handsomely for trees alone. A friend of mine offered a man \$5,000 for a fifty-acre farm, because it was liberally planted with trees. The owner himself says \$4,000 is all the place really is worth.

You may never think of selling your place, and let us hope you never will, for the chances are you would very likely regret it some day. But that is no reason why you should not plant more trees, be they for shade, shelter or fruit. Though it should not pay in dollars and cents, is it not worth something to hear such exclamations as these: "Oh! how beautiful!" "Isn't that a beautiful place?" "How nice it must be to live there!" One frequently hears these exact words. Trees planted along the fence, along the road and lane, will in a few years support a wire fence. As it is an easy matter to plant one hundred trees in a day, and such trees should in a few years take the place of posts, and as cost of planting would be five dollars, at the most, and cost of one hundred posts would be between thirty and forty dollars, which is the cheaper?

Our forests and wood-lots are getting smaller each year, and it is a well-known fact they harbor such birds as crows, hawks and other enemies of our small insect-eating birds. By having plenty of harbors for sheltering these insectivorous birds, we may increase their number, and by so doing we are accomplishing untold good. Few farmers realize the value of their feathered friends. Without these birds, we could not farm at all. In an actual count, on a hundred-acre farm, we found 246 birds' nests in trees which had been planted within the last fifteen years.

Did you ever hear people say that their buildings are getting colder every year; that it takes more fuel and feed than it formerly did? Would that these people might see the difference between a house standing in the open, and one protected by a belt or group of trees, preferably on the north and west side. It is well to plant evergreens for wind-breaks, as they will form a better screen and will better protect the buildings than hardwood trees would. It is very nice to have some evergreens in the lawn. It must be a lonesome scene for the woman of the house to see nothing but the bare fields every time she looks through the window. If planted this spring, within fifteen years those trees will be admired by every one in the family. Under them the good woman may do her sewing, and the children can play, and be protected from the hot summer sun. Under their spreading branches, the boy and menfolk may snatch a half-hour's sleep at noon, and it may help the boy to decide that the farm is the best place, after all. It seems that the air that has passed through trees has been made sweeter, and the house surrounded by trees will be thereby made cooler in summer and warmer in winter.

A pasture should, besides having abundance of grass, have fresh, flowing water and shade. It is not always possible to have a spring or creek in every field, but there is no reason why there should not be shade. Sheep and cattle like to get under a tree to protect themselves from the broiling sun or from the drenching rains. Where there is a permanent pasture, it is well to plant a clump of trees, as the results will be very beneficial.

There are other reasons why trees should be planted, but it is not necessary for one to go into the matter further. Every man has ideas of his own, and he will readily see for himself that it pays to plant trees. Ask any man who has a nice lawn, or has had experience with trees, and he will no doubt call such a good investment.

In conclusion, let me say that the person who plants one apple, cherry, or any other kind of good tree, will be doing more than he who donates one million dollars for the erection of some monument. Do not be deterred by the thought that by the time the tree will bear fruit you will be gone, and will, therefore, not have any use of it. Remember that those who will eat of that fruit, or recline in the shade of that tree, will be thankful that it was planted. What more can one want? After all, it would be better that we plant at least one tree for every one we cut down. Waterloo Co., Ont. "FARMER."

The Minnesota Experiment Station has received an order from the Transvaal Department of Agriculture for 50 bushels of Minnesota wheat No. 169. No. 169 is the famous Bluestone variety, which has been bred at the Experiment Station, developed from a single seed in 1890, distributed to farmers in 1902, and now covers more than half a million acres in the State.

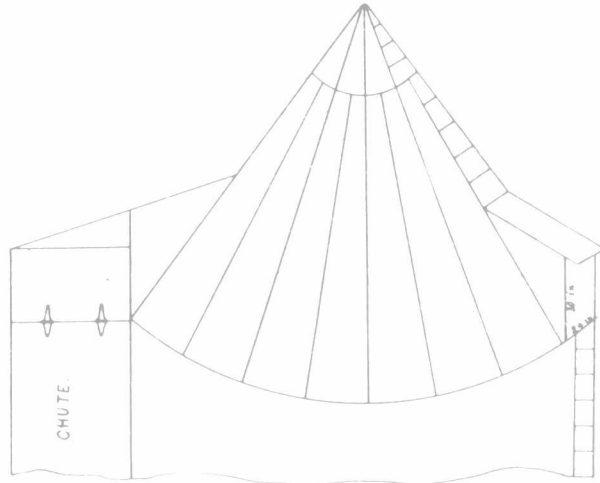
### Silo Roof and Hay Rack.

Editor "The Farmer's Advocate":

My silo is 14 x 30 feet, roof full-pitch, so as to give more room when filling. We began by finding middle of each half, then raised first pair of rafters and stay-braced them; then the next pair opposite them, and so on, till we had all the long rafters raised. I might say here that we used an eight-sided center block to spike the top of the rafters to. About three feet from the top we spiked a piece between each pair of rafters, to which to spike the top of short rafters, then raised the short rafters, and built the frame for doors.

We put on roof after silo had been refilled, and, by boarding between two rafters, and nailing the farther side of ready-roofing down, then boarding the next space, and putting on another piece of roofing, we save the time and trouble of erecting a scaffold.

We built the chute up so that we can get into top of silo from it, and put a door on south side, which is opened by rope and pulley from feed-room below, and lets in light and sun, and warms the air in silo. There is also a ladder spiked to



Showing Construction of Silo Roof.

outside of silo, for use at filling time, which is safe to climb, even if you haven't your life insured; I have known people to expect men to climb wooden hoop silos just by the hoops.

As to material, it required eight 12-foot rafters, eight 9-foot rafters, about 400 feet of lumber, 3½ rolls roofing, 15 pounds 3-inch nails, and 10 pounds 4-inch spikes. There are no cross-plates used with this style of roof, to interfere with tramping or to crack your head.

Roofing was put on up and down, and a 12-foot piece cut diagonally covered two spaces.

"A SUBSCRIBER."

"Subscriber" also sends draft and description of hay rack, the distinguishing feature of which is a cut-out on the under side of main sills for front wheels, to allow for turning in less space. To strengthen the sills, thus weakened, pieces about four feet long are fastened by clips on the top edge of sills over the cut-out.—Editor.

### Sorghum.

Though all the cultivated "sorghums" probably came originally from a single wild species, the term, as now used, includes a great number of cultivated varieties differing widely in character. These are commonly divided into two classes: (1) The saccharine sorghums, which have sweet juice, and are now called sorgos; and (2) the non-saccharine sorghums, which include Kaffir corn, broom-corn, durra, shallu, kowliang, and some others.

Different varieties of sorghum have been in cultivation in India, China, and in different parts of Africa, for many centuries. Pliny recounts its introduction into Italy during the first century of the Christian era.

The seeds of sorghum are largely used for human food in India, and in parts of Africa, and to some extent elsewhere. In nearly all the temperate and tropical regions of the world, sorghum is grown for both grain and forage.

In the United States sorghum is widely cultivated as a fodder crop, and to a considerable extent as a grain crop. At one time the Government experimented for several years in the manufacture of sugar from the saccharine varieties, but the results secured did not justify the hope that sorgho would become one of the great sugar-producing plants of the world. Considerable quantities of table syrup are manufactured from it every year, though this industry is probably on the decline.

The U. S. Department of Agriculture has recently issued two publications relating to sorghum, a bulletin on "The History and Distribution of Sorghum," and a circular for free distribution on "Three Much Misrepresented Sorghums." The object of the latter is to set the people right concerning some mistakes and misrepresentations.

Recently, an Oklahoma man has been selling at 50 cents a pound seed grain of what he calls "California wheat," which he declares will produce 200 to 400 bushels per acre. The Depart-

ment shows that this is a variety of sorghum known as shallu, which, after thorough test, a few years ago, proved only about half as productive as Kaffir corn. It is also inferior as a forage crop.

The second of these misrepresented sorghums is a so-called "chocolate corn," accounts of which have appeared in the press at different times. The Department announces that it never had any seed of "chocolate corn" for distribution, and that the plants which have sometimes received that name were simply varieties of sorghum, probably in most cases the Early Amber sorgo.

The sale of sorghum seed in the South, under the name of "Texas Seeded Ribbon Cane," by certain seedsmen, has led to much confusion and disappointment. The use of the term "Ribbon Cane" is the cause of the trouble, since this is the popular name for the sugar cane of the South which does not bear seed. The impression spread by advertisers of this seed was that they were offering a variety of the sugar cane which would produce seed, and there was a large demand for this seed, which, in fact, was nothing more than "gooseneck" sorghum. The demand eventually exhausted the supply of seed, and the seedsmen began filling orders with other sorghum seed. The fraud was promptly exposed by the Department of Agriculture, but the sale of this seed continues. The Department urges that the name "Seeded Ribbon Cane" be discontinued, because it is misleading.

### More Experience with Steel Silos.

Several inquiries in regard to the merits of steel silos have come into this office, and we herewith publish short letters from three men living in widely-separated parts of the country who have had experience with them. L. A. McRae, of Prescott Co., in addition to voicing his appreciation of the silo he has, gives a detailed statement of its cost, which will be of practical interest to intending builders. Mr. McRae is not entirely satisfied with the coating or paint supplied for the inside of the steel silo, as it peels off somewhat, and in this he agrees with some who were quoted in our summarized article on the subject in the issue of February 10th. As he says, however, it costs but a trifle to recoat the inner surface.

E. D. McEwen, Bruce Co., and J. M. Boyd, Wentworth Co., touch chiefly on the question of silage freezing. As steel is a good conductor of heat, and there is but a slight thickness of it enclosing the silage, fears have been expressed by several that freezing would be serious; that this would be the weak point in the steel silo. But the experience of these gentlemen, and of practically all others who have used steel silos, is that there is no special trouble from this cause.

Mr. McEwen, and Mr. McRae, in giving figures and opinion as to relative cost of steel versus cement silos, agree that it is not materially different, slightly higher, perhaps.

When the question of the keeping quality of silage in steel silos is referred to, there is, as might be expected from an air-tight structure, but one opinion. It keeps perfectly.

### STEEL SILO PREFERRED.

Editor "The Farmer's Advocate":

I can recommend the steel silo as being good, and ahead of concrete, as there is no danger of it cracking if the foundation gives. A steel silo is perfectly air-tight. The coating for the inside is not as satisfactory yet as I would like, as it is peeling off a little on the south side, owing to having dried too quickly when it was put on, but it costs only a trifle to recoat it. I built mine last summer, and it is 12 feet in diameter, by 30 feet high, with foundation dug about 2½ feet in the ground, and filled with stone and concrete. The roof is made of hemlock lumber, covered with galvanized iron, with a dormer door on one side for filling. My silage has kept fine so far; no trouble with frost. I believe the steel is the best silo to build. In the first place, it is ahead of the concrete, as there is not the thickness to take and hold the frost, nor does it absorb any moisture out of silage, like cement. There is no loosening and tightening of hoops, as in wooden silos. In fact, I don't see why it is not the best silo, if taken care of and kept painted on the outside, and coated on the inside.

The cost of my silo is as follows, no charge being made for labor, as we did the work, three men of us, ourselves:

Three barrels of cement	\$ 6.00
Steel and rivets	128.00
Freight on same	16.00
250 feet hemlock lumber for roof	4.00
Galvanized shingles, and putting on	15.00
Painting outside	4.00
Lumber for chute	5.00

Total cost, complete \$178.00

It is no trouble to build a steel silo, if started plumb. L. A. McRAE, Prescott Co., Ont.



FAVORS STEEL SILO.

We built our steel silo in September, 1909. It is 20 1/2 feet high, and 12 feet in diameter, on a cement foundation, to which the silo is securely bolted. We did not put a roof on it yet, but intend doing so, as a roof is very necessary for any silo. I think a steel silo can be built as cheaply as a cement one, if you take your labor into consideration. The silage is keeping fine, and the frost has not done any harm so far. I take the silage out with a fork. If one keeps the outside about six inches lower than the center, I do not think the frost will bother. I put on a paint inside which keeps the acid in the silage from rusting the steel. EDWIN D. McEWEN. Bruce Co., Ont.

NOT TROUBLED WITH FROST.

In regard to the effect of frost on steel silos, we are troubled but very little. During the extreme cold we had this winter, we were only once so bothered with frozen silage as to prevent us from feeding it the same day. With the exception of this once, what little frozen silage there was, when thrown down in the basement in the morning, was ready to be fed the same day. JAS. M. BOYD. Wentworth Co., Ont.

Reforestation in Ontario.

The meeting of the Canadian Forestry Association, held at Fredericton, N. B., February 23rd and 24th, was the largest and most enthusiastic yet held in Canada. Hon. Clifford Sifton, in his paper, made a significant statement to the effect that the visible supply of timber in the United States would only last from 20 to 30 years, and that the Canadian supply, as estimated, could only furnish the American market 7 to 8 years.

"Reforestation in Ontario" was the title of a paper read by E. J. Zavitz, Forester, O. A. C., Guelph. He pointed out that the Ontario Department of Forestry has only been concerned with the problems in the settled districts of Ontario. The northern forest lands are under other administration. In this southern portion there is probably less than ten per cent. of woodland worthy of the name, the bulk being cleared for agricultural purposes. A considerable demand for Governmental attention to forestry has developed.

"The work undertaken by this department was at first twofold, namely: Academic work, which aimed to give the agricultural student a knowledge of handling his own problems in tree-planting and care of wood-lots; also, the production of nursery material for planting in the wood-lot, and for reforesting waste portions of the farm."

"Forest nurseries were established, from which trees for planting could be distributed. It was desired that plantings should be begun by land-owners in waste places, or to restock depleted wood-lots. This work has developed slowly, but as fast as nursery supply warranted. In 1909, 390,000 plants were sent out; total to date, over a million."

"In some sections there are large areas of barren sand formations, which have been cleared of timber, and a start has been made in establishing Forest Stations on these. A tract of 1,000 acres in Norfolk County was secured by the Government in 1908, and thither

the forest nurseries have been transferred. It is believed that these lands, if reclaimed, and placed under forest management, would be the best possible argument to small land-owners to improve their own forest holdings.

"In Canada, artificial restocking of forest soils will probably receive small consideration for some time to come, but we will some day have to meet that problem." There are enormous areas of burned-over lands which do not contain enough seed trees of valuable species to naturally restock the soil, and there are also the non-agricultural lands, which have been unwisely cleared for tillage. Where the fire danger has been reasonably settled, forest-planting is quite possible. It has been carried on for years in Europe, and it has been shown to be practicable in the United States and Canada. It has cost, in the United States, from \$6.00 to \$12.00 per acre. In Ontario, white pine, planted 5 feet apart each way, cost \$9.00 per acre.

"From a study of past growth, we can form some opinion of what the future growth will be. There is no doubt that, with the initial cost ranging from \$8 to \$15 per acre, forest-planting will be a safe investment, especially for the State or corporation which can secure money at a low rate of interest."

Thick and Thin Seeding.

Editor "The Farmer's Advocate":

The discussion of the question of manure value in "The Farmer's Advocate" has been highly interesting and instructive, and will doubtless influence many to see a greater value in this much-neglected by-product. We write to call attention to another important and much-disputed question, viz.: "Thick or Thin Seeding: Which Gives the Best Results?" Our thoughts were turned to this subject by your report of Prof. Grisdale's address before the Eastern Dairymen's Association, in a

January issue. He recommends, for seeding for pasture, 12 pounds timothy, 9 pounds clover, 3 pounds alsike, 3 pounds alfalfa, per acre, making a total of 27 pounds, or half-bushel, by measure. We, with many others, viewed the statement as a printer's error, but we see by a question in the query department that it is taken seriously by some. According to Mr. Eddy, of the Seed Division, Ottawa, there are in each ounce of timothy 82,000, clover 18,000, alsike 43,000 seeds. A little simple figuring will show the absurdity of sowing any such quantity, if the seed is of average vitality. There are 43,560 square feet in an acre. One pound of each, or four pounds of the mixture, would allow 53 seeds for each square foot, or, taking the average of 80-per-cent. germination, would give 42.4 plants per foot. Multiply this by seven, and we have the total of 296 plants per foot, or over two plants on each square inch.

The question will then be asked, "If 4 pounds of mixed grass seed be sufficient, why sow more?" All authorities agree on sowing from 8 to 12 pounds per acre. The reason for this is that the smaller the seed, the greater the difficulties attending its germination and early growth; remember that a seed is a living, dormant plant, folded in a protective case, which also contains a small amount of prepared nutrient to support the plant while forming rootlets and opening its leaves to the air. How wonderful, then, that such tiny seeds as alsike, by the rough mode of field culture, should grow at all? It is because of this that so many seeds fail to germinate, and so many die after germinating, that we must sow a larger amount to insure a catch. This brings us to that which we wish to emphasize, viz., the importance of studying the conditions of soil and weather in sowing our grass seeds. We think we are safe in saying that fully one-half of the seed yearly sown is wasted, through improper management. This represents a great loss to farmers, first in the cost of the seed, and second—and more serious still—is the failure to get a stand of clovers, thus breaking the rotation, and losing the most valuable crop of the farm. Of course, there is no way of absolutely insuring a catch; the best we can do is to reduce the risks to a minimum. We must first obtain fresh seed, as seed over one year old loses its vitality fast; secondly, see that it has good germination—this should be demanded of every seedsman, who should have it tested previously, or, if bought from a neighbor, or home-raised, we should know the per cent. of vital seed. We consider it wise to sow a mixture of timothy, clover, alsike, and this year we shall add alfalfa, the proportions used being 3-5-3-3, sowing of this mixture 8 pounds per acre. We sow about one-half on fall wheat, and one-half on spring grain. Some years the catch is better on the wheat, in others on the spring grain. Good judgment is required in sowing on wheat, for if sown too early, and a warm spell is followed by severe freezing weather, the swollen seeds will be injured by the frost. It is better, in this locality, at least, to wait until about one week off spring seeding, then sow. If weather conditions are not then favorable, we would prefer—and often do—to wait until the land is dry enough to harrow once before sowing, and again after. This breaks the crust, forms a seed-bed the proper depth, and covers most of the seed, and the first good rain will cover all. We are convinced that it is here that so much seed fails to grow, because not covered. The temptation comes to get the grass seed sown before seeding starts, and leave it to take chances with the weather. In sowing with spring grain, we follow the drill with the weeder immediately the field is finished; we sow with the hand-



European Larch Plantation, 28 Years Old.

On gravelly waste soil, on College farm, at Guelph, Ont. Trees 6 to 10 inches in diameter, and 10 to 50 feet high.

General View of Scotch Pine Plantation. On gravelly hillside, at O. A. C. Farm, Guelph.

Planting Scotch Pine on Abandoned Farm Land in Norfolk Co., Ont. This was the first planting done last year on the new Government Reforestation Station.



seeder, and if the weather is dry, cross the field again with the weeder. This plan we have found gives better results than seeding with the drill, as much of the seed is covered too deep. A very common mistake is to plow up a seeded field because it is not a very good catch. There are doubtless hundreds of fields plowed up yearly, on which, if they were reseeded in the fall with timothy, or again in the following spring with clover, a splendid catch would result. Last spring we had such a field; we sowed again the thin places at the rate of 8 pounds per acre. The result was we cut a crop of about one ton per acre for the first crop, and had a splendid second crop, which would have cut upwards of two tons. We shall cut it again the coming season, then break up, and so keep up our usual rotation. This plan does

not find favor, because they say, "I cannot afford to lose a crop," but if we remember the highly-fertilizing effects of clover, and the value of the fall or second crop, we lose nothing, but rather gain by the process. Some say there is nothing to keep the weeds down. The new crop of clover will be the best thing for that purpose, and, besides, cutting the first crop will catch any weeds before the time of seeding, and if the field has to be broken up, the stand of clover has a large money value in fertilizing the soil for the following crop. We earnestly commend this plan to your readers. It has never failed with us in giving good results. By your permission, we will give in another article our experience with thick and thin seeding for grain crops.

Simcoe Co., Ont.

FOYSTON BROS.

[Note.—The quantities of seed mentioned in our report of Prof. Grisdale's address were as given by him. While larger than we recommend (especially of timothy), we consider that he erred, if at all, on the right side. Only a small percentage of the clover seed sown may ordinarily be depended on to germinate and produce good plants, hence the difference between thick and thin seeding is often the difference between a strong, even, and a weak, scattering growth. Remember, too, that, with the most careful seeding, a perfectly even distribution is impossible. However, if every farmer would sow only first-class seed, and prepare the seed-bed with such care as Foyston Bros. practice, considerably smaller quantities than Prof. Grisdale proposes would suffice.—Editor.]

## Spring Seeding Practices in Different Districts.

"In the spring a young man's fancy lightly turns to thoughts of love," sings the poet. The farmer's thoughts turn just as naturally, and a few weeks earlier, to spring seeding. Correspondence convinces us that no matter published in "The Farmer's Advocate" is read with more general interest and profit than the short, pithy letters from selected correspondents in various parts of the country, discussing varieties, quantities of seed, etc.

Below are published replies to the following list of questions, answers to which will be acceptable from other subscribers than those whose letters are appended:

1. What varieties of the staple spring grains, potatoes, roots, corn and other field crops are most popular in your district, and why? What, if any, new ones, are coming into prominence? Compare advantages and disadvantages of early versus late varieties.

2. What quantities of seed of separate and of mixed crops are preferred (a) when seeding down with the grain, (b) when not seeding down? Give illustrations from actual experience in different thicknesses of seeding, if you can, noting effect on yield and on clover catch.

3. What percentage of the grain crop is seeded down? What kinds and quantities of clover and grass seeds are used per acre, and how sown? Enumerate the advantages of fairly liberal seeding with clover.

4. What, if any, new crops and practices are coming into vogue in your district? Is alfalfa being more largely grown? If so, for what purpose, and to what extent? Are soiling crops much grown? Is the corn area increasing?

5. What is the favorite order of sowing the various kinds of grain?

6. Could you cite cases showing the actual advantage of using improved seed?

JAS. B. ROSS, Peel Co., Ont.—In oats, there are more varieties than in any other grain grown, and it would be a difficult task to say which is the most popular, as one person likes one variety, while another chooses another. In spring wheat, the Wild Goose holds the most prominent place. The Mandscheuri barley easily leads; while in peas, The Twin, and Prince Albert and Golden Vine are ahead. Potatoes are something like the oats in regard to varieties; most of those who go extensively into the growing of this crop use the early varieties, and get them to market when high in price, and without twice handling. In roots, the sugar beet, mangel, and the Purple-top Swede, are the favorites, while the Leaming corn leads for silage purposes. In regard to thickness of sowing, I would say that, a few years ago, I sowed very sparingly, believing that a much larger yield would be procured from thin sowing, and also a better catch of clover. But the last few years have changed my practice in this respect, and we do not listen any more to those who advocate thin sowing. We have found out, by experimenting in the same field, that we get a larger yield of grain, and more straw, of a finer and better feeding quality, where grain is sown thickly. We sowed last year 2½ bushels oats per acre, and had a good catch of alfalfa. Our mixed grain, which is composed of oats, barley and peas, was sown at the rate of three bushels, and seeded down with mixed grass seeds. We have been doing this for years, and in that time have never missed a catch of clover, or had an empty barn or granary. We would not advise this thick sowing on impoverished soil. By following short rotations, and feeding about double the grain we grow, the most of our farm is in a high state of cultivation, and perhaps can stand thicker seeding than one in an impoverished state. We sow about 20 pounds of alfalfa to the acre, and, for general seeding, about 14 pounds of red clover, alsike and timothy, mixed. On our fall-wheat land it is sown with a grass-seed sower early in spring, so that seed will sink into the soil and get covered with it. We have tried later sowing and harrowing, but it does not work as well on our rolling land, as some parts get too dry before the rest gets ready. I sow it on the spring grain with the drill, allowing spouts to run in front of drill,

and follow with a light harrowing to cover seed. One great advantage of thick sowing of clover seed is that you get a crop of hay that is not coarse, and is relished much better by the stock. Also, when there is a good thick stand, there is little chance of weeds growing. Alfalfa is growing more popular every year. It is grown principally for hay. The first aftermath on many farms is pastured, while on others it is cut again. Peas and oats used to be grown more extensively than at present. Alfalfa and silage are taking their place for summer feeding. The area in corn is increasing steadily; where only one silo could be seen eight years ago, there are now few farms without one, and many have two. The usual order of sowing spring grain is: First, spring wheat; second, oats; third, barley; and, fourth, peas. Many scatter the spring wheat on a field as soon as they can walk, following with a harrow when the horses are able to go. One peculiar case was brought to our notice last year. A large field was sown in this manner with wheat, but, owing to wet weather, was not harrowed. It grew up before the ground could be worked, with the result that there was a good crop of wheat, without any labor except scattering the seed. In regard to improved seeds, would say that any farmer (and we have a few) who is careful in selecting and grading his seed, is rewarded by high prices for all he produces.

A. W. DE LONG, Oxford Co., Ont.—Banner oats are the favorite in this locality, though the Storm King is a new variety that is well thought of. In barley, Mandscheuri seems to give the largest yield. Standard varieties of potatoes are, the Eureka, Shamrock, American Wonder and Beauty of Hebron; in new varieties, we have the Pink-eye, Early Fortune, and Gold Coin. The most popular roots are sugar beets and the different varieties of mangels. White-cap Dent, Butler and Yellow Flint are the kinds of corn generally grown.

The early varieties of spring grain seem to do better than the later ones, for the reason that they come to maturity before the hot, sultry nights, which prematurely ripen the crops, become very frequent. The quantity of grain sown per acre when it is being seeded down to grass is about 1½ bushels; when not being seeded, about 2 bushels. From one-fourth to one-third of the grain crop is usually seeded down, the quantity of seed used per acre being, of red clover, 8 to 10 pounds, and timothy, 5 pounds. It is sown usually behind the drill, followed by one stroke with a light harrow. Alsike has fallen into disrepute, owing to there being so many foul seeds in it.

The alfalfa acreage is being quite largely increased. It is being cured and stored for winter feeding, and also used as a green food in the summer to help out the pasture. Soiling crops, such as oats and peas, are not grown nearly so extensively as they should be. I could not get along without them. The corn acreage is increasing, and deservedly so, for it will produce more feed in the way of both grain and fodder than any other crop, besides giving such an excellent chance for ridding a field of weeds. The sowing of oats comes first, followed by that of barley.

S. A. FREEMAN, Oxford Co., Ont.—The farmers in our district each have ways and opinions of their own in regard to the different kinds of grain, roots and potatoes, and mixed and unmixed quantities sown per acre. Some sow oats and Goose wheat, some sow oats and barley, and a few sow oats and barley mixed with a few peas. I don't know as to quantities of each, as I never sow mixed grain, and have not inquired into their practice. The majority do not mix their grain. One reason why I do not mix my grain is that it gives me a chance to harvest the barley close after wheat. If the weather is unfavorable, you have two chances of getting your barley and oats in the barn, if sown separately. Sometimes we can sell the barley, and buy other milk-producing food at a profit. I have sold 800 bushels barley, and got seven tons more corn with the same money; this was some years ago.

Farmers only grow enough potatoes for their own use. The Rural New Yorker is as popular a variety as any. In mangels, the Yellow Intermediate is considered the best. White-cap Yellow Dent is the kind mostly grown for the silo, though I believe there are other varieties of yellow dent that are as good, if not better. If you buy from the seedsmen who import their corn from the United States, you do not know what you are getting; perhaps some big stuff that will not ripen before Christmas, as has been my fortune more than once. They can't fool you on White-cap Dent, if you buy it on the cob.

I seed everything, fall wheat and all spring grain, using 8 pounds clover, 3 of alsike, and 4 of timothy, per acre. I am mixing 200 pounds alfalfa with red clover and timothy to sow on 20 acres this spring. There are quite a number trying a little alfalfa this spring. There are scarcely any soiling crops grown with us. If it is dry, they don't grow; if they do grow, they are apt to rust; if it is not dry, they are not needed. Clover will beat any soiling crop, then corn for fall and winter feed. The corn area has increased 25 per cent.

For actual advantages from sowing improved seed, you will have to go to Guelph, where they experiment on that line. I believe very few farmers sow common and improved seed in the same field, and are able to state the actual advantages from the use of improved seed.

W. S. GOFORTH, Ontario Co., Ont.—The staple varieties of grain, etc., most popular in this district are oats, ensilage corn, potatoes and turnips. There is quite an acreage of potatoes grown here; early varieties mostly used are Early Rose, Irish Cobbler, and Early Sunlight. It has been found that, by using these early varieties, the crop will be well matured before the blight strikes them, which will be about the latter part of June or first of July. I then spray them with Bordeaux mixture. Of late years the blight has been so bad that all precaution should be taken to get it under check, even if one is troubled but slightly with it. For later varieties, for the last two years I have used Rural New Yorker and Delaware. Although it is an old-fashioned idea, I have never found it to fail, that if you plant the late varieties or winter crop of potatoes in the full moon in June, you will never miss a crop or be much troubled with blight.

Most of my neighbors grow a great deal of ensilage corn, and from five to ten acres of turnips, and fatten several head of cattle each winter, but I might say that, although I live in Rome, I do not do as the Romans do, for I have given beef cattle and dairy cattle a thorough test, and find that I get most profit from the latter. Therefore, while others sow ten acres of turnips, I sow ten acres of mangels, as I have never approved of feeding turnips to milking cows.

On a 100-acre farm I seed down from ten to fifteen acres each year, using ten pounds of red clover and five of timothy to the acre, usually sowing with oats or barley, so as to get it in early; but, if possible, I prefer sowing the timothy in the fall with fall wheat, and the clover the last of March, then you will be sure of a good clover catch, as it will get well rooted before the dry weather. After corn and roots, I sow oats or barley, and seed down, and move my corn from year to year to the weediest or most run-out field. I have not had much experience with alfalfa, although I consider it one of the best legumes grown, and many here are getting interested in it. It withstands the drouth well, and gives large yields of fodder to the acre. It is also excellent to plow down to enrich the soil.

The corn area is increasing around here, as there is no crop that will give a larger yield to the acre than corn, and, if properly cared for, it will clean the land, and leave it in good condition for next year's crop of grain.

I believe in changing my seed grain every two or three years, and consider it pays to give a little extra for good clean seed. I have also proved by experience that better results will be obtained by getting your seed from the north, rather than



from the south; even a distance of ten miles will make a difference.

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HUGH BERTRAM, Wentworth Co., Ont.—In this district the varieties of spring grains mostly sown are oats, barley, speltz or emmer, spring wheat and peas, the number of acres sown of each being in about the order named. In oats, Sensation, Twentieth Century, Siberian and Daubenay are the most popular. Last year, however, a new oat, the New Zealand, made its appearance. A farmer near here sowed three bushels, and threshed 105 bushels, which sold at his dispersion sale for 95 cents a bushel, and were all bought by his immediate neighbors. The usual seeding for oats is two bushels to the acre. In six-rowed barley, the Mandscheuri is the kind grown here, sown at the rate of two bushels per acre. Speltz or emmer, about 1½ bushels to the acre. In spring wheat, only the Goose variety is grown, and not much of that, sown 1½ bushels per acre. Peas are very little grown, because of the weevil. There are always a number of different kinds of potatoes planted, but the Carman type of potato seems to take the lead in points of crop and salable qualities. There is no outstanding early potato here at present, the market-gardeners complaining of the lack of an early variety that combines productiveness with earliness. The Early Ohio seems to be lacking in the former quality. In roots, the improved sugar beet has largely taken the place of the mangel. Turnips and carrots are also grown. Of late years we find we have better results sowing our Swede turnips about the same time as we sow our sugar beets, viz., as soon as the land gets warm enough to force the seed along. This we find is important, especially with beet seed, as it takes a long time to come when the ground and weather are cold, and a crust is apt to form. Last year we sowed sugar beets about 6 pounds to the acre, without soaking the seed, and in six days we could see the rows through the field. This was a record for us, and I must say we never had beets more easily thinned. We sow lots of seed, and save blanks later on. The dent corn is grown principally for silage. Learning and Early Mastodon, sown at the rate of one peck or a trifle more per acre, are commonly grown.

In nearly all cases the early-sown grain gives the heaviest yield, heaviest grain, and cleanest straw. When seeding down with spring grain, we sow a little less of grain, as the clover and grass seed will take better.

About twenty-five per cent. of the grain crop sown is seeded down with a mixture of about 8 pounds red clover, 2 pounds alsike, and 6 pounds timothy, to the acre. If alfalfa is sown, about 20 pounds per acre are used.

Does it pay to seed liberally with clover? In the spring of 1908 we seeded down with oats and barley, the clover seed costing us \$15 per bushel. In all, we bought \$50 worth. From that seeding we cut a crop of hay of about two tons to the acre, besides a second crop of 26 bushels of seed, which sold for \$8 a bushel.

Alfalfa is beginning to command the attention it deserves as the best crop for feed, in conjunction with corn, that can be grown on the farm.

The order in which crops are put in is as follows: Spring wheat, oats, emmer, barley, peas, sugar beets, turnips, corn, and potatoes.

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R. J. MESSENGER, Annapolis Co., N. S.—Oats, barley and buckwheat are about the only grains sown in this district, and these in the order mentioned. As to quantity, oats are probably 75 per cent. of all the grain sown, the reason for this probably being that oats are an easily-grown crop, are a well-balanced ration in themselves, good for both horses and cows, the yield of barley and buckwheat being less per acre, and not much better feed. There is very little wheat grown, possibly because there are no mills near for separating the flour. The White Banner oat is favorably known, and is the most commonly sown. White varieties of potatoes, such as Carman No. 11, Irish Cobbler, American Wonder, etc., are most popular.

In roots, the favorite varieties are, the Kangaroo, Elephant, Prize Purple-top, in Swedes, and Intermediate and Long Red varieties of mangels.

It is an encouraging fact that the farmers now, instead of simply asking for seed or oats, are stating a preference for some particular variety. In this district, because of the want of under-drainage and late springs, we look for early varieties in buying seeds.

Mixed crops are rarely sown, except as fodder crops, to be fed green. Some of these fodder mixtures are, barley, oats and peas, or vetches, in varying proportions.

The best farmers sow about two bushels of grain, selected by fanning mills. The majority of farmers, however, sow from three to four bushels of the uncleaned grain; that is, in oats.

It is a well-known fact that we get a better clover catch with a seeding of two bushels of oats per acre than with three. With the lighter seeding, the grain stools out better, and has better and heavier heads.

Probably about 75 per cent. of the land in

grain is seeded down. The writer, in a four-year rotation, always seeds down in sowing grain. The principal kinds of grass seed used in seeding down are timothy, red clover and alsike. The old-fashioned farmers sow chiefly timothy; the more progressive a large per cent. of clover. Among the latter, an approximate seeding would be 10 pounds timothy to about 12 pounds clover, the red and alsike being proportioned to the character of the ground seeded. These seeds are all broadcasted.

One great improvement of recent years is the broadcasting of manure, instead of throwing in the drills, as formerly, for roots and potatoes.

Alfalfa is only in its experimental stage here. Soiling crops are on the increase, but corn is rather diminishing in area grown. Oats are generally sown first, barley next, and buckwheat last.

#### Alfalfa for Seed.

While inspecting seed in some of the Grand River Valley towns, I have been struck with the possibilities of this section for growing alfalfa for seed. This was more deeply impressed upon my mind when a seed dealer in Caledonia told me about a farmer not far from Caledonia, on land worth \$35 to \$40 an acre, who had sold him a little over nine bushels of alfalfa seed, for which he gave him a check for about \$96. He had grown this seed on two acres of land, and hauled it in on one load from the field. Here he was getting the price of his land in one crop of alfalfa seed. As this was produced from a second cutting, in all probability he had the first cutting for hay or a soiling crop, which would much more than pay the rent of the land and all expense in harvesting and threshing the second crop. When this farmer was advised to take home some of the seed to sow, he said that he hadn't any land in shape for seeding down with it this spring. Surely it would have paid him to have prepared five acres and sown it with alfalfa.

The heavy clays of this valley seem to be well suited to alfalfa-growing, which must in time transform this land into the very best of land for producing any kind of crop. This year there is a large quantity of seed for sale from this valley, and much of it is of good quality in size and

should guard against in buying foreign alfalfa seed of any kind, and that is alfalfa dodder. This seed produces a parasitic plant, which has become acclimatized in Ontario, and seriously affects the alfalfa crop. This year it is being blacklisted by the Seed Control Act. It is only likely to come in seed grown outside of Canada.

T. G. RAYNOR.

#### Drain the Fields and Roads.

Editor "The Farmer's Advocate":

Your paper is doing good service in bringing before Canadian farmers the advantages of tile-drainage, and I think the education is telling now. In moving about, it has impressed me that very much land in Ontario is being wrought at a loss, for want of a few drains. I say a few, because, so far as I have seen, it is just in parts where water stands in hollows, and close drainage does not appear to be especially needed. Where there is bottom wet, or what we call a "pan" bottom, close drainage is required. In such cases there seems, at least in some minds, a defective idea as to distances apart. Much of that sort of land is found in Scotland, and the system came to be spoken of as "furrow" drainage; that means a drain in each furrow, or "mids," and, as the "rigs" were made ten yards wide, that was the usual distance apart for drains.

For sixty years, the question of the utility of drainage has been closed in the Old Country, and it is longer since the incident took place, told of two farmers passing a piece of bog-land, when one remarked, "That would grow well if it were dried." The other replied, "I dinna' ken fat wye ye could dry that, unless you put a reef' over it." During that period, many theorists aired their ideas, which, when put into practice, did not answer well. I have seen drains put in four feet deep, and do little apparent good, and I think experience has brought most to this, that from 30 to 36 inches is the proper depth, with 8 inches more for leaders or mains. Of course, dips and knolls require various depths, but no tile is safe in this country less than 30 inches down below the surface. One of the most important things in a drain is the bottom, which should run even and smooth, and of an equal grade. Drain-cutting in Scotland is an art, and sometimes a fine one, and men who live the work get quite proficient. Bottomed with scoon, pipes drop in place at once, without the least trouble.

The work is mostly done there by piece, so much a chain, or hundred yards, according to custom prevalent in district. I do not write about this matter without considerable experience. Beginning in 1868 with 11,000 yards, or over six miles, put in that season, and all these laid with stones, taking a load to four yards. On most of the land this was second draining, as the first had

been scamped or theoretic work, and in such case I always cut across the old ones at an angle, so as to get some good of them, also. I went on with stones for twenty years before I began with tiles, and for that period I did all the work at my own expense. It then came to be an understood arrangement that proprietor supplied the pipes, the tenant cutting drains, laying and filling. In moving about to different farms, I met all sorts of soil and bottom, and I can testify to very distinct results in all cases. I put in 3-inch tiles only, as not only for taking off water, but aerating soil. With all the talk about good roads, even these would be vastly improved by well-directed drainage. Speaking about roads, let me say that automobile motors wear the roads more than all other traffic. The weight of the latter passing over a road in good weather tends to make it better, but in all conditions automobiles do damage, and leave the road worse, because they use the road to propel themselves, and the rubber holds like the clams of a mole. The only remedy is to put an adequate tax on their owners to maintain roads they use, but which they did nothing to make.

I will be pleased if anything I can say tends to help in the needed improvement in farming in this good country, where soil is much better, on an average, than in Scotland, but of the crops here I do not like to say what I think. Corn and alfalfa grow here, and they should be made the sheet-anchor of stock food.

B. E.  
Halton Co., Ont.



The Crosscut.

(Photo by Mary E. Clarke, Carroll Co., Ohio.)

purity. Ragweed and ribgrass, or buckhorn, are the chief weed-seed impurities, and should be carefully guarded against.

Many of the dealers are holding a large quantity of seed for sale, as they anticipate that a larger acreage will be seeded with alfalfa than usual.

Farmers who are intending to sow alfalfa for seeding purposes should be careful to sow it on a clean chance, well worked into a fine seed-bed, with plenty of humus and lime in the soil to insure a good catch. When grown for seed purposes, it may be sown somewhat thinner than when sown for feed purposes alone—fifteen pounds per acre for seed, when 20 pounds or more per acre is needed for a good quality of hay.

Alfalfa, on the stiff clays of Wentworth, Welland, Lincoln and Haldimand Counties, will help to put them in shape, so that underdrains will work much more satisfactorily.

While there has been a considerable quantity of alfalfa seed delivered by farmers, there is still a quantity to deliver. I heard of one farmer who had 35 or 40 bushels yet for sale.

It is not every year, perhaps, that a good crop of seed will be harvested, but alfalfa is a crop well worth growing. When it does not produce good seed, it may be cut and cured for hay. Dry weather is favorable to seed production. On account of the growing demand for seed, the prices are very high, considering the price of red clover and alsike.

There is a seed which intending purchasers



### Traction Plowing.

On the large farms of the great plains, in both Canada and the United States, and on the ranches of California, traction engines—both steam and gasoline—are used to an increasing extent in farming operations, especially in plowing land. The makeshift outfits formerly used for this purpose have been largely replaced by heavier and stronger engines and gang-plows especially designed for this use.

The advantages of traction plowing are: (1) That the work can be rushed when conditions are favorable; (2) that the work can be done with a smaller force of hands, and fewer horses have to be kept; (3) in hot, dry weather, engines can be used when horses could not stand the work; (4) with an engine, it is possible to plow very difficult soils, and also to plow deeper than with horses; and (5), under favorable conditions, the cost of traction plowing has been brought lower than that of plowing with horses.

The steam engines weigh from 7 to 20 tons, range from 20 to 50 horse-power, cost from \$1,500 to \$6,000, and will plow from 15 to 50 acres a day.

A traction-plowing outfit consists of (1) an engine; (2) the plows or disks, arranged in gangs; and (3) miscellaneous conveniences for carrying supplies, making repairs, etc. The size and cost of the outfit, and the amount of work it will do, depend largely on the number of plows operated.

In a recent bulletin of the U. S. Department of Agriculture much general information is given in regard to traction plowing, and its economy and practicability are discussed.

### Rule Compound Off the Market.

Editor "The Farmer's Advocate":

Last year I tapped 325 trees on March 30th. Quite a few of the trees are large enough for two cans on each of them. They are situated on an average height of light stony land, facing the south-east. For making syrup, I use a modern evaporator, 3 x 12 feet. The cost of the evaporator, buckets, sap tank, 100 one-gallon syrup cans, sap spouts, and cost of installing it, was \$200. This does not include an up-to-date syrup camp, but I am going to put up an up-to-date house for it this summer. I have one hundred more sap buckets for this spring.

We gather the sap every morning, and, when it is running well, we gather it in the evening again. It is drawn to camp, and put into our tank; it runs from the tank as it is wanted through a rubber hose into the evaporator. When we are drawing off the syrup, we strain it through a felt strainer, allow it to cool, put it in cans and label them, and it is ready for market. About \$1.00 a gallon is all a person can get, on the average. I think, for increasing the price and making a bigger demand for pure maple syrup, this compound would have to be ruled off the market, for they can sell this inferior stuff for such a low price that the demand for pure maple syrup is not strong. As for the average profit per season, it would be nearly all clear profit after one has paid for his evaporator. I just got mine in last spring, and I expect it to finish paying for itself after this spring's run. Of course, if one had to hire men to run it, it would make a difference, but at this time of the year a person is not doing much, and it is a nice change to get into the bush for a couple of weeks in the spring.

Carleton Co., Ont.

R. CHRIS. IRVINE.

### Alfalfa and Tiling Should Go Together.

Editor "The Farmer's Advocate":

In regards to alfalfa and tile drains, would say that I have alfalfa growing in a field that has been seeded down for over ten years, and I have not had any trouble yet. I have another field, which has been down for six years, and I have not had any trouble with it, either. There might be a little danger if the land was inclined to be springy or boggy. So, I would advise your inquirer to drain, and sow lots of alfalfa, for I am certain they should go together.

Huron Co., Ont.

SAMUEL CUDMORE.

Discussing the road question, in a letter to the Globe, Peter McArthur hopes that those interested in good roads will not forget the split-log drag. "The use of this simple instrument," he correctly states, "can make ordinary earth roads as good as the best during certain seasons of the year. During the past summer, the writer passed frequently over a road that was dragged after every shower, and received no other treatment. The only objection to it was that it was so good that automobiles came miles out of their way to have a spin over it. The use of the split-log drag should be encouraged as a means of keeping subsidiary roads in order, and as an education in the value of good roads. The more people see of good roads of any kind, the more they will want the best."

### Better Production and Marketing.

Editor "The Farmer's Advocate":

"How to Increase the Profits of the Farm" was ably discussed at a recent meeting of the Brant Township Farmers' Club, by W. A. Rowand, who thinks there is a promising future for the farmer, and he that wishes to enjoy the coming good times must begin by laying the foundations now. We cannot expect good times in the future, and shirk our present duties. Let us do our duty as farmers now, and the future will be well able to take care of itself. We cannot sow thistles and expect a crop of figs. Neither can we be indifferent or careless in our management of the farm, and expect to make a success. The wise saying, "As we sow, so shall we also reap," is just as applicable to farming operations as it is in the higher phases of life, and as true now as it was when it was uttered. We are continually building for the future, and the harvest will be according to our efforts in the present.

All farmers think they are following good methods, but none of us will say that we could not improve on them. We are forgetful beings, and often forget or neglect to do what we have decided upon doing. We may know, but we don't always do. To do, or to know, which brings the best results?

Application of energy and intelligence is the key that unlocks the treasures of the farming vocation. To be able to apply the energy properly, we must first have the intelligence, and real intelligence comes from personal experiment and thought. Many farmers try to imitate their neighbors, but the imitator is always dependent on another, and will never arrive at independence. Of course, we should always be willing to learn from our neighbor, and may follow his methods if they prove better than our own, but we should always try to have some originality about our own. A mere imitator loses his self-respect.

A farmer should study just what crops his land is best able to produce, and then grow enough of those crops to produce a well-balanced ration. Different soils, the lay of the land, and the temperament of the man, have a good deal to do with producing good crops of certain kinds. Experience teaches us not to sow fall wheat on an undrained or swampy piece of land, and that some soils produce better crops of certain kinds than others.

Try to make a specialty of a certain line of produce. Let it be seed oats, seed potatoes, pure-bred stock, fruit, or anything else. Aim to produce the best in that particular line, and if you make it known, you will always have a ready sale at a good price, for your production. That does not mean to produce only one thing, but to give special care and attention to one thing.

But at the same time we should not try to become expert at more than one thing, or in all branches at once. Study up one branch at a time, and when you have become expert in it, take up another subject. It is better to be an authority on one thing than to have a superficial knowledge of all.

Take any report, and compare the prices of choice and common. In "The Farmer's Advocate" of March 3rd choice butcher cattle were quoted at \$6 to \$6.25; common at \$4.50 to \$5.15, leaving a difference of between \$1.10 to \$1.50, which should well repay the effort to produce choice.

An important operation to help increase the profits of the farm is the selection of seed grains for seeding. There, again, the law, "We reap as we sow," is in evidence. Just as we cannot get pure-bred stock from scrub cattle, so we cannot raise good grain from small, light seed. The proper way to select seed is when it is standing in the field. Select those plants that stood out well, have tall straw, and good heads. It is not meant to select all your seed grain in that way; that would be almost impossible, and consume too much time, but the idea is to select the best heads from a small plot for three or four years, and using the last crop for seed the next spring. Mr. Rowand mentioned a man in Quebec who had increased his oat crop 30 per cent, by hand-selecting his oats for four years. Another man, in Sweden, is said to have produced 93 bushels of wheat per acre by means of hand selection of seeds for a number of years, and his own experiments with selected seed potatoes had proven the efficiency and wisdom of selecting seeds.

To be able to buy good machines and handle them properly, a farmer should have a knowledge of mechanics. Many breaks and much loss of time would thus be saved.

Much time can be saved by the shape of our fields. Much time is wasted when plowing, etc., in turning at the ends, so that long, narrow fields would be an advantage.

A systematic short rotation of crops with clover is a great help, for many reasons. It tends to keep down weeds. It keeps the soil in better workable condition. The frequent plowing down of clover enriches the soil and gets more vegetable matter incorporated into it, and it is this vegetable matter upon which the much-needed nitrifying bacteria, so necessary to good crops, feed.

Drainage often yields a profit of 100 per cent, with land that was unproductive before it was drained. The increased crops on drained land

will pay for the draining in two years. One man said that the pleasure of seeding into soil, instead of into mud and water, paid for the draining in the first season.

Always work for the future. Always have a purpose in view, and a reason for doing a thing. Work towards an end, but never reach it. Keep our ideals before us, and always work towards them.

The subject of marketing was merely touched upon, but it is the opinion of the writer that the subject of controlled marketing is going to be the big problem of the future for the farmer. To the present time the farmer has devoted his attention to production, but the problem of profitably marketing his products will demand his attention in the future. In parts of America where people depend principally on one crop, such as potatoes, tobacco, cotton and corn, in the United States, and wheat in the Northwest, the farmers are already far advanced in the solution of profitable marketing. They store their product, and put it on the market gradually. Our farmer makes a profit of one-quarter cent a pound on beef, but how does this compare with the profit made on beef after it leaves the farmer's hands? Just take your pencil and figure it out. Although at present we have no solution for this problem, yet it is a problem that will have to be solved, and the sooner farmers recognize this, the better. There are too many middlemen that make their living off the farms, and their profits are too big, compared with the profit of the farmer. There must, of course, be some sort of medium between the producer and consumer, and the problem is to simplify the system. I heartily agree with Clark Hamilton, writing in the number of March 3rd. Bruce Co., Ont. A. E. W.

### Keep Dogs Home at Night.

Editor "The Farmer's Advocate":

As there is considerable written with regard to the dog nuisance at the present time, I would suggest a way out of the difficulty, to the benefit of the sheep industry. Have every man that owns a dog tie him up at night; feed him when you tie him, and he will be always there. A dog so treated will seldom leave home during the day. It would be better for the dog, better for his owner, and there would be no dead or worried sheep.

Or have a law that every dog found off his owner's premises after dark be outlawed, and liable to be shot or put out of the way. All the dog taxes or by-laws ever invented will never save the sheep while the dogs run at large at night.

This is no theory. I have practiced it for some time, and always found I had a better dog in the morning than if he had been running round the country at night. Some men will say their dog never goes from home at night. Well, they can't tell, if he is not tied up. In this neighborhood we have no sheep, but dogs without number, and nine-tenths of them are not worth their board.

If any of your readers know of a better way, we should be glad to hear from them.

Huron Co., Ont. "A CONSTANT READER."

### What is the Land Worth?

Editor "The Farmer's Advocate":

In your criticism of my article on the woodlot, I was more than surprised at your methods of estimating the average value of the produce of an acre of land. You say that the rent of land over the expense of working it represents its value. Where, then, is the profit of the renter? And yet I know many renters who were soon able to buy, solely from the profits which they made. Then, if the value is only equal to moderate interest, land must be a mighty poor investment. My estimates were not given without due consideration. For example, land rents for flax here at \$10 and \$12 per acre, but at that figure little of it can be had, because other crops pay the farmer better. What about an acre in orchard, at the low price of \$1.00 per barrel, or turnips at 10 cents per bushel, or potatoes, or corn, or wheat, or hay, which can be grown on new land, without drainage, and will average 1½ tons, worth \$10 per ton? Even grass, which is the poorest payer of any crop, labor considered, rents for at least \$3 per acre, and to a good grazer it is worth two and often three times that. I gave the average value of crops, other than grass, as stated; what the general average is, I could only guess, but would say it is well above \$10. Besides, \$1 is the figure for the best hardwood, but our woodlots contain about half softwood, worth only half as much. J. H. BURNS.

[Note.—The point contended for by Mr. Burns in the above criticism (publication of which has been delayed several weeks by pressure of space), that land is worth \$10 per acre yearly, he fails, we think, to establish. A safe guide in determining the value of anything is to find out what it will bring or sell for. Mr. Burns very properly uses this method when he quotes what land for flax will rent for. But he leaves out of sight the depreciation in value of such land by the removal of the whole crop. The farmers who decline to



rent land for flax purposes doubtless have that in mind. From \$3 to \$5 per acre rent for average farm land is a fair and not an underestimate. Land is a safe investment, but no one will claim that it is one which will return a high rate of interest. The majority of farmers will be ready to agree that it brings less, rather than more, than five per cent., usually. At that rate, capitalized at \$10 per acre yearly, a hundred-acre farm would be worth \$20,000, two or three times more than it would sell for in most districts. We are free to admit it might be made to return larger interest than it does in many instances, but we were writing of conditions as they are, not as they might be.—Editor.

### Bell Telephone Service.

Editor "The Farmer's Advocate":

I will give you a brief history of my rural-telephone line, and the arrangement for connection with the Bell Company under which it is operated. Five years ago the Bell Co. and I tried to do business, and have tried it every year since, until the winter of 1907, when we came to terms, which, I think, for cheapness, general efficiency, and good service, cannot be excelled. The plan is as follows: They rent me two miles of wire, at \$8 per mile; then, I have two miles of our own line, which my subscribers and myself built at a cost of \$80 a mile, including 'phones, wire and erection. I have ten subscribers, and we pay \$5 per phone per year for switching privileges with Woodstock. We talk to over 400 'phones free, have all the advantages of our city friends; and repairs, directories and all do not exceed \$7 per year for each subscriber. After the farmers surrounding Woodstock saw the service we got, some five other lines were built in different directions out of the city, so that a wide circle of farmers can speak free to one another—a great boon, indeed, to Oxford farmers. What the Bell Co. has done for us, it will do for others. Examine a Western Ontario directory, and you will see the Woodstock rural extension.

I might say that the Bell Co. have dealt in a very fair manner with us, looking after repairs promptly, and it seems to me, so far as our line is concerned, we would not be better treated with any other management. Now, my next neighbors are on an independent line (as they call it), and they pay each time 10 cents to speak to Woodstock, in addition to the rental of \$10 per year, and they have to put up with the inconvenience of having too many subscribers on one line, sometimes as many as twenty-four being put on one system. They have often to wait when getting in touch with the Bell for long-distance calls, while we have the advantage of instant call. I am not trying to boost the Bell Company's rural business, but I feel it a duty to my brother farmers to give a description of what I know to be the best way of getting this convenience in our homes.

Oxford Co., Ont.

H. J. DAVIS.

### Good Methods on a Small Farm.

Editor "The Farmer's Advocate":

One point in favor of having a small farm is the vexed question of hired help. One man can do nearly all the work himself, then he knows it is well done; he has more time to work his land, consequently he can raise nearly as much on 50 acres as many men raise on a hundred-acre farm. I think fifty acres is just right to handle where there is only one man. There is not room on a small farm for a big stock, but what you do have should be the best you can get. Weed out, grade up, all the time, in all lines of stock. Above all, don't specialize in any one line; it is a safer plan to follow mixed farming; the work is better divided, and you make as much money. In order to run a small farm successfully, it should be laid out in four ten-acre fields. This gives a four-year rotation: one field pasture, one field hay, one field grain, and one field roots and grain. I like to break up my sod in the fall; put out manure in the winter as I make it; disk up in spring. Put about four acres in corn, some mangels and potatoes, and remainder of field in grain. Close around the barn I have three small fields, then a quarter of an acre in garden, and quarter of an acre in orchard. I let the cows into one of the small fields in spring, until the big field gets a good start. Some time in June I plow this little field up, and sow to some green crop, peas and oats, millet, and some corn for cutting green; and when the green feed is fed in the stable, there is very little waste.

If the big pasture field gets too bare, I turn the cattle into one of the other fields at nights. I generally leave the other little field for hay. In orchard I like to have a piece of rape and a piece of clover I can turn some little pigs into. In the garden I have all kinds of small fruits, and

get quite a revenue from them, over and above what supply the house. I put in plenty of cabbage, and what doesn't sell is stored away for hens in winter time. I always put in a few rows of sunflowers for hen-feed. I have my garden laid out so I can use the horse cultivator all the time, and, with a hand cultivator going close to the rows, it doesn't take long to go over the whole patch. In plowing one of my fields this fall, one corner was all black muck, and very dry. I brought home a load at noon, and one at night, till I had a good-sized pile stored in an old shed, and a little of this spread on passages behind cattle to keep them from slipping, and some put in gutters to soak up urine, represents labor that will be well repaid. At the same time, the best of manure is being saved (my stables are all cement floors). I always think of the old Scotchman's advice to his son, on leaving for a farm of his own: "Noo, Sandy, dinna gang intae debt, except it be for manure." Being Scotch myself, I take the old man's advice, and buy all I can get, make all I possibly can at home, and then I have not enough to satisfy me. The greatest problem of the farmer to-day is more manure and better tillage. Everything else follows naturally—richer land, better crops, more stock, and a fatter bank account.

A silo is a very necessary thing on a small farm. Then you can keep about 8 cows, and raise the best of your heifers to sell in calf or replace poor cows. I veal all male calves, and don't send to factory or creamery until you have calves all raised and off your hands, or they will have to take the short end. Keeping one brood sow, I can raise, on an average, 18 pigs; and, with some rape, clover, whey, and a little meal, can feed cheap and make some money.

A team of general-purpose brood mares should be on every small farm; they can raise colts and do the work nicely. I breed them both to the best horse I can get, and am mostly sure of raising one colt. Along in the fall you can generally get a good price, and I think this is making as much money as keeping them over and running all risks. I keep from 50 to 75 White Plymouth Rock hens (pure-bred). I have tried other breeds, but for ten years I have been improving on the White Rocks, and am quite satisfied they are the best for the farmer. I like to raise about 75 chicks. Keep about 25 good pullets to replace old hens, which are killed off after two years old; crate-fatten remainder of pullets and cockerels, and when you get top market price, you begin to think it pays to keep the best.

The most essential thing on a small farm that I know of is to have "The Farmer's Advocate" coming to you every week. I venture to say there is hardly an issue but what you get your money's worth in one way or another. Once in a while it is a day late, and it is a keen disappointment if we don't get it every Friday afternoon.

Wellington Co., Ont.

R. J. SMITH.

### Formaldehyde for Smut.

Smutty grain results from sowing seed that has smut spores adhering to the kernels. The losses from smut in wheat were much greater in the days of the pioneers in the Eastern Provinces than they are at the present time. In those days grist mills were equipped with what were called smut mills, cylinders through which the grain passed, and, in passing, was thrown with such force against the sheet-iron cylinder covering that the smut balls were broken, and the dust blown through fine slits in the metal. In those days, also, bluestoning the seed wheat was the regular practice of most farmers. In the Western Provinces, treatment for smut is especially necessary, and extensively practiced, but the experiments of Prof. Zavitz, O. A. C., Guelph, show that a very considerable loss of grain, both of wheat and oats, occurs yet in the East from this cause. His experiments go to show, also, that smut can be almost entirely prevented.

For that purpose, either the bluestone, formaldehyde or hot-water treatment was effective. It is now generally agreed that formaldehyde is the best, all things considered. Of the two methods of applying it, by immersion or sprinkling, the latter is to be preferred. There is nothing very difficult or intricate in the process. Spread the grain to be treated on the barn floor, and sprinkle till quite moist with a solution, in the proportion of a pound of formalin in 32 to 35 gallons of water. Shovel over a few times, applying the solution while the shovelling is going on. When all is well dampened, shovel all into a conical heap, and cover with old blankets for two or three hours. Then remove the blankets and spread the grain out to dry, stirring occasionally. Mix only as much at once as can be sown within three days. Keep the grain from reinfection after treatment.

Formaldehyde of the strength recommended will not affect the vitality of seed, but either bluestone or formaldehyde may be used of such strength as to injure it very seriously.

## THE DAIRY.

### Soft Cheese Manufacture at O. A. C.

Although Canada figures as the leading source of Great Britain's cheddar-cheese supply, exporting in the neighborhood of \$20,000,000 worth a year, she is at the same time an importer of cheese of a different kind. Some three-quarters of a million pounds of soft cheese are annually brought into the Dominion from France and other countries. Although the market is comparatively limited, the prices are lucrative, and the Dairy Department of the Ontario Agricultural College has been endeavoring to see what could be done towards working up a small industry in Canada in the manufacture of these soft, full-cream and double-cream cheese. The manufacture of these special cheese at the College is in the hands of Frank G. Rice, a graduate of the Midland Agricultural and Dairy College, England, who has been there since a year ago last February. Four lines of soft cheese are being made: Canadian Camembert, a small, flat cheese, resembling a pancake, only quite a few times as thick, and sold at 25 cents at the College; Double-cream Cheese, made in the form of a four-ounce briquette, sold for 15 cents a cheese; the Gervais Cream Cheese, in the shape of a four-ounce cylinder, sold at 10 cents; and the Stilton Cheese, sold for 30 cents. Details of the manufacture of these cheese have been supplied to us by Mr. Rice, and will be published in "The Farmer's Advocate" at a convenient opportunity. The principal difficulty experienced thus far has been in interesting the dealers in this cheese, though once they are induced to try them, the demand steadily develops, and a number of Toronto merchants are now offering them regularly over their counters.

### Prof. Grisdale on Feeding Dairy Cows.

Milk contains a large percentage of protein or flesh-forming material. The food destined for milk production should, therefore, be rich in that element. Certain foods, such as clover, alfalfa, roots, gluten meal, bran, oil-cake meal, cottonseed meal, are rich in this constituent, and these feeds should, therefore, enter as largely as possible into the composition of the ration for the dairy cow. Certain other feeds, such as timothy hay, corn meal, barley, wheat straw, etc., are comparatively poor in this material, and should, therefore, be fed in moderation, or not at all, if the others are available.

The dairy cow should be persuaded to eat all she can. To this end, succulence is probably the cheapest and most satisfactory aid, and if to such a succulent ration the additional good qualities of easy digestibility and richness in protein be added, then the dairyman's problem is solved.

### Wants to See Good Grades Advertised.

"Ask your readers who have good grade cows for sale to advertise them, giving their yearly return at the pail," writes a cheese-factory patron, in renewing his subscription. "There are plenty of pure-breds advertised, but to most factorymen the prices asked are beyond us, whereas many like myself would be glad to buy a good grade cow at a good price, if they knew what she could do, rather than buy at sales, with a possible good bargain out of ten bad."

We cheerfully throw out the suggestion, and shall be pleased to furnish advertising rates on request. We fear, however, that very few dairymen can give accurate information as to the yields of the cows they have for sale, and would not usually sell the best, if they could. Here is another argument, though, for individual cow records.

A two-thousand-mile trip over the Burlington lines in Southern Iowa, has been completed by a special dairy train, the object of which was to increase and improve the output of Iowa's 550 creameries, 1,500,000 dairy cows, and 110,000 creamery patrons. The keynote of the argument was not necessarily more cows, but better cows, healthier cows, and better feed and care.



**"The 80-per-cent. Basis."**

Editor "The Farmer's Advocate":  
There seems to be considerable misapprehension in the minds of many parties, judging from letters received, regarding what is meant by the "eighty-per-cent. basis," as adopted by one of the Dairy Cattle Breeders' Associations, for calculating the weight of butter which a certain number of pounds of milk-fat will equal.

In the first place, it is necessary to know something about the composition of butter, and in the second place it is advisable to bear in mind what the framers of the resolution had, or ought to have had, in mind when it was proposed (we are not blaming or praising, but endeavoring to throw some light on the question). Good butter consists of from 82 to 84 per cent. milk-fat, but may go as low as 80; 12 to 15 per cent. water, but may range from 10 to 16; 0 to 3½ per cent. salt, but may have 5 or 6; ¼ to 1 per cent. curd, but may have 2 or 3.

If we were to suggest a standard, it would be a minimum of 82½ per cent. fat, and a maximum of 16 per cent. moisture. This double standard would, in our judgment, be preferable to the present 16-per-cent. water maximum. We thus see that butter consists chiefly of fat, and has mixed with it, mechanically, from 15 to 20 per cent. of other ingredients, chiefly water. These added ingredients make what is known as the overrun in creamery practice, which is such a puzzling problem to most persons, including a few agricultural editors, judging from the fearful and wonderful propositions occasionally worked out in the columns of agricultural newspapers.

Let us see what is meant by the so-called "80-per-cent. basis." It assumes that 80 pounds of milk-fat will make 100 pounds butter. It does not exactly mean that 100 pounds milk-fat will make 125 pounds butter, nor does it mean that 100 pounds butter will contain 80 pounds milk-fat, unless the buttermaker is so skillful that he or she can convert the fat of milk into butter, without loss, which is impracticable. The plain statement of fact is that, in this 80-per-cent. factor it is assumed that 80 pounds of fat in the milk will make 100 pounds legal butter, after making allowance for the losses of fat in handling, separating the cream, churning, etc. To give an illustration, one of our correspondents wanted to know how much "calculated" butter there would be in the milk of a cow which produced 14 pounds of milk-fat in seven days, using the 80-per-cent. basis for the calculation. The question is resolved as follows:

80 lbs. milk-fat makes 100 lbs. butter.

$$\frac{1}{80} \times 100 = 1.25$$

$$14 \times 1.25 = 17.5 \text{ or } 17\frac{1}{2} \text{ lbs. butter.}$$

If we carry our calculation a little farther, and assume that the cow produced 400 pounds milk testing 3.5 per cent. fat, which would equal 14 pounds fat, and assume, further, that the milk was separated, taking 12 per cent. in the form of cream, the skim milk testing .1, and the butter-milk 2 per cent. fat, we should have approximately 13½ pounds fat available for the butter, which would make about 16½ pounds butter containing 82.5 per cent. fat, and nearly 17 pounds of butter containing 80 per cent. fat.

Personally, we can see no advantage in converting milk-fat into butter, for either cow or creamery calculations. It is a great temptation to "juggle" figures. We all know the saying, "Figures do not lie, but liars will figure." Allow us to repeat that we are not praising or blaming anyone. H. H. DEAN.

**O. A. C. Creamery Statement and Monthly Letter to Patrons.**

Following Mr. Medd's excellent article on creamery statements, illustrated by forms used in the Winchelsea creamery, the annual statement of the Ontario Agricultural College Creamery may be not inappropriately presented. This creamery, under the efficient charge of R. W. Stratton, has had a very successful year, and its favor with the patrons may be judged from the fact that it has been turning cream down right along, the experimental work rendering it impracticable to handle to advantage more than it has been receiving.

In addition to the statement presented herewith, the cash statement, also issued in tabular form, shows receipts, deposits and disbursements for each month, as well as total for the year. The aggregate figures show cash sales of butter to have been \$31,960.89; cash sales of cream, \$440.80, making a total of \$32,401.69. Cheese to the creamery patrons was charged to the value

of \$558.32; checks to patrons were \$27,666.33; checks for manufacturing, \$4,168.01; total checks issued, \$32,892.66. The charges for manufacturing were 3 cents per pound of fat on milk or cream delivered by patrons, and 4 cents on milk or cream collected. Notice has been given that the charges are to be advanced half a cent a pound of fat, commencing April, 1910.

Note that, while the average selling price of the butter was 26.05 cents, the net price to the patron per pound of fat was 26.99, the overrun of 18.8 per cent. being more than sufficient to pay the cost of making.

The O. A. C. creamery has also followed the excellent practice of sending out to the patrons each month a circular letter presenting a statement for the preceding month, and discussing noteworthy features of the month's business. The spirit of emulation is aroused among the patrons by mention of the output of a few leading patrons. Following is a copy of the letter for February, sent out on March 1st:

**MONTHLY LETTER.**

We herewith present financial statement for February, 1910:

Pounds fat received	7,505.65	
Pounds butter made	8,643.	
Revenue from butter sales		\$2,552.83
Overpaid in January		.75
<b>Total</b>		<b>\$2,552.08</b>
Manufacturing:		
1,970.72 pounds fat, at .03		\$ 59.12
5,554.93 pounds fat, at .04		221.40
<b>Total</b>		<b>\$ 280.52</b>

Net revenue to patrons, \$2,271.56; net price per 1 pound fat, 30 cents; per cent. overrun, 15.1.

Our overrun this month has taken a big drop. Why? We are not able to explain definitely, but are inclined to attribute it to climatic conditions, as more of the cream is frozen in February than any other month. The tests will average 2 per cent. higher than in January, though a few are lower. If you have the report for February, 1909, you will notice the overrun was lower that month than any other month during the year. The price per pound fat is .7 cents better than February of last year.

Owing to a misunderstanding regarding the date at which the new scale of prices charged for manufacturing was to take effect, your committee was called together on February 26th, 1910, to sign new agreements, which state that the price for manufacturing milk or cream into butter shall be 3½ cents per pound fat, delivered, and 4½ cents per pound fat where hauled by the Dairy Department of the College; this arrangement to take effect on April 1st, 1910, and to conclude December 31st, 1910, unless mutually cancelled before that date.

In order to prevent misunderstanding in future, it is understood that all arrangements regarding prices for manufacturing, hauling, etc., shall terminate on December 31st of each year, unless specifically arranged otherwise.

Those sending the most fat this month are: Mr. Mehn, 210 pounds; Mr. Hohenadel, 138; and Mr. W. Cowan, 131 pounds. Of the Rockwood patrons, Mr. Stovel leads, with 256 pounds; Mr. Gray, 221 pounds; and Mr. Ostrander, 182 pounds. The roads being so bad, a number of patrons did not have the privilege of sending all their cream, but we hope they will soon improve, so our collectors can make their regular trips.

Very truly yours,  
R. W. STRATTON,  
Creamery Mgr.

Guelph, March 1st, 1910.

**Annual Statement O. A. C. Creamery, 1909.**

1909	Pounds Fat Received	Pounds Fat used in Buttermaking	Pounds Fat Sold in Cream	Pounds Butter Made	Butter Sales to Patrons	Total Sales of Butter & Cream	Per Cent. Overrun	Net Price per lb. Fat to Patron	Average Selling Price of Butter
								Cents	Cents
January	5025.58	4875.99	149.59	5736	\$ 103.46	\$ 1819.13	17.6	32.	30.76
February	5243.32	5058.67	184.65	5846	60.45	1738.67	15.5	29.3	28.64
March	6929.70	6713.18	216.52	8204	96.12	2300.07	22.	29.2	27.11
April	7660.66	7434.54	226.12	8865	99.84	2400.43	19.2	27.3	26.82
May	10344.67	10085.57	259.10	11942	138.26	3054.58	18.4	25.5	24.87
June	14465.48	14220.39	245.09	16891	176.60	3930.48	18.7	23.	22.76
July	12741.91	12741.91		15134	166.32	3632.57	18.7	24.5	24.00
August	12019.31	12019.31		14458	180.01	3520.41	20.2	25.3	24.35
September	9882.03	9882.03		11768	180.75	2958.23	19.	26.	25.13
October	7883.16	7883.16		9175	144.61	2523.06	16.5	28.	27.5
November	7551.61	7551.61		8905	165.88	2583.97	17.9	30.2	29.
December	10228.03	10228.03		12209	168.48	3620.87	19.3	31.4	29.59
	109975.46	108694.39	1281.07	129133	\$1680.78	\$34082.47	18.8	26.99	26.05

**POULTRY.**

**Philo System of Poultry-keeping.**

Editor "The Farmer's Advocate":  
I saw a notice of a new way of hatching and raising poultry, called the Philo System. I would like to know what you think of that system before I send a dollar for the book. There may be other readers of "The Farmer's Advocate" who would like to see the editor's opinion of that system. E. T.

The Philo system of poultry husbandry is an intensive method, carried to an extreme length. The layers are housed in small numbers of half a dozen or so in very small canvas-covered coops, with part earth floor covered with litter. The birds are forced to their utmost capacity, and when exhausted, the stock may be renewed. Prof. W. R. Graham puts it this way: "The Philo system of keeping laying stock is an extremely intensive system. The Philo system of raising chickens is the intensive system, coupled with fireless brooding. Fireless brooding can be worked successfully in any temperature above freezing, but you must spend some time with the chickens, in some cases more, and in other cases less. It is, therefore, a case of man's time versus kerosene. For backyard work, if one pays the very closest attention to details, and scrupulous cleanliness, it is within the range of possibilities that one might succeed, but, as a commercial scheme, there would seem to be too much labor involved, and one would certainly be in for it attending the coops in wet weather. I can feed a hundred birds in our latest colony house almost as quickly as I could feed half a dozen in one of our Philo coops, and without getting my neck wet lifting the top of the coop during a rain."

**Re Incubation Troubles.**

Editor "The Farmer's Advocate":  
Your last issue contained a letter from J. P., asking for information on artificial brooding and hatching. Having run an incubator for a couple of seasons in the south (California), also in this country, and having one at present time, think I can throw some light on J. P.'s troubles.

In first place, if the incubator is or was a good one to start with, it should not be much the worse of wear in five years, and should do good hatching. One of the troubles I found, or mistakes I was making, was not airing the eggs enough on the last few days of hatch, and just before the eggs began to pip.

The feed ration is entirely wrong for young chicks. I feed small or cracked wheat and fine seeds for the first three or four weeks, scattered in the chaff on the bottom of the brooder, not too much at a time, but often. The first meal should be hard-boiled egg chopped fine, about 36 hours after taken from the incubator; then start them on the fine seeds. Give plenty of good grit and clean water.

The cause of so many chicks dying in one night is due to a cold brooder, no doubt. It is much better to have too much heat than too little. If it is too warm, the chicks will come to the front and single out, and will not suffer from the heat, if there is some ventilation at the top. But if it is cold, the chicks will huddle together and crowd, so that many a strong chick is smothered to death in a corner. Give them enough heat to make them come to the front of the hover.

Cleaning coop every day should keep them clean and healthy.

Get a book of instructions for your machine.

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Nov trees 4 35 feet 40 feet each t feet in bor's a seventh given



I am convinced that chicks can be successfully hatched and brooded in an artificial way. It requires attention to little things. Be with the chicks much. A. J. McINTOSH.

Grey Co., Ont.

[Note.—There is an old saw, "All signs fail in a drouth." Similarly in poultry-keeping, one is liable, sooner or later, to run up against cases where all suggestions and previous experience fail to solve the riddle. There are problems in incubation which have not yet been fully worked out. Enough has been learned, however, to place the art of artificial incubation and brooding on a business basis, and suggestions based on experience are always welcome.—Editor.]

Increasing home production of eggs, and a decrease of foreign and colonial supplies to the extent of 256,000,000 eggs, were features of 1909, writes our English correspondent. Last year's imports were valued at the huge total of £7,235,302, against £7,183,122 in the previous year—smaller supplies and higher prices.

Poultry imports were of the value of £920,699, compared to £934,679 in 1908. Canada plays but an insignificant part in egg imports, the total value being but £2,182. Russia is the largest single source of supply of both eggs and poultry, sending nearly £3,300,000 worth.

**GARDEN & ORCHARD.**

**Arrangement of Trees in Orchard: Choosing Varieties.**

I am thinking about planting out an apple orchard in the spring, about ten acres, and, as to kinds, I'm thinking I'll have all Spies, with Duchesses in between. Do you think I'm wise? Kindly state whether the Duchesses should be between the Spies in the row, or should they be in rows by themselves? State how to mark the rows for planting. Also state how many trees of each, how far apart the trees should be, what size trees are best. Could I find ready sale for the Duchesses? A. H. S.

Wentworth Co., Ont.

Duchess blooms too early to be serviceable, or, at all events, to be dependable, for pollinizing Spies. Would suggest using Rhode Island Greenings, and possibly a few Baldwins, instead. You might plant these in the order of two rows Spies, then one of Greenings, then two more of Spies, and one of either Greenings or Baldwins, and so on. For our own part, we do not go much on the Baldwin, but some like it very well. There is this about the matter: it is probably better to depend on two kinds than altogether on one variety, to cross-fertilize your Spies. Small fruits, or a crop of some kind may be grown in the spaces between the young trees, leaving a generous and gradually-widening strip, from which no crop should be harvested. If prepared to go thoroughly into the early-apple business, there should be good money for you growing such apples as the Duchess, Red Astrachan, and Yellow Transparent, but would recommend planting them in a separate block. There should be no difficulty in finding a market for such early varieties as Duchesses, at good prices, in the West and elsewhere, if the proper kind of fruit is grown, and marketed wisely.

In planting, the hexagonal arrangement is commendable, as about ten to fourteen per cent. (depending upon the area and dimensions of block) more trees can be grown on a given area, without crowding of roots or tops, than is possible with the square-block system. In the hexagonal arrangement, the trees in one row are set alternately with those in the next, six adjacent trees forming a hexagon, and enclosing a seventh in the center.

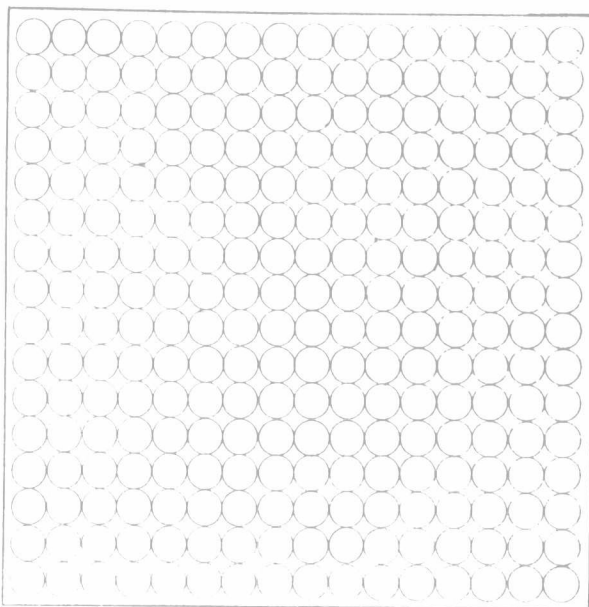
Standard winter varieties in your locality should be planted with the trees spaced about forty feet apart. With the square-block system, this will bring the rows forty feet apart each way, or they may be thirty-five feet apart one way, and forty the other; or, again, they could be 37½ feet apart each way, which gives practically the same number of trees as 35 x 40, but more advantageously arranged. Suppose you plant them 40 feet apart, this would give you, on a square ten-acre field, 256 trees, with an extra 10-ft. margin all around the outside. If the field were of such dimensions that you could utilize all the space, it would give you 272 (and a quarter) trees on the ten acres. With the rectangular-trees on the ten acres. With the 35 x 40, our block system, spacing the trees 35 x 40, our square ten-acre field would set 304 trees, allowing a waste space of 20 feet on one side, but crowding the trees 2½ feet the other way.

Now, consider the hexagonal arrangement. With trees 40 feet apart in the row, and lines of rows 35 feet apart, the trees would be a fraction over 40 feet from trunk to trunk. That is to say, each tree would have practically a circle of 40 feet in which to extend before touching its neighbor's allotted circle. In other words, a full-seventh more rows of trees can be planted in a given width when planted hexagonally, and yet

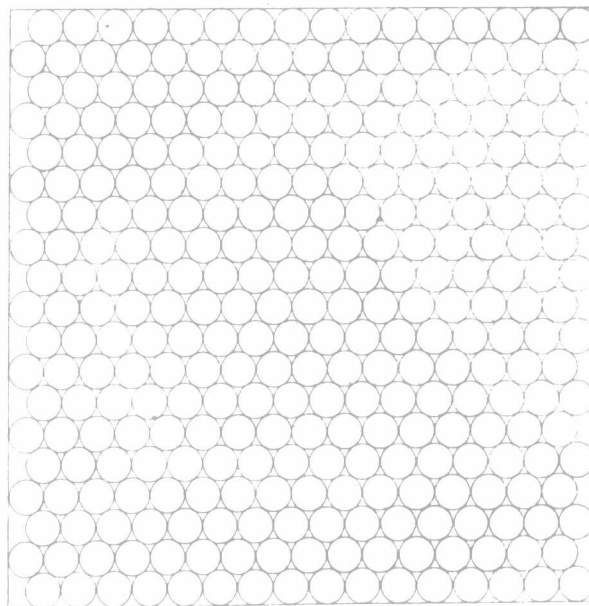
each tree would have its full amount of space. The square ten-acre field would, under this arrangement, contain 304 trees exactly, the same number of trees, each forty feet distant from its neighbor, as if it had been planted on the rectangle, 35 feet one way, and 40 feet the other. And so it will be with any other distance apart that may be chosen. By planting hexagonally the number of rows can be increased by fully one-seventh, without bringing trees nearer to each other. In small areas, however, it might be that this gain would be almost offset by the lost space at the ends of each alternate row.

For the winter varieties, we would recommend the hexagonal plan, with the rows 35 x 40 feet. For Duchesses, 30 x 35 feet hexagonal arrangement should prove satisfactory.

Thrifty young trees are recommended, in preference to old overgrown ones. Those two or three years old are satisfactory. Details as to methods of marking the rows for planting may be reserved for a later article.



Each circle represents a full-sized apple tree, 40 feet from tip to tip. On square 10-acre field, 256 trees.



Forty-foot trees planted hexagonally. Square 10-acre field accommodates 304 trees.

**German Market for Canadian Fruits.**

It is expected that the new tariff arrangement with Germany will have a decidedly beneficial effect upon the export trade of Canadian fruits, fresh and dried. A leading exporter, writing the Toronto World, says:

"Four years ago the German markets were open to our fruits, and we shipped upwards of 135,000 barrels of apples to Germany, and received splendid prices. Besides these, the buyers from Germany came to Liverpool, Manchester and Glasgow, and purchased Canadian apples there, thus creating competition in the English markets. That was a banner year for Canadian shippers, and we all made money. In March of that year the Germans placed a prohibitive duty on Canadian fruits, and what has been the result? The Canadian fruit exporter has been compelled to ship his fruits to English markets. There has been no competition in buying, and the English buyer has taken a decided advantage of the situation, with the result that during the last three years Canadian exporters in fruits have met with nothing but serious losses. The remedy lies in the opening of German markets to Canadian fruits, and it is the earnest wish of every Canadian fruit exporter that the present agreement be made permanent.

Already, German firms are writing re next season's business in fruits, so that even the temporary agreement has already brought good results."

**Early Potato Culture.**

Editor "The Farmer's Advocate":

As with most crops, early potatoes do best on a particular kind of soil. The variety of soil most suitable for early potatoes is a gravelly loam. The preparation of the soil is a most important matter. To give the best results, it requires to be rich in humus, which can be supplied best by the liberal use of farmyard manure, and by growing leguminous crops. The period of growth is necessarily short, and thus it is most important that the ground be rich, in order to promote rapid growth. In addition to the fertilizers mentioned above, it is often found profitable to use a special fertilizer. A mixture which has given good results is one-third nitrate of soda, one-third muriate of potash, and one-third superphosphate (acid phosphate), applied at the rate of about 213 pounds per acre, the cost being about \$4.25 per acre. But not less important than the application of fertilizers of various kinds is the preparatory cultivation of the soil. The ground should be well plowed, and worked up into a fine state of tilth before the potatoes are planted; otherwise, the value of the fertilizers applied will be greatly decreased.

The time of planting will always depend upon the season. The potatoes should be planted as soon as the ground can be properly worked, varying, perhaps, from the first of April until the first of May. When more than four or five acres are planted, it is advisable to have a planter; nearly any of the kinds on the market work satisfactorily. The distance apart may be somewhat of a question among growers, but 28 inches apart is a good workable distance for the rows, with one set about every 12 inches in the row, while the depth should not exceed three inches.

The cultivation, until the potatoes are up, consists simply in going over the ground with a light harrow as the small weeds appear. This also prevents the formation of a crust, which might make it difficult for the plants to get through. After the potatoes are up, they may be cultivated with a single-horse cultivator, or with an ordinary two-horse cultivator with extensions on the arms. They should be cultivated after every rain, or every ten days, in any case. The potato beetle is always a regular visitor each summer, and nothing is more effective than Paris green. A barrel will do about one acre when a power sprayer is used, and one pound of Paris green to the barrel of water is strong enough. For the blight, the Bordeaux mixture is usually effective. It is generally advisable to begin to dig early potatoes for the market as soon as the crop will give a fair amount of marketable tubers, although the time of digging may be influenced by the weather, and also by the amount of old stuff on the market. The method of digging will naturally be governed by the quantity to be dug; if more than four or five acres, it would be better to use a digger, while a potato plow may be found sufficient for a few acres.

The marketing of early potatoes, as well as of other farm products, can be managed to greater advantage and profit to the producer when done in a co-operative manner. By selling co-operatively, any competition among the growers will naturally be avoided.

The digging of early potatoes for seed should not be done until they are well ripened. But if they are ripe, they may be dug as early as August, and kept in a fairly cool and dry place until winter. They will, however, keep all right in the ground until fall, unless it is found necessary to dig them earlier, because of the havoc wrought by the white grub, which has been very considerable the last two or three seasons. When the cold weather sets in, the seed potatoes should be placed in a frost-proof cellar, or in a pit covered with earth and manure, sufficient to protect them from the frost.

In selecting potatoes for seed, care should be taken not to plant small ones, but rather select the larger and smoother ones for seed. Every grower should try to select a small quantity very carefully, and plant a small area of this carefully-selected seed, and in this way develop a better sample of whatever variety he may be growing. There are many varieties of early potatoes, but perhaps not so much depends on the variety as upon the development of that variety, although not many varieties have proven as satisfactory as the "Early Ohio."

In conclusion, we might say that, to make the greatest success of early potatoes, we should have suitable soil, have it fertile and well tilled, and make a study of seed selection, cultivation, harvesting and marketing. J. O. L.

Kent Co., Ont.

[Note.—Six to eight ounces of Paris green to the barrel of water is the quantity recommended by most authorities. An excess is liable to affect the vines adversely, causing tip-burn, and inducing blight.—Editor.]



### Beneficial Insects.

So much has been said about injurious insects that the average person does not realize that there are beneficial ones.

#### BEES.

Among the most important beneficial insects are the bees and several of their relatives, all belonging to the natural order Hymenoptera. Bees are not only profitable to their owners, but necessary for the cross-fertilization and setting of fruits.

Some varieties of apples, such as Baldwins and Greenings, are self-fertile; that is, they are able to set fruit without the assistance of insects. Other varieties, like the Red Astrachan, Bishop Pippin and Gravenstein, are self-sterile; that is, they are unable to produce fruit without the aid of hive or wild bees.

Often the best varieties of fruits cannot set without bees, which transfer pollen from one flower to another. Cross fertilization not only produces bigger crops, but fruit of better quality.

People may talk about chemical manures, cultivation and pruning, but all of these are utterly useless without bees; if it were not for these and other insects, I think I am safe in saying that there would be no orchards in Nova Scotia, and no warehouses to-day. In fact, the people of this valley owe their prosperity to the bee.

Not only would it be impossible to raise fruit, but in many instances it would be impossible to obtain seed without the assistance of the bees, and no one, better than the farmer, can understand what that would mean to the vegetable world.

Last year (1909) Walter Reid, of the British Beekeepers' Association, carried on a series of experiments in order to demonstrate the effect of the absence and presence of bees on his crops. Gooseberry and currant bushes were protected from bees before the blossoms opened by a covering of muslin. Other bushes growing near, under the same conditions, with the exception of the muslin, yielded a heavy crop, but those bushes which were protected failed to produce fruit, with the exception of a few berries, which were due to other insects which had accidentally been caught in the muslin. Some years ago Lord Sudeley, finding his fruit plantations unproductive, contemplated giving them up. Someone suggested the introduction of bees, which were so successful in setting the fruit that a large jam factory was established to preserve it.

In the neighborhood of large cities complaints have been made that, owing to the smoky atmosphere, it is impossible to raise fruit. It has been demonstrated that fruit can be raised near cities if bees are brought to the trees. It is really the smoky atmosphere which keeps the bees away, and so prevents their helping to set the fruit.

The same is also true of wet weather. Excessive rain at blossom time does wash away the pollen, but in wet weather bees will not fly, and the result is obvious.

Most fruit blossoms are adapted to the visits of bees. They lure the insects to them by the sweet perfume; the petals are flags or signboards, signifying that a feast of nectar is ready for the bees in return for the aid they give.

As soon as the flower is cross-pollinated the fruit begins to set; and, no longer required to entice the bees, the petals drop, and the perfume dies away.

Flowers which depend upon the wind for cross-pollination do not have such devices for attracting insects. Their flowers, like those of the grasses, firs and spruces, are inconspicuous.

In a period of six months, we imported into Canada over thirty-five thousand dollars' worth of honey, and yet we are letting tons of honey go to waste at our own doors, simply because we do not keep bees to gather it!

Much of the imported honey comes from tropical countries, which is inferior to that gathered from our own apple, raspberry and clover—the finest quality obtainable. Why should not the fruit-grower enjoy the pure sweets from his own orchard, instead of feeding his family on inferior syrups and the filthy by-products of the sugar refinery?

In order to compare the profits from bees and steers, experiments were conducted at the Brandon Experimental Farm, which proved that the bees were the more profitable of the two. Steers were purchased at \$33 each, fed and cared for all winter, and had a profit of six dollars and fifty cents. Their hives of bees, costing \$7 each, with infinitely less care, netted \$5 each, and that in a bad year for honey.

If there were no bumblebees, it would be impossible to raise red clover seed. It was for this purpose that the bumblebee was imported into Australia, their long tongues being specially adapted for the working of clover flowers. When we consider the importance of this leguminous crop we shall see that the bumblebee plays no small part in our orchards, as far as cover crops are concerned. Nothing but ignorance would tempt anyone to destroy a nest of bumblebees.

Wasps are other abused insects which also belong to the order Hymenoptera. These creatures

are beneficial in all stages, and should never be destroyed. Most of us are familiar with the white-faced wasp, which is generally called a hornet.

Although of no economical importance, it is interesting to know that the material with which the nests are built consists of bits of wood, which the hornet scrapes off and masticates to a pulp. She then mixes it with saliva, thus forming the paper; next she kneads it, and arranges the substance layer by layer until the home is complete.

Wasps spend their lives in destroying injurious insects, which they chew to a pulp before feeding to their young. It is no uncommon thing to see a wasp or hornet chasing a fly in a room; when the fly is caught its wings are cut off and it is carried home to the young wasps. Wasps and hornets are not only useful as being predaceous, but they also visit flowers like the bees, and help set the fruit.

A species of the ichneumon fly also belongs to the same order as the bees. To the unpracticed eye it does not resemble them in appearance, and it has been unjustly condemned because it is found on trees infested by borers. Instinctively this ichneumon knows where to find the borers, and with her long ovipositor she punctures the tree until she finds the burrow where she lays her egg. When this hatches, the ichneumon larva crawls down the tunnel until it finds the borer, which it attacks by piercing the skin and remaining there until it has gradually killed the borer by sucking up its juices.

There is another Hymenopterous insect so tiny that it is able to attack and live within the body of an aphid!

Nearly all of the order Hymenoptera are beneficial, either as pollinating, parasitical or predaceous insects.

There is another species which lays its eggs in the backs of caterpillars, thus killing the hosts.

Others lay their eggs in the cocoons of moths. Butterflies and moths belong to a totally different order of insect, called Lepidoptera. These are all beneficial in the adult stage, but they number among our worst pests in the caterpillar stage.

However, there are certain flowers which depend upon moths for cross-pollination; these are those having trumpet-like flowers, down which only moths with their long spiral tongues can reach the honey. It will be remembered that moths fly by night, therefore flowers depending upon their visits do not waste their perfume in the daytime, but exhale an extra strong fragrance at night, which is a silent call to the moths. The colors of these flowers are white, like the nicotiana; or pale, like the honeysuckle and evening primrose, which are more easily seen in the gloom.

Turning now to Coleoptera, we find a very different group of insects, the beetles, which chew their food. There are many beneficial as well as many injurious members in this order.

Lady-birds, or bugs as they are commonly called, are the most valuable in this series. It is nothing short of vandalism to kill these little creatures, for they devour the plant lice and scale insects. Some years ago, when the fruits of California were infested with the fluted scale, the growers were forced to find some method of subduing the pest. Entomologists were sent to Australia to study the natural enemies of the scale over there, and, owing to them, a species of lady-bird was sent to California, where it thrived and multiplied, and in less than a year and a half cleared the infested region of the pest. This is only a striking instance of the value of lady-birds, and needs no further comment.

The carrion or undertaker beetle is another insect remarkable for the way in which it buries small animals, thus doing good. These beetles are quite common here, which may be proved by leaving a mouse on the ground for a night.

Rove beetles are also common, and are another class of scavengers, which clear the earth by devouring fermenting and decaying animal matter.

Ground beetles are found in our orchards under stones and leaves; they do not fly until night, when they climb trees and devour caterpillars, which has earned for them the name of "caterpillar hunters."

Fireflies or firebugs are counted beneficial, for they live on injurious insects and snails.

Soldier and tiger beetles, and others like them, are beneficial, being predaceous, but they have so many destructive cousins, such as the borers, June bugs, squash beetles, potato beetles, and the like, that it will pay us to study the insects in the orchard, and thus be able to distinguish between friend and foe.

All bugs are insects, but all insects are not bugs. In the bug order we find several beneficial and many injurious insects. While beetles chew their food, all true bugs suck their food by puncturing the tissue; this is why we are unable to kill them by internal poisons, but generally aim to destroy them by contact emulsions.

The scales, aphids, lice, cicadas (commonly called locusts), bedbugs, and many others, belong to this order.

The wheelbug is beneficial, and attacks all

kinds of injurious insects, especially the elm-leaf beetle, by stabbing them with its beak and sucking the blood.

In the dragon-fly, or devil's-darning-needle family, there are no insects injurious to crops. The dragon-flies live on mosquitoes and flies, and should be left alone to hunt.

A cousin of the dragon-flies, quite common here, is called the golden-eyed fly, or lace-wing. In the larval state they are known as aphid-lions, because they prey on plant lice.

Most of us think that no good can come out of the house-fly order, Diptera, but there are the Tachina flies, somewhat resembling the bluebottle, which are parasitic upon caterpillars and cut-worms. These flies are often brightly colored, and covered with formidable black spines. There are other beneficial flies, but it needs close study to be able to distinguish the beneficial from the injurious ones.

It is not out of place here to mention that, besides many beneficial insects, there are several small animals which greatly assist the farmer by keeping down injurious insects.

Owing to lack of knowledge, such creatures as toads, snakes, moles, frogs and birds are wantonly killed. European gardeners keep toads in green-houses to destroy pests. It has been estimated that a toad will eat \$19.40 worth of insects in a season. Snakes also live on bugs of all kinds, and the fewer the snakes the more insects there will be to destroy our crops.

[Note.—This interesting communication is the text of a paper given at a fruit-growers' meeting organized by the Berwick Fruit Company, Ltd., at Berwick, N.S., February, 1910.—Editor.]

### Growing Field, Root and Vegetable Seeds.

From a paper by Otto Herold, of Waterloo Co., Ont., before the Canadian Seed-growers' Association.

On my arrival in Canada, early in 1906, from Saxony, in Germany, the center of the seed-growing industry, I was surprised to learn that the vegetable, field, root and flower seeds used were all imported, and knowing that large quantities of second-class seeds were exported from Europe, there seemed to be a great opportunity to put my past experience to good service. But I was told that the roots (stecklings) would not live through the winter, and wages were too high. I tried a few poor roots in a back yard, and produced a fair amount of mangel seed. Next summer I rented a farm, and tried experiments with other vegetable seeds, which proved a success. Land here is cheap, compared with the enormous rents and prices in my "Vaterland," and the climate is suitable, though cabbage and turnip seed should do best in the Maritime Provinces. The fall weather is excellent for high germination percentage and vitality, and this country is free from the carrot and mangel blights. Despite late spring and wet weather in 1909, we had nearly an average crop. I am satisfied now that we can produce seeds of as good quality as those produced by the best European seed-growers, and, with the immense advantage of being acclimatized. Strains of seeds selected for three or four years, and adapted to our soil and climate, will give us earlier, larger and surer returns. At the Ontario Agricultural College, a few roots of Yellow Leviathan mangels were brought through the winter of 1906-7, and when the seed was planted, in 1908, a yield of 53.55 tons per acre was secured, compared with 39.71 from the best imported seed. The mangels were drilled out in the early summer, in rows two feet apart, and about twenty pounds to the acre sown, so that the roots will not grow too big, but they must be large enough so that the type and color can be distinguished, and to come through the winter easily. Stock seeds should not be grown from small stecklings, as it is not possible properly to ascertain their productiveness, dry substance and sugar content. With the help of a new transplanting machine, we have adopted a new system of growing radish seed from transplanted plants. The radishes are grown in seed-beds early in spring, and, when big enough, those true to type, and large enough, and properly colored, are transplanted, and the rest thrown out. All lettuce designed to produce seed is transplanted when large enough, from the seed hotbeds, so that plants will develop properly and form good heads.

With lettuce and tomatoes, we had a marked improvement in quality, quantity and earliness after the first year's selection. In a small way, some market gardeners have been doing the same thing. We would suggest, owing to the cost of skilled labor, that the Department of Agriculture undertake the production of the stock seeds, leaving the seed-growers to take them and produce in a state of purity seeds in quantities for the trade.

We follow the "family-selection" plan, choosing ideal plants in respect to earliness, productiveness, quality of fruit, and trueness to type. The seed from individual plants is saved, and next season planted by itself, with precautions against cross fertilization. The offspring are again care-



fully selected, to ascertain if the good qualities of the parent plant are being inherited and fixed. If a certain number do not come up to the standard, the whole family is discarded. Rows which have passed this examination are again harvested separately, and the seed planted in multiplying plots to produce the seed, from which, in turn, is grown the general crop. The stecklings of mangels, field carrots, cabbage and celery did not come through the winter, but we think we will avoid future failures.

To recount: The difficulties to be overcome in establishing the new industry are: (1) Need of skilled experts; (2) need of experienced help; (3) higher wages than in European seed-growing districts; (4) isolated farms are required to avoid wind cross-fertilization; (5) some varieties to be grown in other Provinces than Ontario.

The Canadian Seed-growers' Association could aid in overcoming the two last-mentioned difficulties, but the work should be under strict supervision by an expert, whom, I understand, the Department of Agriculture is in a position to supply. I would suggest a commission, representing the Department of Agriculture, the Seed-growers' Association, and the Ontario Vegetable-growers' Association, to inspect our fields and stocks two or three times a year. The "Svalof" plan might well serve as a standard and model.

**Insects Attacking the Peach.**

The chief insects attacking the peach are the Plum Curculio, San Jose Scale, Fruit Bark-Beetles or Shot-hole Borers, Peach Borers, and the Black Peach Aphid. Of these, all but the last two have been described in previous articles of this series.



Moths of Peach Borer.  
(1.) Female. (2.) Male.

**Peach Borers.**—There are two species of large borers that attack peach trees, the most common one being called "The Peach Borer," and the other "The Lesser Peach Borer." The grubs or larvæ of these two species are both white, or creamy white, about one inch long when full-grown, and look so much alike that it is very difficult to distinguish them. They differ, however, considerably in habits, the peach borer working near the base of the trunk, usually at or close to the ground, while the lesser peach borer works in any part of the tree, but almost always at some place that has been previously wounded. The former is most destructive to young trees, often completely girdling them just under the bark at the ground; the latter attacks chiefly old trees, and hastens their death by burrowing in the sapwood around the edge of wounds. The presence of either insect can usually be recognized by the gum that exudes from the injury done.

The adults of both insects look like bluish-black wasps, and fly in the day time. The winter is spent by both in the partly-grown larval or grub stage, in the burrows under the bark. With the return of warm weather in spring, they begin to feed voraciously. By about the end of June, the moths of the lesser peach borer begin to emerge, and about a month later, those of the peach borer. Not all emerge at once, and moths may be found up to September. Eggs are laid by the latter on the bark of the trunk near the ground, and by the former in crevices usually near a wound. On hatching, the larvæ work their way into the sapwood. There is only one brood a year of each species in this country.

**Means of Control.**—1. Whenever either species is seen, by the exudation of gum, to be working in a tree, cut it out with a sharp knife as carefully as possible, so as not to injure the tree unnecessarily.

2. To prevent the entrance of the larvæ, (a) try to keep the trees as free from wounds as possible; (b) wrap loosely the trunk of the tree from the ground up for about two feet with paper—two or three ply of common newspaper is quite satisfactory. The earth should be thrown up around the base a few inches to hold the paper firmly in place, and the top should be securely tied with a cord. Fasten the cord loosely around the rest, but make sure that no opening is left where the moth may get in to lay her eggs. (c) Many heap earth up around the base of the tree for about ten inches. This forces the moth to lay her eggs high up, and when the earth is removed, the borer's work can easily be observed, if present, and the insects removed. (d) Coating the base of the trunks with gas tar has given good results in some places, but sometimes injures the tree.

**Note.**—Any of these means of prevention are successful only if applied about the middle of July, and left on until the middle of September, when egg-laying will be over.

**The Black Peach Aphides.**—The Black Peach

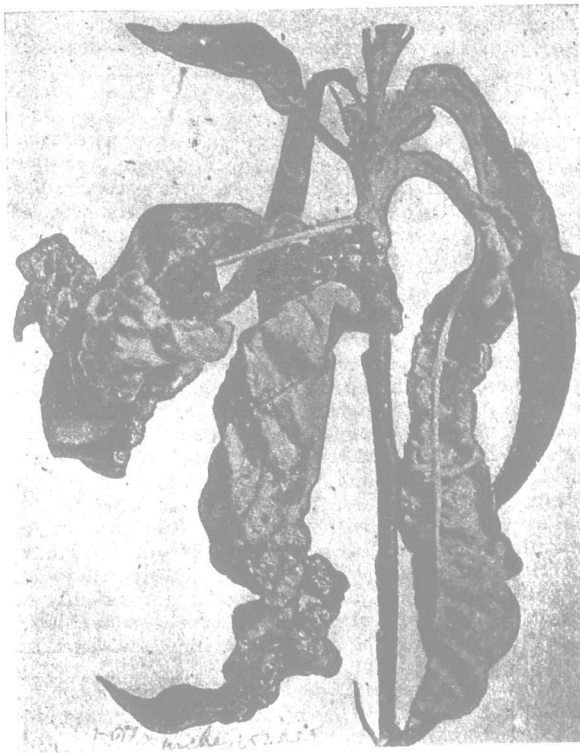


Fig. 2.—Peach leaf-curl, showing three badly curled and distorted leaves.



Fig. 3.—Peach tree almost defoliated by leaf curl. (Photo taken July 16th, 1909.)



Fig. 4.—Mummified peach, caused by Brown rot.

Aphis is, as the name indicates, black in color. It attacks the foliage, tender shoots and roots, but is very destructive only when on the roots. When young trees are thus attacked, they turn a sickly yellow color, and are much weakened.

**Means of Control.**—1. Watch carefully to see that the pest is not brought in on the roots of nursery stock. If any are seen, dip the roots carefully in kerosene emulsion or strong tobacco water.

2. Remove a few inches of earth above the roots of affected trees, and scatter a thick dressing of tobacco dust over the surface thus exposed, then replace the earth.

3. Cultivate around young trees carefully, and give them plenty of manure, to help get the roots well established. Once this is done, they can resist the aphid attacks successfully.

4. On leaves and shoots the insects may be destroyed by spraying with kerosene emulsion or whale-oil soap, 1 pound to 6 gallons water, as soon as they are seen to be present.

**DISEASES OF THE PEACH.**

**Peach Leaf-curl.**—The most common disease is the leaf-curl. This is a fungous disease, which attacks the leaves early in spring as they expand, and causes them to become thick, curled, and badly distorted. Attacked leaves die and drop off after a few weeks. New leaves gradually take their place, but the crop for that season is destroyed, and the trees greatly weakened. Where leaf-curl attacks trees severely two or three years in succession, it kills them. The disease is always worst in cold, wet springs. Some varieties, like Elbertas, are more subject to attack than others.

**Means of Control.**—Spray the trees very thoroughly with lime-sulphur when the buds are beginning to swell. Spraying, to be successful, must be finished before any buds burst, because the disease begins with the bursting buds, and spraying is then too late for best results.

**Brown Rot.**—The brown rot of the peach is the same disease that has already been dealt with as attacking the plum and cherry. It is seldom very troublesome in our peach districts, but occasionally one will find an orchard where it has done a considerable amount of damage. In addition to causing peaches to rot, it often causes the death of twigs, especially of the twigs that bear rotten fruit, the disease having spread, in such cases, from the fruit to the twig.

**Means of Control.**—1. Prune, to let in plenty of light and air.

2. Destroy old mummied peaches that hang on the trees.

3. Thin the fruit carefully, so that two or more peaches will not be left hanging together.

4. If the plum curculio is abundant, spray thoroughly with arsenate of lead, 3 pounds to 40 gallons of water, as soon as the fruit is well set. The curculio makes punctures that give the disease a good chance to enter the fruit.

5. In addition to the regular spring spraying with lime-sulphur for San Jose scale and leaf-curl, which is the only spraying most peach orchards receive, it would probably pay well to spray at least once later, about four or five weeks after the blossoms fall, using self-boiled lime-sulphur (8, 8, 40).

**Peach Scab.**—Peach scab is also a fungous disease. It causes dark or almost black spots here and there over the surface of the fruit; occasionally, very badly-affected fruit may crack. The spots are usually about the size of the head of a pin. This disease is on the increase, but has seldom been treated by the fruit-growers. It would, however, often pay them to do so.

**Means of Control.**—Spray once about four or five weeks after the blossoms fall, the same time as recommended above for brown rot, and using the same mixture, viz., the self-boiled lime-sulphur (8, 8, 40).

**Note.**—Bordeaux mixture and commercial lime-sulphur tend to burn peach foliage, whereas the self-boiled lime-sulphur, when made with cold water, is quite safe to use.

**Peach Yellows.**—One of the most destructive diseases of the peach is peach yellows. The cause of the disease is, up to the present, unknown. It is, however, a contagious disease, as proven by the experiments of Dr. E. Smith, of Washington, who found that if peach buds from diseased trees were used for budding purposes, the budded stock became diseased. Fruit-growers also know from experience that, if diseased trees are not removed, neighboring trees will take the disease after a time, and often the whole orchard be lost in this way.

**Characteristics of the Disease.**—1. Premature ripening of the fruit, which is the first year often larger than normal; it usually ripens from one to two weeks earlier than on healthy trees or branches. Sometimes one or more branches will be affected, and the rest of the tree have normal, healthy fruit.

2. Fruit is highly colored and spotted or blotched with red, as compared with the ordinary rich bluish seen usually on only one side of healthy fruit.

3. The flesh is marbled or streaked with red, and is abnormally red around the pit.

4. The taste is usually insipid.

5. Winter buds unfold prematurely the same season as formed, and may continue doing so from June to September.

6. On the main branches dormant or concealed buds burst, and produce tufts of branches with willowy leaves.

7. When the disease is well advanced, the foliage becomes yellow and dwarfed.

8. The disease may be in a tree for a year or more before there are any external signs of it. Affected trees may live for several years, but once attacked, cannot be cured. Cutting out a diseased branch will not save the trees, nor will the addition of any known substance to the soil help.

**Means of Control.**—There is only one safe, reliable way to control this disease, viz., to remove all diseased trees and burn them, root and branch, as soon as seen. Every man should make himself familiar with the disease, and not wait for the inspector to mark his trees, but anticipate him by removing them as soon as he knows they are affected. In doing so, if possible, do not rub them



against other trees. Fresh trees may be planted in the same place next spring with safety.

**Note.**—Great care should be taken by nurserymen to select buds for budding purposes from undoubtedly healthy stock, and to have their nurseries situated at a considerable distance from their orchards, so that the young stock may not become diseased from these. It would also be wise to secure pits from States where the yellows do not occur, such as California and Georgia. As a rule, pits from diseased trees do not grow, but a small percentage will do so, and the disease may sometimes get into a nursery in this way.

**Little Peach.**—Little peach is a disease closely allied to peach yellows. Its cause is also unknown. It differs from yellows in the following ways:

1. The fruit, instead of ripening prematurely, does not ripen until a couple of weeks or more after the normal time.

2. The fruit is not highly colored or blotched, and is never larger, but it always much smaller than normal.

3. The flesh is not marbled or streaked, or abnormally red around the pit.

4. There is no premature bursting of winter buds, or of dormant buds on larger branches, with the consequent formation of tufts of willow-like leaves.

**Means of Control.**—The very same methods must be applied for the control of this disease as for the yellows. It also spreads, if not removed.

#### SUMMARY OF SPRAYING OF PEACH TREES.

Spray first with lime-sulphur, home-boiled (20, 15, 40), or commercial lime-sulphur (about 1 to 10), when the buds are beginning to swell; second, with three pounds arsenate of lead to 40 gallons water, just after fruit is set, if curculio is troublesome; third, with self-boiled lime-sulphur (8, 8, 40), about four or five weeks after the fruit is set.

L. CAESAR.

Ontario Agricultural College.

#### Spraying: Hand Pump or Power Outfit.

Spraying is becoming so general now that it is useless to take time to talk of the necessity of thorough spraying. We have the trees; they are there to grow fruit, and good fruit, without proper spraying, is fast becoming a thing of the past, said T. A. Farrand, of Michigan, in discussing the subject of spraying at the Niagara Fruit-growers' meeting, in St. Catharines. We must consider, then, the spraying outfit. Where the acreage is limited, and the trees are small, it would not be wise to recommend a power sprayer. There are a great many makes of good hand pumps, which, if used properly, will do effective work. For larger orchards, where labor is scarce and high-priced, one of the power sprayers is often cheapest. The method now employed is a strong, simply-constructed pump, getting its power by a gasoline engine. The advantage of the power machine is that it gives a higher pressure, and will spray on much more liquid in a given time, and time is money, especially when, at critical times, spray applied twenty-four hours too late will not save the crop. Arrange tanks for holding water and stock solutions so that we can do most of the work of filling our spray tank by gravitation, instead of dipping with buckets and making unnecessary labor.

#### SPRAYING APPLES.

This is done principally to control apple-scab and codling moth. The first spraying used in his part of Michigan, where San Jose scale has not yet got a hold, is before buds burst in the spring. Drench the trees with Bordeaux mixture, 4 pounds of bluestone, 4 to 6 pounds of fresh lime, and 40 gallons of water.

### APIARY.

#### Bees Wintering Well.

"Where put in proper shape for wintering, bees are coming through pretty well this year, so far as I have learned," said R. F. Holtermann, of Brant Co., Ont., to "The Farmer's Advocate," lately. "This means that a considerable proportion of them are all right, as the apiary business is getting more and more into the hands of specialists, who give expert attention to it. There have been so many losses through carelessness the last five years that the bees have in many cases simply died out of farmers' hands, one year the losses amounting to about 70 per cent., and another year pretty close to that. I am wintering mostly outdoors this winter, all but about 50 of the 445 stocks being outside. We have had cold, backward springs so regularly for the last two or three years that I have gotten tired of 'unusual' conditions, and therefore concluded not to put my bees in the cellar last fall, for fear we should have another backward spring this year. Bees wintered outside have already had a cleansing flight, and are now good for another month or so of confinement. Bees set out from the cellar early in a cold, backward spring are liable to suffer, whereas

those wintered outside in properly-prepared hives, standing in enclosed yards, come through all right, and have a chance for a cleansing flight when the weather admits of it. Then, too, in wintering outside, moving the bees direct from the buckwheat to the clover localities, we save considerable expense incident to cellar wintering. So far as the winter season is concerned, it has been pretty favorable, being steady. A changeable temperature is much harder on bees than a winter such as we have just passed through."

#### Co-operative Experiments in Apiculture.

The members of the Ontario Agricultural and Experimental Union are pleased to state for 1910 they are prepared to add Apiculture to the list of departments for experimental work. At present there is no material to distribute, so it is proposed to take up some of the more important problems in the management of bees for profit. One of the greatest of these is the control of swarming. When bees are kept from swarming entirely, more honey is secured. When they are compelled, by artificial methods, to swarm only at certain hours on certain days, at the convenience of the beekeeper, much loss of time and swarms is avoided.

Many of the most successful beekeepers never let their bees swarm, necessary increase is made in other ways, which are directly under control. It is quite as important to control the increase of bees as of any other stock on the farm. The experiment for 1910 is the control of swarming.

Each person who wishes to join in this experimental work may fill out a form of application that may be had on request, and return the same to the Director of the Co-operative Experiments in Apiculture at as early a date as possible. A sheet containing the instructions for the experiments, and the blank form on which to report the results of the work, will be sent to each experimenter on receipt of application blank properly filled out.

The committee on Apicultural Experiments desires to ask that each experimenter will follow instructions very particularly, and that he will be very careful and accurate in his work, and forward to the Director a complete report of the results obtained from the experiment as soon as possible after the close of the season. Address all applications for experiments in apiculture to Morley Pettit, Ontario Agricultural College, Guelph, Ont.

### THE FARM BULLETIN.

#### Regulation of Traffic to Pave Way for Road Improvement.

Discussing the Provincial trunk-road proposal, the Weekly Sun takes substantially the same ground as "The Farmer's Advocate," reasoning that the present movement, designed to provide, at the public expense, through roads for special advantage and convenience of automobile traffic, is not calculated to further the cause of good roads, but rather the reverse.

"Until machines capable of running at express-train speed are wholly excluded from rural highways," it says, "and until penal clauses even more stringent than those in the bill Mr. Stock had before the Legislature last week are made law, farmers are hardly likely to tax themselves for any more improvement than is necessary to keep rural highways in passable condition. They are much less likely to allow control of the best highways of the Province to be vested in a Provincial commission, with headquarters in Toronto—a commission that would almost necessarily be controlled by the automobile influence, which has its headquarters in the same city. The first step towards improvement should be in the form of more stringent regulations governing automobile traffic, and the creation of the necessary machinery for the vigorous enforcement of the same."

#### Bookkeeping for the Farmer.

To help farmers tell the amount of gain and loss on each of the products they raise, and what it costs to operate their property, the department of agricultural economics, Wisconsin Agricultural College, in co-operation with the Department of Agriculture, at Washington, has established a system of accounts, and is extending the service free to agriculturists. The system has been worked out on a number of farms, and now the College is prepared to aid any farmer to increase his profits through the installation of a cost record. Labor, feeding, financial records are kept to show the cost of each crop, and of each detail of farm work, as well as the annual gain or loss. All the farmer has to do is to ask for blanks, furnished free by the University. These he is to fill out and return to the College. A member of the faculty will visit the farm, make a survey of it, and assist in an inventory and in starting the records. The farmer sends his blanks in each month, and at the end of the year the complete report is returned to him.

#### The Year in Frontenac.

Editor "The Farmer's Advocate":

The year was a fairly prosperous one for the farmers in the good old County of Frontenac, which has its advantages, as well as its drawbacks. A large portion of our county has a surplus of untillable land, with an ever-changing perspective of hill and dale, furnishing an abundant pasturage when the season is not too dry. Cheese-making is our best-paying industry, and the rains seemed to come just in time to keep the grass green all through the year. Our small cheese factory, with 38 patrons, under the able management of J. Cramer, manufactured \$14,140 worth of cheese, average price being \$1.05 per cwt. of milk, and 11.445 cents per pound of cheese, netting the patrons nearly 95 cents per cwt. for their milk for the season.

Our herd averaged 4,258 pounds milk for the six months, from May 1st to November 1st. Mr. Publow's figures for Eastern Ontario must be correct. Allow me, through your columns, to apologize for contradicting his report last year. As I know there are many herds giving 5,000 pounds per head during the six months, there must be many star-boarders in our corner of Ontario.

Pigs and poultry have paid well this year, also, at \$15 a head for six-months-old pigs, and eggs at 35 and 40 cents per dozen. Surely we ought to be ashamed to plead hard times.

We have a strong force of machinery agents in our district, all the large firms being represented by able men, who help to keep the farmer from getting too large a bank account. Taxes have also gone up, until they are nearly 2 per cent. But, taking everything into consideration, the past year was a fairly good one. The shortage in the hay crop during the past three years has led many to see the wisdom of building silos, and nearly a dozen have been built in one locality during the past year, mostly of cement. We have some silos fifteen years in operation in our immediate neighborhood. Steel siding and roofing is taking the place of lumber and shingles; and cement floors and walks are largely used. Telephone lines are slowly but surely extending through our county, and soon every village and many farm homes will have a 'phone. As it is, farmers are loth to leave the farm. One of our successful men, having sold his farm of 140 acres for \$8,000, bought it back again inside of a month. The tollgates are rapidly disappearing from our roads, and when the automobile craze dies out, as it surely will, we will be able to travel in peace and safety.

Frontenac Co., Ont. BYRON GORDON.

#### Crematory Closets.

Editor "The Farmer's Advocate":

The article on "Farm Water-closets," in your February 21st issue (by Humane), brings up a very important, though somewhat delicate, question for discussion, but the specimens mentioned by "Humane" are very rarely to be found among farmers who read up-to-date agricultural papers, such as "The Farmer's Advocate," so it is about as difficult to reach them through this source as it is for a preacher to reach and convince or convert his parishioners by preaching to the empty seats which they should occupy. No good sound reason can be put forward by any farmer for not having those houses clean and comfortable. At the writer's home, the outdoor closet is not used at all during the winter time; we have a crematory closet in the house (upstairs), connected by stovepipe to the chimney, and it has proved very satisfactory. We also have a closet in the stable, in the front corner of a box stall facing the hall, which has given excellent satisfaction. It is 2½ x 3 feet. One 2½ feet square would answer every purpose. Now, where is there a stable in which a similar one couldn't be installed?

COMFORT.

#### License and Tag All Dogs.

Editor "The Farmer's Advocate":

We have long been subscribers to "The Farmer's Advocate," and would not be without it, and it is with much interest that I read the discussions on the topics which come up, one after another, and claim the attention of all who are interested in the welfare of mankind.

One of the questions with which the people of Ontario are grappling to-day is, "What shall we do with the dogs?"

The fact that hydrophobia has been spreading at an alarming rate, cannot be denied, nor can it be denied that if half the dogs in Ontario were executed, the owners would be richer for the loss, providing, of course, that the useless dogs were the ones disposed of. But, while this is true, it is also a fact that, from the utility standpoint, there are many valuable dogs in Ontario.

That our present laws do not furnish adequate protection for the public, is plainly evident. The order now in force, which provides protection by muzzling, may be a protection in theory, but does not prove one in practice. In our locality a few dogs are securely muzzled; a large number are muzzled in such a way that they can bite, eat, or

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grab a cow by the tail and have a free slide, and others are neither muzzled nor tied.

Now, it seems to me, what we require is the weeding out of the useless and poorly-kept dogs, and better protection for and from the remaining ones. To accomplish this, I believe a law should be passed making it necessary to procure a license to own or keep a dog. With the license, a tag would be given, bearing a number, which would be placed on record with the name of the person to whom the license was granted. The tag, which should be large and conspicuous, to be hung on a collar securely fastened to the dog.

Now, if a heavy fine was imposed on the owners of unlicensed dogs, and all such dogs shot, I believe it would be easier to trace any damage done by the dog back to the owner.

With regard to the cost of license, I would say that it should be granted free to those who would furnish good security for the amount of, say, five hundred dollars. Then, in case any damage was done by a dog, the owner would be responsible up to that amount, and the means would be there to meet the demands for any damage actually proven to have been done by his dog. I believe a law of this kind would have a tendency to weed out many of the worthless dogs, and would be a protection both to people and sheep. I would like to see some discussion on this question.

Brant Co., Ont.

A SUBSCRIBER.

**Nelles & Woodley's Holstein Sale.**

Messrs. Nelles & Woodley, Boston, Ont., report their auction sale of Holsteins, held on March 9th, a satisfactory success, and acknowledge having been much benefited by the advertisement in "The Farmer's Advocate." The 35 head sold, 11 of which were grades, and 20 one year old and under, averaged close to \$60 per head. Following is a list of those sold for \$50 and upwards:

Tidy Mercena Pride, age 2 years; Herbert C. Patterson, West Flamboro	\$131.00
Blossom De Kol, 6 years; C. V. Robins, Welland Port	118.00
Floss (grade), 2 years; Earl Agnew, Brantford	100.00
Beauty 1st (grade), 4 years; Earl Agnew	99.00
Daisy (grade), 6 years; Earl Agnew	94.00
Beauty 2nd, 5 years; Earl Agnew	93.00
Toskey 2nd (imp.), 10 years; Nelson Buck, Tyrrell	97.00
Ernie Allfrette (imp.), 12 years; Ernest Bannister, Vanessa	89.00
Daisy B. Abbekerk, 2 years; A. Westbrook, Oakland	87.00
Paul De Kol Canary King (bull), 4 years; Geo. Shay, Boston	77.00
Snowball of Clover Dell, 11 months; Herbert C. Patterson	73.00
Pat (grade), 10 years; Mr. Merritt, Beamsville	56.00
Spot 1st (grade), 5 years; John Wilson, Ash	55.00
Paul De Kol of Clover Dell (bull), about 1 year; John Marshall, Port Dover	61.00
Houwtjie Pontiac Mercena (heifer), 11 days; Munro & Lawless, Thorold	60.00
Canary King (bull), 1 year; Will Anderson, Wilsonville	51.00
Canary De Kol Girl (heifer), 2 weeks; Emerson Bertram, Frontenac Centre	57.00
Tidy Canary Beauty (heifer), 2 months; Emerson Bertram	52.00
Canary Queen Mercena (heifer), 3 weeks; Frank Culver, Waterford	55.00
Canary De Kol Pietertje (heifer), 2 weeks; Samuel Disbrough, Teeterville	50.00

A fruit institute meeting will be held at Lambeth, Ont., Tuesday afternoon and evening, March 29th, under the auspices of "The Farmer's Advocate," assisted by the Provincial Department of Agriculture. It will be addressed by D. Johnson, of Forest, one of the most successful apple-growers in the Province, and by other speakers. Practical demonstration will be given in mixing and applying spray materials, also, if time permits, in pruning and grafting. For the demonstrations, material and apparatus will be furnished from "The Farmer's Advocate" demonstration orchard. The programme will be very helpful, and should attract more than local attendance.

A second short course in stock and seed judging was held in Waterloo County, Ont., on March 7th, 8th and 9th, at Elmira. The programme was practically the same as at Galt. All the meetings were well attended, the average being about 130, with about 450 at the public meeting on the evening of the 9th. The success of the short courses in Waterloo County is due in a large measure to the fact that the local Farmers' Clubs co-operate with the District Representative. The members of these Clubs take a special interest in the course, and it is through the time and energy expended by these men that arrangements and accommodations are so complete and satisfactory. At both the Galt and Elmira short courses this winter a different farmer was in the chair at each meeting.

**Ontario Field-crop Competition Rules.**

The Standing Field-crop Competitions have now gone beyond the stage of experiment. Since their inauguration, three years ago, they have fully justified the expenditure of time and money, and no agricultural society which has once taken part in these competitions has failed to continue the good work. The Ontario Government has, therefore, again made a grant for this purpose, and the competitions will be conducted under the following regulations:

1. Nature of Competition.—Competitions will be limited to one crop, to be selected by the society, which should be the one of most importance to the farmers of the district. Fields entered for competition must consist of not less than five or more than twenty acres, but for beans or potatoes the minimum plot must be not less than one acre.

Selection must be made from the following crops, viz.: Spring or fall wheat, oats, barley, rye, corn, peas, alsike clover, red clover, potatoes, beans, or any other staple crop produced for seed in Ontario.

2. Competitors.—Competition will be limited to members of an agricultural society, and the fields entered must be not more than 15 miles from its headquarters. Competitors will be allowed to make entry in only one society, and but one entry can be made by each competitor.

3. Society's Entry.—Societies desiring to enter this competition must notify the Superintendent not later than the first day of May, and must make not less than ten entries.

4. Individual Entries.—All the individual entries must be forwarded by the secretaries of the societies to J. Lockie Wilson, Superintendent of Agricultural Societies, Parliament Buildings, Toronto, on or before May 25th, 1910.

5. Societies may, if thought advisable, charge an entry fee of not more than \$1.00, but this is optional with the directors of the society.

An amount of not less than \$50 must be offered in prizes by each society, to be divided as follows: \$15, \$12, \$10, \$8 and \$5. Of this amount, the Ontario Department of Agriculture will contribute \$30. The balance is to be supplied by the society, and this \$20 can be counted as expenditure for agricultural purposes in the yearly financial statement, thus increasing the regular Legislative grant to such societies.

Judges.—The Ontario Department of Agriculture will furnish expert judges free of charge.

Grain exhibits at the Winter Fairs, and sheaf exhibits at Toronto and Ottawa, are an optional part of the scheme.

**Birmingham Bull Sale.**

The 42nd annual spring show and sale of Shorthorn bulls, at Bingley Hall, Birmingham, March 2nd to 4th, was probably the most successful of the series, 338 bulls being sold for an average of \$340, as against \$220 for 378 bulls last year. The highest price, 1,000 guineas (\$5,110), was paid by D. McLennan, for the Argentine, for Shenley Banner, a rich roan, from the herd of C. F. Raphael, which, strangely, was only considered worthy of a commended ticket in his class. Sir Wm Van Horne's agent, who was one of the last bidders for this bull, secured for Manitoba, from

the same herd, Shenley Adonis, winner of first prize in a class of 69 bulls between 15 and 18 months old, at 700 guineas (\$3,577). Three others sold for 710, 800 and 900 guineas, respectively. Five others made from 400 to 470 guineas each.

**Probable Duration of Rabies Order**

A number of people in the area covered by the rabies regulations have been asking how long the order was likely to continue in force, as, if there were likelihood of its lasting very long, a good many would be disposed to destroy their dogs at the outset. On this subject, Dr. J. G. Rutherford, Dominion Veterinary Director-General and Live-stock Commissioner, replies that the duration of this order will depend almost entirely upon the manner of its enforcement. If it is properly enforced, and every dog in the scheduled area is kept muzzled or tied up, so as to prevent the creation of new outbreaks, and consequent new centers of infection, the danger will be practically over in twelve months, at the outside. If, on the other hand, the order is evaded or neglected, we have no such assurance, and, under such circumstances, it is quite likely to continue until people have learned their duty in the matter, and have come to appreciate the fact that orders of this kind are not passed for the amusement of officials, but only after the most careful consideration in the interests of the general public.

Dr. Rutherford encloses an extract from a pamphlet just published by Langdon Frothingham, M. D. V., of Harvard Medical School, Boston, showing what took place in Great Britain as a result of the proper enforcement of a strict muzzling order. The same thing, he adds, can be done here, but satisfactory results cannot be obtained without the co-operation not only of the local authorities, but of all intelligently interested in the subject:

"In 1892 there were but 38 rabid dogs in England. At this time the authorities listened to a petition of 'dog-lovers,' and removed the 'cruel muzzle,' with the result that during the next five years, 1,602 dogs, to say nothing of many other animals, and 51 people, died of the most agonizing disease known to the medical world. In spite of this fearful lesson, these 'humanitarians' came again in 1899 with another petition signed by 50,000 of them, asking once more to be relieved of the annoyance of the muzzle. Fearing a repetition of the above calamity, the authorities wisely remained obdurate, with the result that in 1905 no case of rabies occurred in England, and there has been none since. The muzzles have been removed from the dogs in England, but will be resumed with the appearance of the first case of rabies. Moreover, there is a strict quarantine of six months imposed on any dog brought into the country."

Canadian trade for February showed an increase of 21 per cent. over the same month of 1909. For the eleven months past, the increase over last year is over 20 per cent.

In one cold-storage place in Montreal, the Chief Food Inspector has found that 2,000 sheep have been kept for the last two years. More stringent regulations are probable.



Fanfare.

Shorthorn bull. First in class between 21 and 30 months old, Birmingham Spring Sale, 1910. Born March, 1908. Sold for \$4,599. Sire Newton Star.



## Ontario's Annual Grist of Agricultural Legislation.

Following are the appropriations passed at the recent session of the Provincial Legislature, in connection with the work of the various branches of the Department of Agriculture. For comparison, the similar grants are given for 1908. The figures for the session of 1909 are omitted, because they covered a period of only ten months, and fair comparison could not be made.

	1910.	1908.
Agricultural College .....	\$259,016	\$267,217
Veterinary College .....	32,100	20,000
Agr. and Hort. Societies....	124,395	109,412
Live-stock Branch .....	33,705	50,375
Institutes Branch .....	36,950	30,272
Dairy Branch .....	60,870	55,800
Fruit Branch .....	43,420	63,500
Colonization .....	84,175	70,600
Miscellaneous .....	32,100	20,000
<b>Total .....</b>	<b>\$778,101</b>	<b>\$747,970</b>
Estimated Revenue .....	90,000	80,000

**Agricultural College.**—Some years ago, the maximum salary of a professor was fixed at \$2,000. Starting at a minimum of \$700, the teacher advanced year by year, with an increase of \$100 a year, until he reached \$2,000. In response to a request for a reconsideration of this basis of payment, the maximum was this year raised to \$2,200, and a promise given that the whole question of salaries and promotion would be given careful consideration during the summer. All the junior members of the staff received the customary \$100 increase. Two members of the teaching staff were transferred from the temporary to the permanent list. The Lecturer in Horticulture, J. W. Crow, was advanced to the position of Professor of Pomology, and Mr. Wade was made Associate Professor of Animal Husbandry. It is understood that, since the session, two other members of the staff have been promoted, Messrs. Buchanan and Jarvis. The former will now be known as Associate Professor of Field Husbandry, and the latter as Associate Professor of Entomology. For many years a short course in Apiculture has been provided, at an expense of \$200. This year, a Lecturer in Apiculture was added, and a permanent appointee put on the staff, in the person of Morley Pettit, who will lecture to the students, conduct a commercial and teaching apiary at the College, and supervise the work of Provincial inspection of apiaries. The apiary at the Jordan Fruit Farm will also, for a time, come under his direction. Provision is also made for the continuous production of fancy cheese by the Dairy Department. The work in Farm drainage, carried on for the past two years by Prof. W. H. Day, will be enlarged, the vote of \$1,000 having been increased to \$4,000. The decrease in the College appropriations for this year is owing to the fact that there is no provision for any new buildings. The Mechanical Department will have additional appliances, the fire-protection service will be overhauled, and the College will be hitched up to the new Hydro-Electric power line. For this last, the sum of \$15,000 is provided. Here will be given a test of the application of electric power to farm operations.

**Veterinary College.**—The attendance at this College is growing, notwithstanding the raising of the admission standard, the addition of a third-year term, and an increase of fees. This year 282 students are in attendance, about equally divided among the three years. To meet the demand for more lecturers and the equipment of laboratories, the grant has been increased. Results being obtained appear to justify the taking over of this institution by the Government, and the providing of practical instruction of the highest order. Just now there is a most vigorous protest being put forward by graduates in the United States, who are holding positions of importance, against what they claim is an unjust discrimination against the graduates of this College by the U. S. Department of Agriculture. Some other colleges, also, in the United States are loud in their criticisms of the autocratic methods of certain officials of the Federal Government.

**Agricultural and Horticultural Societies.**—The repeated applications of the Provincial organization representing these societies have met with some response; \$5,000 has been added to the \$70,000, to be divided as regular grants among the Agricultural Societies, and \$2,000 has been added to the grant of \$8,000 for Horticultural Societies. These are both apportioned under the general acts, both of which came up for re-enactment this year, after consideration by the Statute Revision Commission. The special grants for Northern Societies in the Districts (\$3,000), and for Field-crop Competitions, have been continued.

**Live-stock Branch.**—Apparently, there is a falling-off here, but, strictly, this is not so. The 1908 vote included a special grant of \$20,000 for the Winter Fair Building at Guelph. This year there is \$2,000 for an extension to the Winter Fair Building at Ottawa. The grant for this latter

purpose is divided, another \$2,000 having been voted to be paid in 1911. The sheep-feeding experiments will be continued, the original plan having been laid out to cover three or four years. Besides the regular horse shows, two new ones come into the estimates, Ottawa and Toronto, for each of which \$500 is provided. Reference may be made here to the encouragement of sheep-raising by the passing of an act to increase the tax on dogs, introduced by P. H. Bowyer, M. P. P., of East Kent. The tax is \$1.00 for the first dog, and at least \$2.00 for each additional dog. This tax is compulsory, and the giving of compensation by township councils is also made compulsory. Decrease of dogs means increase of sheep.

**Institutes Branch.**—Owing to the ten-months' term in the previous year, many of the grants were cut down. This was found to be a hardship, and, therefore, \$500 was voted to make up the deficiency. The work of Institutes is increasing, owing partly to the rapid spread of Women's Institutes, and also to the demand for Special Institutes—two-day meetings for practical demonstrations in live-stock judging, fruit, poultry and seed judging. This means increased expense. To meet this, the appropriations have been materially increased. For some time the feeling has been growing that the old-time platform meeting, with programme of addresses and papers, must give way to the more practical. With the increase in the number of District Representatives, we shall probably see this change in method of instruction thoroughly worked out.

**Dairy Branch.**—The increase under this head is due mainly to two items, an additional \$500 for the Eastern Dairymen's Association, and \$3,000 for a cold-storage equipment at the Eastern Dairy School, Kingston. Owing to the lack of this latter equipment, the work of the school has been confined to not more than four months in the winter, and any experiments carried on had to be made at cheese factories. Now it will be possible to keep the school open the year round, to enlarge the experimental work, and to increase the efficiency of the teaching. Further, it has been difficult and expensive to purchase milk only in the winter months. The carrying on of operations all through the year should have a stimulating effect on dairy farming in the Kingston district. When the Milk Commission presented its valuable report, so thorough and suggestive, it was not thought that any legislation growing out of it would be considered this year; it was felt that the members would take a year to allow the public to digest the same. But public opinion seemed ready for some action, and so the Government decided to take one step at once. Consequently, there was put through a short piece of legislation which made provision for municipalities receiving milk to send out inspectors to examine the farms and plants of milk producers. This has been a much-contested point for many years. Members of rural municipalities have hitherto strenuously objected to having city officials come out into the township to examine and inspect. But the world moves, and the demands for pure food are irresistible, when facts are set forth, as in this Commission Report. It is quite true this could be done before, provided the inspectors were appointed or approved by the Minister of Agriculture. It is somewhat strange that the provision made by a previous Legislature has not been acted upon. The act was passed and published, but the general public were apparently ignorant of it, or indifferent to it. There are still many who think that a Provincial inspector would be preferred to a city or town official. However, the new provision is now on the Statute Book, and will certainly be taken advantage of. Perhaps it needed the revelations of the Milk Commission to focus attention and stir people up.

The act in reference to registration of factories and the issuing of certificates received a small amendment, which gives more consideration to old makers, on sentimental lines. Instead of permits being issued to men of experience and long service, certificates will be issued the same as to those who pass the prescribed examination and meet the requirements of the two dairy schools.

**Fruit Branch.**—Fruit-growing is the popular road to money-making these days. There is an apparent decrease here, owing to the fact that in 1908 there were large grants for the equipment of the Experimental Fruit Farm at Jordan Harbor. In reality, provision is made for an extension of work. The plan appears to be to increase the field work, to send out more men to show how to spray, to prune, to pack, to market. The magnificent results obtained where thorough work has been carried on have stimulated the Director of the Branch to carry the gospel of good fruit culture into new sections, or, rather, into old sections where for many years this important asset of the farm has been neglected.

For some years we have been fighting the San Jose scale, and, where it has been done intelligently and thoroughly, most beneficial results have followed. There are other enemies, well known and equally destructive, our old enemies,

black-knot, pear blight, the codling moth, yellows, little peach, and pear psylla. Why should these not be treated on equal terms with the San Jose scale? The Ontario Fruit-growers' Association thought they should, and formulated an act, which the Minister accepted, and now it is law. Upon request of twenty-five fruit-growers, the municipal council must appoint an inspector to examine for all these pests. At last the fruit-growers have an act that is fairly comprehensive, and that promises to help them rid their districts of the most destructive pests. It is now up to the fruit-growers to do something to save themselves. There is money, large money, in fruit-growing, but it is to be got only at the cost of eternal vigilance and care.

**Colonization.**—The crying need of Ontario farmers to-day is for hired help. Wages are going up, and will probably have to go still higher. Provision must be made for employment by the year, and housing accommodation must be provided. But the first call is for men, and also for domestic servants. To carry on a more extensive campaign in Great Britain, and to assist those who would come, but who have not the price, the appropriations have been much increased, though we are still spending only a fraction of what the Australian States are spending. There is a great move Canada-wards, but the "lure of the West" is almost irresistible. The East must be active and liberal if it would get its share. The Ontario Government is, apparently, awake to the situation, but farmers must do their part. The British headquarters are in London, whence the supervision of the field agents is directed. There are two permanent men who are co-operating with the Booking Agents. Three special agents have already been sent over to work up particular districts. Arrangements have been made with two firms to send large numbers to Ontario. There is a special vote of \$10,000 to pay a portion of the passage money. Plans are now being worked out that will procure hired help for farmers who are willing to enter into an agreement to repay to the Colonization Branch, out of the wages, the fares advanced. The first lot have already arrived; others are on the way. A special distributing office has been opened on Front St., Toronto, opposite the main entrance to the Union Station.

**Miscellaneous.**—The effective work of the Corn-growers' Association, organized by Mr. McKenney in Essex and Kent, is bearing fruit, or, rather, producing grain. The municipalities this year put up \$800. The Government grant has been increased from \$250 to \$500. Next December the fair will be held at Chatham. It may not be long before the greatest corn shown in America is held in Ontario. The Government apparently believe in helping a good thing along. The bean-growers of Kent have been stimulated, and have an organization that is appealing for direction. When we get down to the stimulating of special or individual crops, there must be growth.

**Farm Forestry** will be continued. The grant stands as before, at \$10,000, so that, evidently, the work will be confined to the replanting of the 1,000 acres already acquired in Norfolk County, with some survey work in other parts of Ontario.

The District Agricultural Representatives will be increased this year by three, making fourteen counties enjoying the benefits of this instructive, stimulating, organizing work. Wonderful results have been reported from the eleven counties already favored. Where will the new men be located? Already, at least half a dozen counties are after them, and others are thinking and inquiring. There is no need of enlarging upon the value of this work. It is growing of its own force and activity. It is bringing agricultural instruction home to the farmer. It is creating a new life wherever it is in operation. It is the latest thing in agricultural regeneration, and is carrying its own commendation, and gaining its own support wherever it is given a fair chance to succeed. The only uncertainty about it is as to whether we shall be able to hold this band of young men and their assistants in Ontario. Other governments, other States, have their eyes upon them. Can we afford to lose them? This is something that the county councils, the school boards, and the business men, who are directly interested in their work, should carefully consider.

**Legislation.**—In addition to the acts referred to above, reference may be made to the Telephone Bill, introduced by Mr. Charters, which places all rural telephone companies under the supervision of the Ontario Railway and Municipal Board, with power to regulate charges, to order connections with other companies, and to prevent undue consolidation or merging that would work disastrously to the farming community. For the first time, also, an act was put through defining the scope and work of the Department of Agriculture. Hitherto it has been concerned in some work regulated by special acts, but also in many lines that were provided for only in the appropriations as voted. Now, however, the Department is placed under an act commensurate with its extensive work and the importance of its undertakings.





## Positions for Young Men

The TRADERS BANK OF CANADA is open to receive applications from fifty well-educated youths of good morals and manners between the ages of sixteen and twenty years.

Applicants should enclose testimonials from their present or former High School teachers and from other gentlemen who know them, a certificate from their family physician as to health and heredity, and a copy of a recent photograph.

Address applications to

THE SUPERINTENDENT,

THE TRADERS BANK OF CANADA

TORONTO, ONT. 124

## MARKETS.

### Toronto.

#### LIVE STOCK.

At West Toronto, on Monday, March 21st, receipts numbered 84 cars, comprising 1,792 cattle, 46 hogs, 221 sheep and lambs, 65 calves. Cattle market was strong. Easter cattle, \$7 to \$9; prime loads of steers and heifers, \$6.50 to \$6.80; loads of good, \$6 to \$6.40; medium, \$5.25 to \$5.75; common, \$5 to \$5.25; cows, \$5.50 to \$5.25; bulls, \$4.50 to \$5.50; milkers, slow sale, at \$30 to \$40; calves, \$4 to \$8, and Easter calves \$10 per cwt. Sheep—Ewes, \$6 to \$6.50 per cwt.; rams, \$5 to \$6; lambs, yearlings, \$8.50 to \$9.25; spring lambs, \$7 to \$10 each. Hogs—Selects, fed and watered, \$10, and \$9.75 f. o. b. cars.

#### REVIEW OF LAST WEEK'S MARKET.

Receipts of cattle were larger than for some time, the quality of which was far better than at any market this season. Four of the large American firms had buyers on the Union market, three of which bought a large number of cattle for export purposes. Trade was good, but not as brisk as the previous week. When quality of cattle is considered, prices were 10c. per cwt. lower, but the percentage of high-priced cattle was much larger than at any time in the history of the market. Sheep, lambs, calves, and hogs, especially the latter, all sold at higher prices.

The total receipts of live stock at the City and Union Yards last week were:

	City.	Union.	Total.
Cars	227	220	447
Cattle	3,357	3,987	7,344
Hogs	5,016	1,095	6,111
Sheep	880	238	1,118
Calves	276	113	389
Horses	9	280	289

The total receipts for the corresponding week last year were:

	City.	Union.	Total.
Cars	189	94	283
Cattle	2,809	1,224	4,033
Hogs	4,072	1,934	6,006
Sheep	1,291	110	1,431
Calves	460	49	509
Horses	32	180	212

The above figures show a total increase at the two yards of 164 cars, 3,311 cattle, 105 hogs and 77 horses, but a decrease of 313 sheep and 120 calves.

Exporters.—The record price for exporters thus far was \$6.80, which was obtained for 22 steers, 1,260 lbs. each, sold by McDonald & Halligan.

E. L. Woodward bought for Swift & Co., 750 exporters, at following prices: Steers, \$5.90 to \$6.60; heifers, 1,000 to 1,100, \$5.85 to \$6.40, and bulls, at \$5 to \$5.40.

Geo. Campbell bought for Morris & Co., 329 exporters, at \$5.75 to \$6.80.

Charles Campbell bought for S. & S. Co., 150 steers, 1,225 lbs., average weight, at an average of \$6.65 per cwt.

H. G. Whaley bought for Shamburg & Sons, 120 cattle, steers, \$6.30 to \$6.60, and heifers, \$6 to \$6.25.

Butchers.—Easter quality butchers' sold from \$6 to \$7 per cwt., and we heard of one lot being sold at \$7.25. The best load of 1,000-lb. heifers, 22 in number, was sold by H. P. Kennedy, at \$6.25 per cwt.; loads of good butchers', \$5.75 to \$6; medium, \$5.25 to \$5.60; common, \$4.50 to \$5.15; cows, \$3.25 to \$5.50; canners, \$2 to \$3 per cwt.

Milkers and Springers.—Prices, as a rule, were not as high, but prime-quality cows sell as high as ever, one of this class brought \$75, but the bulk sold from \$40 to \$55, and a few at \$60, with some common, old, worn-out skins, at \$25 to \$35 each.

Veal Calves.—Easter-quality calves, \$9 to \$10 per cwt.; ordinary run of calves sold from \$3 for bobs, to \$4 and up to \$8 per cwt., according to quality.

Sheep and Lambs.—Receipts light, prices again higher. Ewes, \$5 to \$6 per cwt.; rams and cull ewes, \$4 to \$5.25; lambs, yearlings, \$7.50 to \$9 per cwt.; spring lambs, three small lambs, not much larger than good-sized cats, sold for \$19 for the lot.

Hogs.—Our predictions of the \$10-per-cwt.-hog came true, as \$9.75 per cwt., f. o. b. cars at country points, was paid on Wednesday last week, to our own knowledge, which means \$10 per cwt. at the Toronto market, and "The Farmer's Advocate" was the first weekly magazine to report this fact to the farmers of the Dominion.

Horses.—At the Union Horse Exchange, West Toronto, Manager J. H. Smith reports trade in horses as having fallen off this week. The demand from the Northwest being not nearly as good as it has been for some time past. Several shipments were made to Ottawa and Montreal, as well as to several points in Ontario. Mr. Smith reported receipts of 240 horses for the past week, out of which he disposed of 150 horses at following quotations: A few top-notch drafters, 1,700 to 1,800 lbs. each, sold at \$250 to \$260. General run of prices were: Drafters, \$190 to \$220; general-purpose, \$160 to \$200; drivers, \$100 to \$225; expressers, \$140 to \$210; serviceably sound, \$40 to \$100.

#### BREADSTUFFS.

Wheat.—No. 2 white, \$1.08½; No. 2 mixed, \$1.08. Manitoba wheat—No. 1 northern, \$1.12½; No. 2 northern, \$1.10½; track, lake ports. Rye—No. 2, 67c; track, lake ports. Peas—No. 2, 88c to 84c., outside. Buckwheat—No. 2, 53c., outside. Barley—No. 2, 54c. to 55c.; No. 3X, 53c.; No. 3, 49c., outside. Corn—American, No. 2 yellow, 70½c.; new No. 2 yellow, 67½c.; Canadian corn, 62½c. to 63c. Oats—No. 2, 39c., at points outside Toronto. Flour—Prices unchanged.

#### HAY AND MILLFEED.

Hay.—Baled, in car lots, at Toronto, No. 1, \$15; No. 2, \$13.50 to \$14. Straw.—Baled, in car lots, at Toronto, \$7.50 to \$8.

Bran.—Car lots, in sacks, at Toronto, \$23 to \$23.50 per ton; shorts, \$2 more.

#### COUNTRY PRODUCE.

Butter.—The demand for good to choice butter, no matter how or where made, is greater than the supply, and the supply of inferior-quality butter is greater than the demand. Creamery pound rolls, 29c. to 31c., and Locust Hill sold at 29c. to 31c.; creamery solids, 26c. to 27c.; separator dairy, 26c. to 27c.; store lots, 22c. to 23c.

Eggs.—Supplies larger; prices easier, at 25c. for case lots of new-laid. Storage eggs are a thing of the past for this season.

Honey.—Extracted, 10½c.; combs, per dozen sections, \$2.25 to \$3.

Beans.—Hand-picked, \$2.15 to \$2.25; primes, \$2 to \$2.10.

Cheese.—Market steady. Large, 13c.; twins, 13½c.

Poultry.—Receipts light. Prices firmer, as follows: Turkeys, dressed, 18c. to 22c.; chickens, fresh-killed, 20c. to 21c.; cold storage, 17c.; fowl, fresh, 17c.

Potatoes.—Receipts and offerings greater than the demand. Prices easy, at 40c. to 45c. per bag for Ontarios, in car lots, at Toronto. New Brunswick Delawares are said to be of better quality, and are worth 45c. to 47c. per bag for car lots, laid down at Toronto.

#### HIDES AND WOOL.

E. T. Carter & Co., 85 East Front street, have been paying the following prices: No. 1 inspected steers and cows, 11½c.; No. 2 inspected steers and cows, 10½c.; No. 3 inspected steers, cows and bulls, 9½c.; country hides, 8½c. to 9c.; calf skins, 12c. to 13c.; horse hides, No. 1, \$2.75; horse hair, per lb., 32c.; tallow, per lb., 5½c. to 6½c.; sheep skins, 90c. to \$1 each. Wool and raw-fur prices given on request.

#### FRUITS AND VEGETABLES.

Apples of choice quality are scarce, but No. 2's are plentiful and cheap. Winter apples sell from \$1.25 to \$3.25, the latter price being for the best Spies. The bulk of sales are at \$2 to \$2.50 per barrel. Onions, per bag, \$1.10 to \$1.25; carrots, per bag, 40c. to 50c.; parsnips, per bag, 65c. to 75c.; beets, per bag, 55c. to 65c.; cabbage, per barrel, \$1.25 to \$1.50; turnips, per ton, \$6.50.

### Montreal.

Cattle.—The local market showed a stronger tone. Some choice Ontario stall-fed steers were offered, and sales took place at as high as 6½c. per lb., and even a fraction more. Choice ranged from 6c. up, while fine sold at 5½c. to 6c., good at 5c., medium at around 4½c. to 4½c., and common around 4c. Some very choice, heavy bulls, sold at 5½c. to 6c. per lb., common selling at 4c. to 5c., and cows around 3½c. to 4½c. per lb. The other feature of the market was, undoubtedly, the strength of the hog market. Prices reached the highest point in the history of the packing trade of Canada, sales having been made last week at 10½c. per lb., and none being available at less than 10½c. for selects, weighed off cars. Demand for calves very good, the range for choice stock being \$15 to \$20 per head. The common stock brought as low as \$3 each. Sheep—Some yearling lambs sold at 7c. to 7½c. per lb., while sheep went at 4½c. to 5c. per lb.

Horses.—Dealers reported a slight improvement in trade. It would seem that Manitoba and the Northwest is taking quite a few cheap horses just now, prices ranging from \$75 to about \$125 each. Heavy draft, 1,500 to 1,700 lbs., \$225 to \$300 each; light draft, 1,400 to 1,500 lbs., \$180 to \$240 each; light animals, 1,000 to 1,100 lbs., \$100 to \$150 each; inferior, broken-down horses, \$50 to \$100 each, and choice saddle or carriage animals, \$350 to \$500 each.

Dressed Hogs.—The market for dressed hogs, in sympathy with that for live, was very firm, and prices advanced to 14c. per lb., making probably a record price in the packing trade. The market for provisions was steady. Market for all meats and meat products exceptionally firm, and prices were at about record figures all the way round.

Potatoes.—Market continued very dull and overstocked. Dealers claimed to be able to buy all they want at 40c. per 90 lbs., carloads, track, Montreal, at a few moment's notice—this referring to Green Mountains.

Apples.—Very little change of late, \$1.75 to \$2.25 per barrel for No. 2 stock, at auction, and \$1.25 to \$1.50 for No. 3 stock. Supplies liberal.

Eggs.—Receipts increasing and prices becoming lower. Fresh-laid stock was selling here, in a wholesale way, at 26c. per dozen, single cases bringing a cent more.

Butter.—Market firming up. One merchant paid 26½c. per lb. for a carload of finest Eastern Townships creamery. No fresh makes were offering of consequence, but some fresh dairy sold last week at 21c. to 22c. per lb. On Monday, 21st, prices jumped a couple of cents, owing to shipments to British Columbia, New York and England; and partially to

drouth in New Zealand, creamery commanded 28 cents.

Cheese.—There was a renewal of the demand over the cable for cheese, and prices showed a marked tendency to strengthen. Sales of finest white were made at 13c., and from this figure ranged down to 12½c. for colored. On Monday, market was quoted firm.

Grain.—No. 2 Canadian Western oats, 44c. per bushel, carloads, store; No. 3 at 43c.; No. 2 white at 43c.; No. 3 at 42c., and No. 4 at 41c. No. 3 barley, 60c. per bush.; No. 4 being 58c., and feed barley at 56c.

Flour.—Demand fair, at \$5.80 per barrel, in bags, for Manitoba first patents, and \$5.30 for seconds, while strong bakers' were \$5.10. Ontario winter-wheat patents, \$5.50 to \$5.60 per barrel; straight rollers, \$5.10 to \$5.25.

Feed.—Little or no alteration. Ontario bran, \$22.50 to \$23 per ton, in bags; middlings, \$23.50 to \$24. Manitoba bran in good demand, at \$22.50; shorts being \$23. Pure grain mouille, \$31 to \$33 per ton, and mixed, \$27 to \$29. Cotton-seed meal steady, at \$39 to \$40 per ton, in ton lots, f. o. b. Montreal.

Hay.—Market firm, at \$15 to \$15.50 for No. 1 hay; \$14 to \$14.50 for No. 2 extra; \$12.50 to \$13 for No. 2 hay; \$11.50 to \$12 for clover mixed, and \$10.50 to \$11.50 for clover.

Seed.—Dealers report a fairly good demand at steady prices, being \$5 to \$7 per 100 lbs. for timothy, f. o. b., Montreal; \$18 to \$20 for red clover, and \$14 to \$17 for alsike.

Hides.—Demand dull, and prices steady. Dealers paying 10c., 11c. and 12c. per lb. for Nos. 3, 2 and 1 beef hides, and selling to tanners at ½c. advance. Calf skins were \$1 to \$1.10 each; sheep skins, 12c. to 14c. per lb.

### Buffalo.

Cattle.—Prime steers, \$7.25 to \$7.90. Veals.—\$6 to \$11; a few, \$11.25. Hogs.—Heavy, \$11.15 to \$11.20; mixed, \$11.10 to \$11.20; Yorkers, \$10.85 to \$11.15; pigs, \$10.75 to \$10.85; roughs, \$10.15 to \$10.40; stags, \$8 to \$9; dairies, \$10.90 to \$11.15. Sheep and Lambs.—Yearlings, 35c.; lambs, 80c. higher; lambs, \$7.25 to \$10.60; yearlings, \$9.25 to \$9.60; wethers, \$8.50 to \$8.75; ewes, \$7.75 to \$8; sheep, mixed, \$4 to \$8.25.

### Chicago.

Cattle.—Steers, \$8.10 to \$8.65; cows, \$4.75 to \$6.50; heifers, \$4 to \$6.75; bulls, \$5.25 to \$6.25; calves, \$8 to \$10.50; stockers and feeders, \$4.40 to \$6. Hogs.—Choice heavy, \$10.95 to \$11.05; butchers', \$10.90 to \$11.05; light mixed, \$10.60 to \$10.75; choice light, \$10.75 to \$10.85; packing, \$10.80 to \$10.95; pigs, \$10.25 to \$10.65; bulk of sales, \$10.90 to \$11.

Sheep and Lambs.—Sheep, \$7.25 to \$8.50; lambs, \$7.75 to \$10.80; yearlings, \$7.65 to \$9.

### British Cattle Markets.

Liverpool and London cables quote live cattle (American) at 13c. to 14c., dressed weight; refrigerator beef, 10½c. to 10½c. per lb.

An inspector going his rounds in the primary schools propounded this question:

"How do you parse 'Mary milked the cow?'"

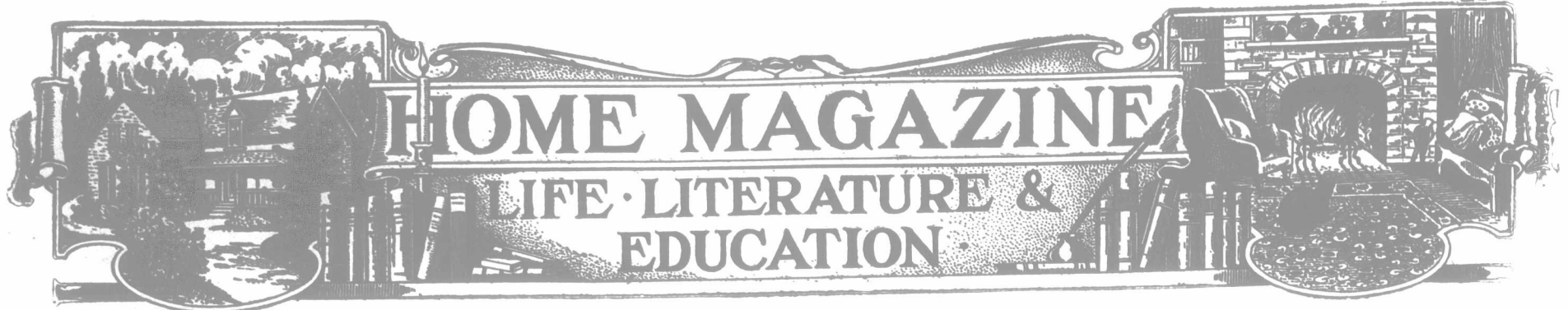
Pupil—"Cow is a noun, feminine gender, singular number, third person, and stands for Mary."

"Stands for Mary!" exclaimed the astonished inspector. "How do you make that out?"

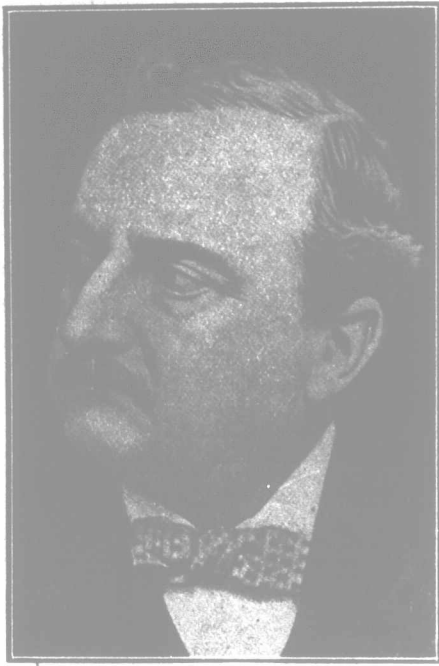
"Because," answered the intelligent pupil, "if the cow didn't stand for Mary, how could she milk it?"

An artist had finished a landscape; on looking up, he beheld an Irish navy gazing at his canvas. "Well," said the artist familiarly, "do you suppose you could make a picture like that?" The Irishman mopped his forehead a moment. "Sure, a man c'n do anything if he's druv to ut," he replied.—Philadelphia Inquirer.





### Men of To-day.



Mr. John Redmond.

The leader of the Irish party in the British House of Commons. He is insisting on another general election about the end of May.

Rear-Admiral Bacon, of the British Navy, says the battleships of the future may be 50 per cent. larger than the Dreadnought of to-day. Query: When will they begin to talk of enlarging the Channel?

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The Audubon Societies of the United States have undertaken an aggressive and persistent fight against the killing of insect-eating, non-game birds, whether for "sport" or millinery purposes, and laws forbidding the sale or possession of the plumage, skin or body of such birds are already in force and working for the protection of the farmers, in Iowa, Louisiana, Massachusetts, Michigan, Mississippi, North Carolina, West Virginia and South Carolina. In the latter State several arrests of milliners have recently been made for the selling of "aigrettes." . . . It is a pity that more strenuous measures have not been adopted in Canada for the protection of these guardians of our crops.

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To-day, March 24th, marks the end of the period set aside for the accomplishment of Government business in the British House of Commons. Immediately after the Easter vacation, the two great questions, the veto of the House of Lords, and the Budget, will again be to the fore. Premier Asquith has not disclosed his plans regarding the House of Lords any further than to state that the Government will introduce resolutions excluding the Upper House altogether from the domain of finance, and declaring that in regard to other legislation the power of veto be limited, so as to secure the Commons during the lifetime of a single Parliament. Following this will probably come measures to reduce the House of Lords to a small body of elected members, who, in case of conflict between the two chambers, must come into general session with the members of the House of Commons.

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While much talk as to the advisability of giving a rural bent to rural-school education has been going on

throughout the Province, the energetic spirits at the O. A. C. have been busy, just "doing things." Last year an experiment was made in sending seeds of flowers and vegetables, at a very low rate, for distribution among public-school pupils. One hundred and seventeen schools were thus supplied, and over 50 per cent. of the teachers have reported that the work has been of advantage to the school and pupils alike.

A similar plan will be carried out this year. Seeds will be sold to pupils through the teachers, at the rate of two cents per packet, and a booklet giving instructions for carrying on the work will also be provided. It is made plain, of course, that the seeds are to be used exclusively for children's gardening, and will in no case be sent for parents through the children. Collections of seeds for demonstration plots, also forest-tree seedlings, will be supplied free on application. We heartily recommend this work to the teachers and trustees of the Province, and would advise all interested to write at once for further information to The Ontario Agricultural and Experimental Union, Schools Division, O. A. C., Guelph, Ont.

### The Windrow.

A Vassar girl graduate is taking a course in scientific agriculture.

Sir Hiram Maxim has invented an aeroplane, to be equipped with a petrol engine.

No less than forty-five students are now taking up the Masters of Forestry course, under Professors Fernow and Ross, at Toronto University.

Two new novels by Canadian authors in England will be published this spring: "Cummer's Son," by Sir Gilbert Parker, and "The Sword-maker," by Robert Barr.

The American Government has prohibited absolutely the traffic in opium in the Philippine Islands, and made its use in any form a crime, and the possession of it by any person a crime.

Miss Margaret Anglin, the noted Canadian actress, has been invited by the University of California to appear at the Greek Theatre, at Berkeley, in the production of Sophocles' "Antigone," in July.

A great gathering of poets and descendants of poets is to take place in the early future at a banquet organized by the Poetry Recital Society, of London. The immortal Shakespeare will be represented by Mr. Will Shakespeare, of Highgate.

Mr. Frederick Villiers, the original of Kipling's war artist, who went blind in the Soudan (in "The Light That Failed"), is now in Canada, making sketches in Northern Alberta. Needless to say, the "blindness" was but an emanation of Kipling's vivid imagination.

It is surprising to learn from Dr. Fernow that the art of forest conservation dates back to the time of Louis XIV., whose great minister, Colbert, is credited with the remark that "France will perish for lack of trees." As a result of a commission instituted in 1661, forest abuses of that day were reduced materially.

Sir John Tenniel, the famous Punch cartoonist, celebrated his ninetieth birthday this month. His sight, which has been overtaxed during his fifty years of work, is nearly gone,

but otherwise he is in good health. He is well known as the illustrator of Lewis Carroll's "Alice in Wonderland," and "Through the Looking-glass."

Miss May Morris, daughter of the famous William Morris, of Kelmscott, artist, poet, handicraftsman, apostle of beauty, gave a talk on "Medieval Embroidery," in the Margaret Eaton School of Expression, Toronto, last week. It will be remembered that Mrs. Morris was the favorite model of Rossetti and Burne-Jones. Her face was of the type of the "Blessed Damosel," a reproduction of which appeared in one of our December issues.

### Our English Letter.

VI.

SOME DEVONSHIRE CHARACTER SKETCHES.

By way of contrast, and to show that even in this quaint little out-of-the-world moorland village the matrimonial scales sometimes dipped as heavily on the one side as the other, we are introduced to another couple: quiet, henpecked Philip Weekes, and his clever but garrulous and sharp-tongued wife, Hephzibah. Of Mr. Weekes we are told that "His large gray eyes had a wistful expression, as of eyes that ached with hope of a sight long delayed. His voice, but seldom heard, was mournful in its cadences."

As he brooded, "A voice like a guinea-hen's came through the open door: 'Now, master, if you've finished looking at the sky, I'll thank you to fetch a dollop o' peat.' And be them fowls killed yet? 'I'll kill 'em after dinner—plenty of time.' 'Plenty of time! Always your wicked, loafing way. Plenty of time! You'll come to eternity presently, with nothing to show for it. Then, when they ax what you've been doin' with your time, you'll cut a pretty cheap figure, Philip Weekes.'" To all of which tirade Philip listened with a startling indifference, the indifference which an artilleryman displays to the roar and thunder of ordnance. Hephzibah was a little, lean woman, with white wild locks sticking out round her head, like a silver aureole that had been drawn through a bramble-bush. She had bright pink cheeks, a long upper lip, a hard mouth, with a very few teeth left therein, and eyes that feared nothing and dropped before nothing. . . . After a good market, Hephzibah was busier than ever, and drove her niece and her husband hither and thither before her, like leaves in a gale of wind. On Saturdays she always stopped over at Plymouth, so, after each week of tragical clacking, the peace of the grave descended upon poor Mr. Weekes. During Saturday he would not even suffer Susan, their little niece, to open her lips. "Pon Saturdays give me silence," he said. "The ear wants rest, like any other member."

In Lydford, where neighbor discussed neighbor, their peculiarities, as well as their virtues and vices, were read as in an open book, remarks being freely made upon the daily happenings in their midst, with a candor almost startling. At the little village hostelry, a well-conducted and quiet meeting-ground for gossip and exchange of views, the attitude towards one another of Philip Weekes and his wife, whose mutual affection was as well known as their matrimonial infirmities, is thus discussed: "Life's a stormy voyage—

with no harbor—for him," said Huggins. "I don't speak disrespectfully of Mrs. Weekes—very far from it—she's a born wonder; but one of the sort built for wild weather. She likes it; she'd droop if everything went smooth."

"She is like a stately vessel that casts up foam from its prow," declared the schoolmaster. Mrs. Weekes is a lesson to Lydford, as I've always maintained."

The husband of the stately vessel appeared at this moment, but the thread of the conversation remained unbroken. . . . "She'd be a fine woman if there was a thought less lemon in her," said Taverner, soothingly. "She is a fine woman—fine enough for anything," replied Philip, trying to be loyal, yet truthful—but we've all our defects."

"I'm sure you'm too wise to rebel, however," said Valentine Huggins. "Twas much the same with me, and often I wish I'd been so sensible as you; but my manly spirit wouldn't brook nothing of that sort. 'I won't have it!' I used to say, in my fierce way. But I'm sorry now, because she might have been alive yet if I'd been a thought easier with her." Whereat Noah Pearn winked behind the back of Mr. Huggins at the company generally, for it was well remembered that Valentine's vanished partner had ruled him with a rod of iron."

Perhaps the most outstanding characters of all are Daniel Brendon and Sarah Jane Friend, whose experiences, which were the outcome of their peculiar mentalities, must have suggested to its author the title of "The Whirlwind" for his story of moorland life.

The man has come to Ruddyford Farm merely as a wage-earner, but with high hopes and some ambition, and without even in imagination having given two thoughts to any woman as a possible sweetheart or wife. But since he has seen Sarah Jane, life has taken on another aspect for him. Already he has become unconsciously attracted by the rustic beauty and outspoken honesty of Sarah Jane, and outspoken though he is, he finds himself shy and tongue-tied in her presence. In their first walk together, as so often happens, it is the woman who breaks the conversational ice. He hints at friendship, at which point Sarah Jane openly avers that she likes men to be friends with her. "Girls," she says, "don't seem to like me; I hardly know above half a dozen of them. I often wish I'd been born a man myself. I'm such a big maiden, an' awful strong—not but what I look more than a fly beside you. You could pick me up in they gert arms, I reckon?"

"I suppose I could, for that matter. I carried a pig yesterday—lifted an' clean up, an' got on my back; but it took two other chaps to move it. 'Here, let me get to his carcass,' I said, an' I lifted it clear into the butcher's cart while they two was wiping their foreheads."

She nodded with evident approval. Suddenly his slow mind worked backwards. "All the same," he said, "I didn't ought to have mentioned your name with the same breath as a pig. 'Twas a hole in my manners, and I hope you'll overlook it."

Sarah Jane laughed. "What a man! Where was you brought up to? Ban't many so civil in these parts." . . . Daniel Brendon and Sarah Jane Friend, in spite of their diversity of views and wholly differ-



ent natures, began their married life with an intense affection for one another, he vainly craving to see in her signs of the religious fervor to which his own spiritual nature was attuned, and she striving to adapt her Pagan soul, as far as she could do so, without pretence, to his stern interpretation of what a Christian life should be. Sometimes she still shocked him, but she loved him with a great love, and her love made her try to understand him. The following little scene may serve as an illustration:

Before the morning service at the little church at Lydford, the husband and wife wandered amongst the tombs, then sat down upon the churchyard wall, and looked over the wooded gorge beneath. Brendon was always very serious on Sunday, and in her heart his wife rejoiced when the day was over.

"Do you ever think about the graves?" asked Brendon.

"No, Dan, can't say as I do. The churchyard's the place for dead men, not living ones. Us shall spend a terrible lot of time here come presently, and I don't want to waste much of it here now."

"Tis a steady job to read the verses above all these bones," he said.

"Read 'em, then," she answered, "but don't ax me to. I hate graves and everything to do with death. With all my might I hate it."

Try as he would, poor Dan seemed powerless to alter her natural bent of thought, and meanwhile Sarah Jane's own attitude towards life, and her frank and joyous spirit were, as yet, utterly unchanged. If in a spiritual sense she was blind, she was content to have it so, and did not want her eyes to be opened.

At last, into the somewhat troubled Eden of their simple lives came evil, under the guise of good—but to give in detail the utter confusion it wrought, until the tragic ending came, would occupy more space than is allotted to me, and, moreover, would hardly fit in with my subject, "Some Character Sketches," culled from stories by Eden Philpotts, of life in the moorland villages of grand old Devon. In it, as in all written by the same author, the characters are true to life, and stand out in separate mosaics, each one of which, important, or otherwise, fills its niche, and would leave the story incomplete if omitted. For the Devonshire readers of "The Farmer's Advocate," these books would have a special interest. H. A. B.

**Waiting for the Wawa.**

When the first black crow is calling in the dawning down the dell,  
I am dreaming of the summer; in my dream  
I can hear the mudjokeewis sighing softly,  
I can smell  
A wild rose blooming near a northern stream.

I am waiting in my wigwam for the coming of the spring,  
For the forest flowers to blossom in the vale;  
I am watching from my wigwam for the wild goose on the wing,  
When I'll gather up my traps and hit the trail.

To the Highlands of Ontario, in the merry berry-moon,  
To the haunts of Hiawatha that are nigh;  
By the banks of Athabaska, where it's always afternoon—  
I am waiting for the Wawa to go by.  
—Cy. Warman.

**Home for Girls While Being Educated.**

School with home advantages; beautiful location; thorough educational equipment. Pupils prepared for examinations. Write for further information to Mrs. Annie Courtice (Principal), Balmy Beach School for Girls, Toronto.

A light of duty shines on every day  
For all.  
—Wordsworth.

**Canadian Gardens.**

Nearly everyone who visits England comes back raving over the beauty of the English gardens. Every cottage, even, has its shrubbery and vines and flowers; hedges make dividing lines things of beauty; every stone wall has its vine or tree trained against it; and behind all the thatched rooves (now gradually disappearing) and pointed gables of the quaint houses where live the tenants of the great estates, seem in perfect accord with the surrounding scenery, apparently a growth of it, rather than something extraneous.

Of course, we would not wish to introduce the thatched roof into this country; there are many reasons why it should be ruled out. Nor would we wish to copy, in other respects, the cottages and houses of England, which are often unsanitary, and too rambling to be convenient for working in. Even upon the trimmed hedges we must needs look askance in this country. Farmers who are rushed with work have little time to

wonders with our immediate surroundings, our own farms and gardens.

The improving will entail a little time, of course, especially during the first year, but expense may be reduced almost to a minimum, for, although there are many flowers and vines to be bought from the nurseries which will give much pleasure, we are not compelled to depend on these if we have woods or swamps near our homes. Indeed, a question which is being much discussed among flower-lovers is whether we do not make a mistake in neglecting to give a more distinctly Canadian tone to our gardens. We have many native species, which have been mentioned at different times in this journal, which may be used either exclusively or in conjunction with nursery varieties to very good advantage. If you know so little of our native flora as to be unable to recognize which are its most beautiful species in earliest spring, try moving a few of these when they are in flower. If you are careful to dig up plenty of soil, and

kind of enclosure would seem quite out of keeping. This is an idea that might be easily worked out in some parts of our Dominion, where the question of disposing of superfluous stones is ever present.

A background of trees; the house as a part of the picture; shrubbery to break the hard line of demarcation between house and ground; flowers for color, and vines for coziness—these are the broad general lines from which to begin. Work out the individual touch at leisure.

Some people have an aversion to vines on the ground that they "rot" a house. If the walls be of stone, brick or cement, this objection vanishes; if of frame, they may at least be trained along the veranda, which, if kept well painted, will last about as long with the vines as without them. A plan which may be adopted if even this is tabooed, is to build a trellis at a little distance from the house, leaving, say, the width for a footpath between, and let the vines run on the trellis.

For the garden, choose, if your time for working in the garden be limited, (1) flowers that will grow with but little attention. Perennials and some biennials, also some of the bulbs, fill the requirements here: English violets, narcissi, daffodils, pæonies, iris, June lilies, lemon lilies, tiger lilies, bleeding-heart, meadow-sweet, foxglove, Sweet William, golden glow, phlox, anemones, for example. (2) Flowers that give a great deal of bloom and satisfaction for the amount of work expended on them. Among these might be named such annuals as sweet peas, nasturtiums, asters, phlox drummondii, sweet alyssum, and verbenas.

Do not clutter up either garden or lawn with tubs and painted drain-pipes, and tiles, and old cream cans—all made to do duty for flower-pots; do not use cemetery-looking urns at all, and be very sparing of either rockeries or cement vases. Rockeries are hideous if not built with an absolute regard for the picturesque, and placed in the very spot in which they seem natural; cement vases, or cut or built stone vases, may, once in a great while, if absolutely simple in line, be permitted a corner, if absolutely necessary, for the proper display of trailing vines.

Also, use the straight border sparingly. Irregular ones usually give a more beautiful effect, although straight ones are sometimes advisable.

It is not necessary to enumerate trees suitable for the lawn, a question that has been many times adequately dealt with in these pages. One point, however, which has been usually overlooked, and may recommend itself to some, is the planting of apple and cherry trees for decoration, as well as for use. Apple trees, as Hawthorne has remarked, are among the most "human" of trees. They are never ugly, and are especially beautiful in blossom and in fruit. They seem to fit in as the natural appendage of a house; and they blend well enough with any other trees that may be grown near. The same might be remarked of cherry trees. No better screen for an undesirable outlook from the lawn could be devised than a border of tall English cherry trees, or wild pin-cherry trees, with chokecherry and barberry to run leafage down to the ground. If evergreens be placed behind, the screen may be made to serve as a wind-break, also.

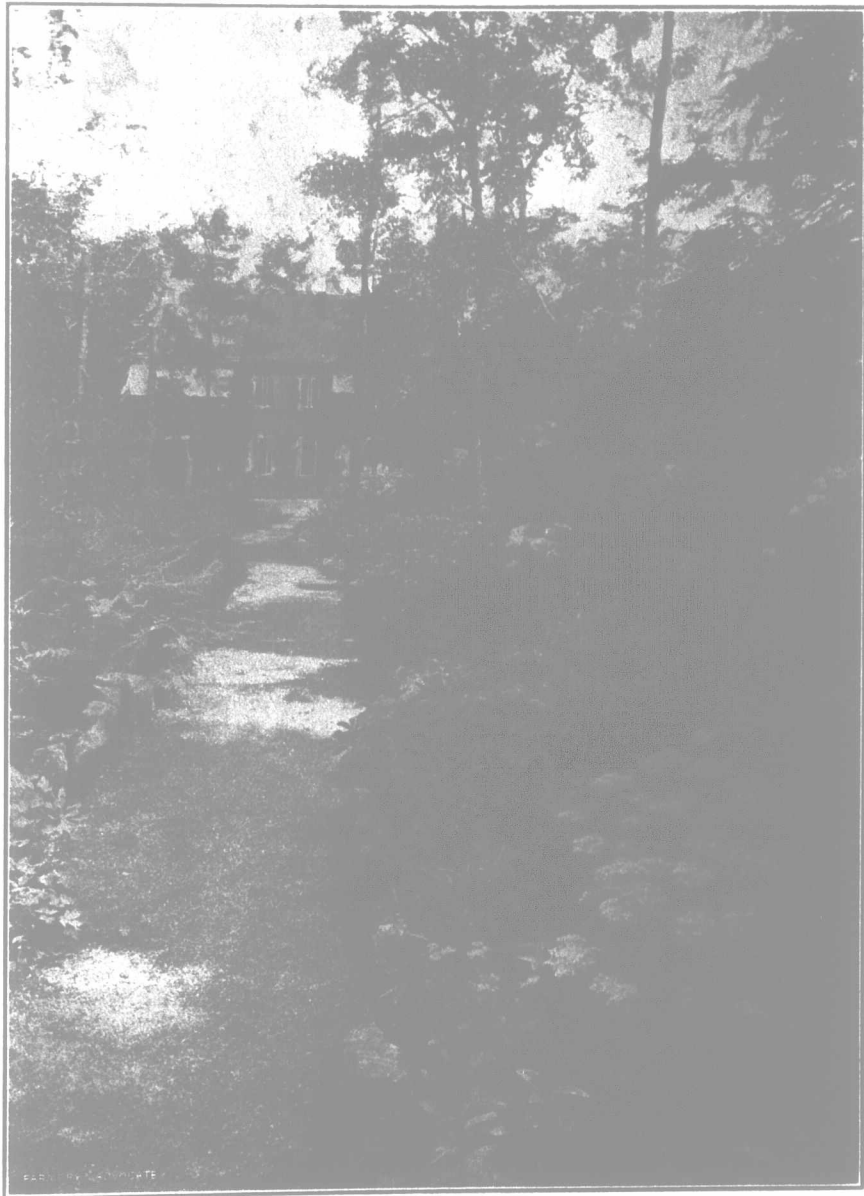
The subject of landscape gardening, even of cottage gardening, is a broad one. Suggestions are all that can be given, but suggestions are all that are necessary. Individuality must do the rest.

Mother.—"Johnny, you said you'd been to Sunday school."

Johnny (with a far-away look).—"Yes, mamma."

Mother.—"How does it happen that your hands smell of fish?"

Johnny.—"I carried home the Sunday-school paper, an' the outside page is all about Jonah and the whale."—Western Christian Advocate.



The Beauty of the Informal Approach.

(From "Country Life.")

Such a path and border have much to recommend them over the straight path and "ribbon" border.

spend in clipping and pruning such "unprofitable" shrubbery; and, although hedges are exceedingly advisable for certain situations, they may be of the untrimmed variety, quite as picturesque in effect, often more so than the trimmed, and requiring little or no care.

Leaving these points aside, however, is there any reason why we should not, to a greater extent than we do, profit by the example of our English cousins? It counts much to have beautiful surroundings, a fact that is coming more and more into recognition among the educationists of our day. As Edwin Slosson, in writing of beautiful Cornell University, in New York Independent, says: "I have heard the cultural value of the Cornell scenery estimated as equivalent to five full professors." We cannot, of course, have scenery to order, in the ordinarily-accepted sense of the term, but we can do

to disturb the roots as little as possible; also to supply the same species of soil and environment as nearly as can be in your garden, most of the plants will live, and grow up from year to year. You see, they are already "used to the climate."

Try a wild clematis along with the climbing rose or honeysuckle on your veranda; a clump of golden-rod and wild asters among your barberry bushes; and a border of swamp ferns and cardinal flower along that low, damp edge of the garden, and see if you are not pleased with the effect. Under the trees there will grow, too, violets and wild "columbine," and Dutchman's breeches, in profusion.

We have always thought a well-built stone fence, with vines running amuck over it, an especially attractive adjunct to a certain class of home. There is a cobblestone house in this city which has such a fence about the lawn, and really any other



## Hope's Quiet Hour.

### The Winter Is Past.

My beloved spake, and said unto me, rise up, my love, my fair one, and come away. For, lo, the winter is past, the rain is over and gone; the flowers appear on the earth; the time of the singing of birds is come.—Cant. ii: 10-12.

Surely it is more than a happy coincidence that Easter should be in the spring. I am sure God intended that tree and flowers should join in the great Easter anthem, witnessing to the ever-present reality of the Resurrection, by rising in newness of life from the grave-clothes with which Winter bound them. Let us all welcome the great Easter Festival, renewing our youth like the fresh young grass and leaves, which prove that God delights in making all things new. Care and gloom have no power to stand before the light which shines from the Sun of Righteousness.

"Open the door, and let in the air;  
The winds are sweet, and the flowers fair,  
Joy is abroad in the world to-day,  
If our door is wide open it can come this way.  
Open the door!"

If you are passing through a period of winter, and begin to grow discouraged, fearing that life will never be happy again,—look around you. Think how the trees looked bare and lifeless, and the grass was brown and withered, through long months of winter. Nothing but a miracle could restore their lost beauty and freshness. But God is always working miracles, and we know from long experience how soon the bare branches in the orchard can be magically clothed with baby pink and white blossoms in a nest of tender green. What God delights in doing in the world outside, He also delights in doing for the deeper joy of His children. When the winter has done its work of deepening and strengthening life the sunshine will come again. We don't know all that is gained from the winter, but it probably is as valuable as our sleep. We lie down at night weary and aching. For a while, God takes from us many of His good gifts. We lose the power of hearing, smelling, tasting, seeing, speaking, and lie helplessly, unable to defend ourselves from any danger. And quietly the miracle of restoration is worked. The tired nerves and muscles are mysteriously restored to full strength, by no effort of ours, and we are ready for work again, just because we have passed through a short winter of unconsciousness. As Herbert, in his quaint fashion, says:

"Yet still Thou goest on,  
And now with darkness closest weary eyes,  
Saying to man, 'It doth suffice:  
Henceforth repose; your work is done.'  
Thus in Thy ebony-box  
Thou dost enclose us, till the day  
Put our amendment in our way  
And give new wheels to our disorder'd clocks."

If sleep—which is a short death to brain and body, a state of helpless oblivion—can and does work such delightful miracles every day; then we can trust God, when he wraps us in a deeper sleep, to make us fresh and young again. When the winter of death is past, we shall be strong and fit for serving our Master, in the midst of new opportunities.

We trust God when chilly autumn weather warns us that winter is coming. Let us also trust Him when troubles crowd thick and fast around us. If Christ comes nearer to us, revealing Himself as He did to the thief in the hour of agony, then we must gain marvelously by the winter darkness. Payson says:

"Christians might avoid much trouble and inconvenience if they would only believe what they profess—that God is able to make them happy without anything else. They imagine that if such and such a dear friend were to die or blessing be removed, they would be miserable, whereas God could make them a thousand times happier without them. In my own

case, God has been removing one blessing after another, but He has come in and filled their places, and now that I am a cripple, and not able to move, I am happier than ever in my life before."

The other day I saw in the hospital a little girl who has had both feet amputated. She is only a little emigrant, with no relatives in this country, but her face is all sunshine, and she brightens the whole ward by her glad singing. I think God is working one of His many miracles of joy in her case, as He will always do for those who look up hopefully into His face.

"Open the door, let in the sun,  
He hath a smile for every one;  
He hath made of the raindrops gold and gems;  
He may change our tears to diadems.  
Open the door!"

In the Song of Solomon—from which our text is taken—the bride describes how her beloved was knocking and calling: "Open to me, my sister, my love, my dove, my undefiled." She made excuses for her delay, but at last she says,



"Mysterious" paths lend interest to the landscape garden. They should, however, lead "somewhere"—to spring, summer-house, fine view, etc.

"I opened to my beloved; but my beloved had withdrawn himself and was gone. . . . I sought him, but I could not find him; I called him, but he gave me no answer."

I think Christ sometimes withdraws Himself from those who have been neglectful of Him, so that—like the bride in the Canticle—they may seek Him eagerly, and rejoice with a new and wonderful joy when He manifests Himself clearly. Easter could never have been so glorious if it had not been for the darkness of Good Friday. If you are one of those discouraged disciples who have sought without finding, and have called but heard no answer, then take courage. Mary wept because she thought her Lord was dead, and yet He was living, and close beside her. When He was ready to reveal Himself to her, she could not see His face clearly, because the tears clouded her vision.

It is Easter—it is always Easter now. The winter is past. Close beside us stands our living, loving Master. He is calling us by name. Are we heedless of His Presence? He is Lord of Life, and ready to work with and through us. Think what that means! We want our fields and gardens to be filled with fruit

and grain, vegetables and flowers. Only a miracle can make these things, which at present have no existence. So we plant and sow, looking expectantly for the miracle to be worked. We are fellow-workers, with infinite Power. He commands the mighty sun to work miracles for us, wind and rain, earth and air, are set to help us, and God Himself is working through all, ceaselessly. It is the same in all our work. We may plant and water, but God giveth the increase. What if we grow conceited with success? Let us remember that we have no more power to work spiritual miracles than physical—are no more capable of making saints than we are able to make cabbages or apples.

What if we grow discouraged, feeling that our work is accomplishing no results in ourselves or others? Then it is enough to remember that He who commanded a few men to conquer the world for Him, and make disciples of all nations, said immediately afterwards: "And, lo, I am with you alway, even unto the end of the world. Amen." Certainly, it is foolish to be discouraged if God is working with us, making our poor sowing and watering fruitful.

walking on the road, and the temptation came to me like a voice: "You must do it, you will have to do it!"

"No," I said, "I know that my Saviour is able to keep me from this sin." Then I saw my utter helplessness, and the all-sufficiency of Jesus, and I asked Him to cast Satan out of my soul and to keep him out by keeping possession of all my mind and soul Himself. And that is often my prayer still, and I find peace in His answer to me—for Jesus does answer prayer. EBENEZER.

You are finding out the truth of your name, my dear friend. "Eben-ezer," you know, means "The stone of help." You could say with Samuel: "Hitherto hath the LORD helped us."—1 Sam. vii: 12.

I agree with the writer of the following letter in thinking that the children are very important members of the flock of the Good Shepherd. D. F.

Dear Sir,—I have been much interested in the contents of your paper. I have enjoyed reading Hope's corner; she has been a great help to me. The children play an important part. I think they ought to be encouraged in so doing; raise their ambitions to a higher and nobler degree. I like to be encouraged myself. I am striving to be a help in my church and out of it. I am in my seventies, and striving to serve my God more sincerely, but myself, along with lots of others, need all the help they can get, owing to our lack of faith in Christ's promises, and not taking Him at His word. Let us, as young people, endeavor to lead the lost to the fold, by kindness and perseverance, and daily living a Christian life.

Hoping I have not taken up too much of your valuable space, I thank you all for your help. R. C.

### Good Friday.

The shadows of Good Friday had returned,  
The congregations met with solemn awe,  
And hearts of penitents within them burned  
As Calvary's Sacrifice by faith they saw.  
Between the porch and altar, as of yore,  
Both priest and people knelt and wept in prayer,  
Silence and hymns and Miserere bore  
Their awful burden to the Lord who met them there,  
Whilst to and fro the crowd of merchants sped,  
And all day long the busy markets trod,  
And weary workers, struggling for their bread,  
Could find small respite to draw near to God.  
Some few brave women, toiling all the day,  
While countless humming wheels kept whirl and din,  
Thrilled with the Love that from the cross bore sway,  
Burned in their hearts to cast their care on Him.  
Came noon; and one amongst them gave the word:  
"Through the 'Three Hours' the Church sad vigil keeps,  
Let us, too, join the servants of our Lord,  
With prayerful, loving hearts and silent lips."  
Then through the crowded room the whisper went:  
"The girls are keeping service! Something new!"  
Some raised a scoff, some were indifferent,  
But some were touched in heart and joined the few.  
They hear the traffic outside loudly roll,  
The whirling wheels all down the room they see;  
But not a word utter these faithful souls,  
Their hearts are far away on Calvary.  
Thus Christ's Church here on earth yet militant—  
And some outside its pale—join hand in hand,  
His love unites all voices dissonant,  
Pledge of full union in the far-off-land.

DORA FARNCOMB.

Dear Hope,—You know we read in the New Testament that Jesus had the power to cast devils out of people, and I believe He can do the same thing for us still, if we ask in simple trust. Some years ago I was beset with a sore temptation—that sin was presented to me time after time for months. One day I was



## The Ingle Nook

[Rules for correspondents in this and other Departments: (1) Kindly write on one side of paper only. (2) Always send name and address with communications. If pen-name is also given, the real name will not be published. (3) When enclosing a letter to be forwarded to anyone, place it in stamped envelope ready to be sent on. (4) Allow one month, in this department, for answers to questions to appear.]

### An Important Question.

Since going out in the world and learning a good deal of physiology in connection with my work, and a good deal of the ways of men and women through observation, I have been perfectly shocked many a time at the absolute indifference towards maintaining good health manifested by the majority of people. "Oh, I hate to see people fussing about themselves," seems to be the usual attitude, and so all these people who "don't care," go placidly on, running themselves or someone else into ill health, if not positive disease, and, possibly, death itself. And yet, health means everything. Lose it, and you lose almost everything worth living for,—happiness, capability, comfort.

It is not necessary to "fuss," either, to maintain one's health, under ordinary circumstances. All that is necessary is the exercise of a little common sense, quietly, unostentatiously.

Now, to come down to the concrete: Here is one of the non-fussers who pays no attention to the proper digestion of food. Heavy, rich foods, are habitually set on the table, and laxatives have no place in the house. As a result, dyspepsia and constipation, and, as a direct result of the latter, perhaps liver troubles, appendicitis, or tubercular intestinal troubles—a dreadful state of affairs that might have been wholly avoided had proper attention to the diet and taking of laxatives when necessary, been well looked to. The common-sense table will have very little rich food, but will confine itself chiefly to beef, milk, lightly-cooked eggs, well-cooked oatmeal and corn meal, plenty of vegetables and fruit, with occasionally cheese and bacon.

Number Two.—This one errs on the side of over-simple living. Through mistaken ideas of economy, or an equally mistaken idea that the body is the last thing in the world to be cared for, she neglects to provide sufficient variety and nourishment in food. After a few years of this, anemia may set in, or an impoverished condition of the body, which makes it a ready victim to the first disease that comes along.

Number Three knows nothing whatever of the absolute care necessary in fighting against disease germs. . . . The analyst says, for example, that there are typhoid germs in the drinking water of the neighborhood, and that all the water must be boiled until the source of danger has been discovered or removed. This cheerfully ignorant housekeeper, however, doesn't bother herself about it. "The water looks clean, and it is such a nuisance to boil it!" So she drinks it down cheerfully, and lets her family drink it, and no one is more surprised than she if the fever chances to break out in her own household. . . . This is the species of woman who insists on "going in to see" folk who are ill of contagious diseases, even when she can do no good whatever there. She it is, too, who lets her children run about among other children, too soon after they have had measles, or mumps, scarlet fever, etc. If there is a consumptive in her family, she takes no pains to supply the patient with dishes of his own, and to sterilize them at each washing. She is careless about airing his room continually, and lets him spit anywhere, or in cloths which are permitted to dry, utterly oblivious of the fact that, when dry, germs fly everywhere. When measles, scarlet fever, diphtheria, etc., are in the house, she never sterilizes, forgets to wash her hands after each contact with the patient, and thinks the process of disinfecting "all nonsense." . . . Such a woman is a danger in any neighborhood, and should be set in her place, if she will not take pains to find out what it is herself.

Number Four.—O, but she is commonly found! She thinks the fresh-air believers only faddists, and believes in sealing up the house winter and summer,—in win-

ter to keep out the cold, in summer to keep out the dust and flies. . . . Don't you know it?—the parlor of musty smell and funereal gloom, blinds drawn down to the sill lest the carpet may fade! As if God's sunshine, and a glimpse of the trees and big green world outside, were not more beautiful than even a "Brussels" at \$1.50 a yard! Besides, it is only an ignoramus nowadays who does not know that fresh air is food, positive food, and a preventive of disease, and that sunshine is the best sweetener and disinfectant known. If one could flood a room in every portion with it, there would be very little need of burning sulphur and formaldehyde candles even after disease has been in the apartment. Fresh air night and day, glorious sunshine, and as much of it as possible—give them to us!

Number Five.—She is not very often found in the country, but there are a few of her in the town. She likes to sit about and do fancywork. She hates housework and gardening, so keeps a maid, and she does not realize that want of moving about sufficiently will make her ill. The inevitable happens;—a big doctor bill, and a siege of ill health that might easily, so easily, have been averted—had it not been for that maid!

Number Six.—This woman, more the pity, is found everywhere. She is so busy working and trying to make money that she never thinks of paying proper attention to her children. Often the little things run about with damp feet, and if they take colds, why let them get over it as best they can! Such a

sort of stupidity or trouble in thinking clearly, which is a serious handicap.

Remember that in every case where disease of any kind threatens, IT PAYS, A THOUSAND TIMES, TO TAKE PREVENTIVE MEASURES. Do not wait until the harm is done. Drugs, outside of laxatives, cannot very greatly be depended upon. Prevention is better than cure. See a good doctor on the slightest manifestation of such troubles as the above.

I have spoken strongly upon this subject, but I am convinced of its importance. I know that health means everything, and also that we might possess it more than we do. D. D.

### Stick to Your Colors.

Do not make the mistake of wearing the wrong color, especially if you are decided in your own coloring. Harken to the words of the wise, and be beautiful. Further, study the point yourself, and be able to discount the words of the wise when it can be done with advantage in your own case.

Bright violet, says The Weekly Scotsman, can only be worn by those who possess clear complexions, free from any yellow or sallow tints, and the same applies to rose and turquoise blue.

Nattier blue and various tones which range from sky blue to sea green, are as becoming to the "nut-brown" maiden



Climbing Roses and June Lilies.

(From Garden Magazine.)

"Every cottage, even, has its shrubbery and vines and flowers."

woman as this is the one who "never notices" if one of her children has defective vision, or a slightly curving spine, or adenoids. Now, right here, defective vision, if not corrected by spectacles in good time, invariably handicaps a child, and may lead to serious nervous or other troubles; curvature of the spine grows ever worse and worse, and is also likely to lead to complications as well as deformity; and adenoids—do you know what adenoids are?

Have you a child who always seems to have trouble in breathing through its nose, a trouble aggravated very much when he has a cold? Does he sleep with his mouth open and make peculiar noises in his throat? Has he a dull, listless look, and at times a drawn look about his eyes? Then the chances are that he has adenoids, or growths in the posterior part of the nose, where the passage enters the throat. These are frightfully common, and whenever a child manifests a tendency to breathe continually through his mouth, he should be examined for them by a good surgeon. An operation will be required, but under skillful hands, it is not a dangerous one, and the child will be about again in a few days. Grown people, also, sometimes have adenoids, and the same precautions are necessary. If neglected, adenoids may be induced, also a lowering of the vitality of the whole system, and a

as to her fair-haired sister, but unless her skin is very clear and her cheeks rosy, she should avoid the more vivid tones and confine herself to paler and softer tints.

Green or light chestnut suits the red-haired woman to perfection, while another shade in which she always looks well is that which exactly tones with the color of her hair, and must be unrelieved, except for touches of white.

An auburn-haired woman should, however, avoid pink, light blue or bluish-mauve; gray is to her anathema, and such reds as geranium, old rose, cerise, poppy, and crimson, are alike impossible.

Both black and white come within the sphere of the owner of red hair, especially as regards evening attire, the dazzling white skin, which is the usual accompaniment of this shade of hair, being set off to best advantage by an all-black gown.

A blonde, with a perfect pink-and-white complexion, can wear the coldest and clearest moonlight white, especially in the evening, when shaded lights serve to show up her delicate coloring to the best advantage.

Brunettes are wise if they adhere to soft ivory shades, and eschew pure white. A brilliant complexion, coupled with dark brown hair and eyes, can stand the bright rose pinks and Saxe blue, which would be impossible if the coloring were less vivid.—Selected.

### Plants, Dress, etc.

Dear Dame Durden,—I have never written to your department before, but always read what the Ingle Nookers have to say. I want to thank you, dear Dame, for all your bright and helpful talks, also Helponabit's inspiring letters.

Also tell Sunbonnet Sue how much I enjoyed her letter. Dear Sunbonnet Sue, you and I are of very much the same opinion; I think it is a perfect disgrace the way some girls act. I often think if they could just see how silly it really is, they would very soon begin to behave a little more sensible. Forget-me-not, please give the baby a hug and kiss for me. I do love babies.

I have never tried to do any stenciling or pyrography, but am very fond of doing fancywork; have done quite a little embroidery, and also like to piece quilts.

Now, I wonder if dear Dame, or any of the Nookers, can tell me why my plants don't blossom. I have quite a number of geraniums, also three or four petunias; all look perfectly healthy. Buds will come on, and when nearly ready to open will wilt right down.

I often see questions asking about dress. Now, as I live in the country, and always try to make all my own clothes, I would like to ask you if short sleeves are going to be worn any this summer. I am going to make myself a white dress. Would you advise me to make sleeves long or short? Also, which would be the nicest, a semi-princesse, or a shirt-waist suite? I am quite slim.

I will send a recipe for buckwheat pancakes: 3 cups sour milk, half cup sour cream, 3 small teaspoons soda, buckwheat flour enough to make a thin batter.

Here is also a very good recipe for Graham cookies: 20 tablespoonfuls of melted butter or lard, 1 egg, 1 cup sugar, 1 cup sweet milk, 1 small teaspoon soda, enough Graham flour to roll out. I sometimes make the cookies without the egg, but it improves them to put it in.

### FARMER'S DAUGHTER.

Compton Co., Que.

If conditions are right your plants should blossom. Give good soil, with plenty of drainage material in the bottom. Water only when the soil is dry, as too much water is likely to make the soil sour. Do not put these plants in too large pots, as this often prevents flowering. If I were you, I should repot the plants, baking the new soil first for a while in order to kill any grub life that might be present.

You would find the answer to your dress question in a recent issue. Have the sleeves short, or three-quarter length, and make the dress according to whichever style suits your figure best. A shirtwaist dress is usually the best for home dressmaking, as it is easier to get the fit perfect with it than with the semi-princesse.

### Mustard Pickles.

In reply to "Jolly Wife," who wished a recipe for mustard pickles, several recipes have been sent. Some of these are as follows:

(1) 1 quart large cucumbers, 2 quarts small onions, 2 large cauliflowers, 1 teaspoon cayenne pepper. Put all in a weak brine 24 hours. Make a paste: 6 tablespoons mustard, 1½ tablespoons tumeric powder, 2½ cups sugar, 1½ cups flour, 2 quarts vinegar. Mix all together in the cold vinegar and pour on the drained pickles, with enough vinegar to cover. Let boil a few minutes, stirring constantly. Paste should be as thick as syrup. These will keep the year round.—Sent by "A Reader," Durham Co., Ont.

(2) 2½ quarts vinegar, 1 gallon cucumbers, ½ gallon onions, 1 tablespoon salt, 1 ounce whole cloves, ½ ounce black pepper, 1 ounce curry powder, 2 pounds brown sugar, ½ pound mustard, 2 tablespoons cornstarch.—"A Silent Reader," Halton Co., Ont.

(3) 2 dozen small cucumbers, 1 quart small onions, 1 good-sized cauliflower, 6 green peppers, 2 quarts green tomatoes, 1 quart young beans. Cut all in small pieces and put in salt water overnight. In morning, bring to a scald until tender, and then drain real well. Then mix with 3 quarts vinegar, 4 cups brown sugar, 4 teaspoons celery seed, ½ pound mustard, ½ cup flour, ½ ounce tumeric. Mix all together, and boil five minutes



longer after the mixture has thickened, stirring all the time.—"A Bruce County Lass," Bruce Co., Ont.

Several other recipes are being held over until fall, when the subject will be especially seasonable.

#### Cement for Broken China.

"Bruce County Lass" asks for a cement with which to mend a broken, hand-painted china fruit bowl. There are cements sold in drug stores for this purpose, but if she wishes to make one at home, she might try this one from "Scientific American." Take skim-milk cheese, cut it in slices, and boil it in water. Wash it in cold water, and knead it in warm water several times. While still warm, knead in a bowl with some quicklime. Apply to edges and press together.

#### News from a Wee Chatterer.

My Dear Ingle Nookers,—Have you a vacant ottoman for Forget-me-not and her baby? Just a small cup of tea, please; no sugar, thank you.

My little honorary member has a word to say:

"I'm only a little baby girl, ten months old, and my name is Vera. I'm trying hard to walk, but somehow I fall down very often, and get so many bumps. I thank Dame Durden for her good wishes, also Sunbonnet Sue and Contented One, for so kindly inquiring for little Vera, and I am very proud to be initiated as a member of the cozy Ingle Nook."

Sunbonnet Sue, how I wish I knew you! Girls of seventeen rarely possess such dignity and discernment in this rushing twentieth century, when flirtation seems to be considered a requisite accomplishment of the Smart Set. As a comment on your delightful letter, suffice it to say: "Them's my sentiments."

Grateful, I was pleased to see your nut-bread recipe, which is certainly excellent.

Helponabit and Lankshire Lass seem to be among the pioneers of the Ingle Nook. Their letters seem so characteristic of their personality.

Thank you, Dame Durden—that tea was delicious. Delighted to have met you all. FORGET-ME-NOT AND VERA.

#### Recipes from Various Contributors.

Jack Horner Bran Cookies.—Cream  $\frac{1}{2}$  cup butter and 1 cup sugar; add  $\frac{1}{2}$  cup milk, 2 cups bran, 1 egg, 2 tablespoons baking powder. Stiffen with white flour to roll out, sprinkle with nutmeg and sugar, place not too closely in pan, and bake in hot oven.—"A Silent Reader," Halton Co., Ont.

Buckwheat Pancakes.—4 cups butter-milk, 2 cups buckwheat flour, 1 cup wheat flour, 1 teaspoon soda. Have pan good and hot to brown nicely.—"Dewdrop," Middlesex Co., Ont.

Mock Imperial Cheese (nice for school lunches).—1 teaspoon mustard, 1 teaspoon sugar, 2 $\frac{1}{2}$  teaspoons butter,  $\frac{1}{2}$  cup sweet cream, 1 pound cheese grated. Beat until all becomes creamy. This spreads nicely on bread.—B. L. K., Ontario Co., Ont.

Many thanks for above recipes. D. D.

#### Soot Leaking from a Chimney.

"Dewdrop" wishes to know if anyone can tell her what is the cause of soot leaking from a chimney, and if it can be prevented. Can anyone answer? I have a method for stopping leaky stovepipes, if that will do. The fault here, however, seems to be confined to the chimney.

#### Our Scrap Bag.

Re-covering Umbrellas at Home.—Remove the metal cap at the top. Take off the old cover, and use one section for a pattern, laying it with the edge on the selvage. Sew the sections together by French seams (first on the right, then on the wrong side), and tack over the frame. Use dull satine or gloria for covering.

Care of the teeth is really more important than care of the hands and face, as disease-producing bacteria find their way from them to the intestines, often causing much trouble. In an editorial in Good Health, the warning is sounded that all civilized people must take care or they will become permanently toothless. Very thorough mastication is pro-

nounced as one of the remedies, also cleaning the teeth before and after each meal. They should be kept polished and glistening.

If you suffer from sore feet, wear well-fitting shoes, neither too small nor yet large enough to rub up and down. Try on several pairs before buying, to be sure about this. When toes are particularly sore and tired, rub them long and well with vaseline. Trim toe-nails straight across, and be sure not to destroy the spongy substance under the nails, as this tends to prevent in-growing toe-nails. If callous spots appear, do not shave them off with a razor. Soak the feet in hot water in which a large piece of washing soda has been dissolved, then rub the callous spots well with pumice stone. If they still refuse to come off, bind a piece of absorbent cotton soaked in crude petroleum on the spot, leave on overnight, then apply the pumice stone. Frequent sunning and airing of the feet is recommended as a good cure for tender feet. For bunions, wear felt bunion pads, and paint the bunion frequently with clear tincture of iodine. When corns appear, Hansen's Corn Salve will usually do away with them.

#### Recipes.

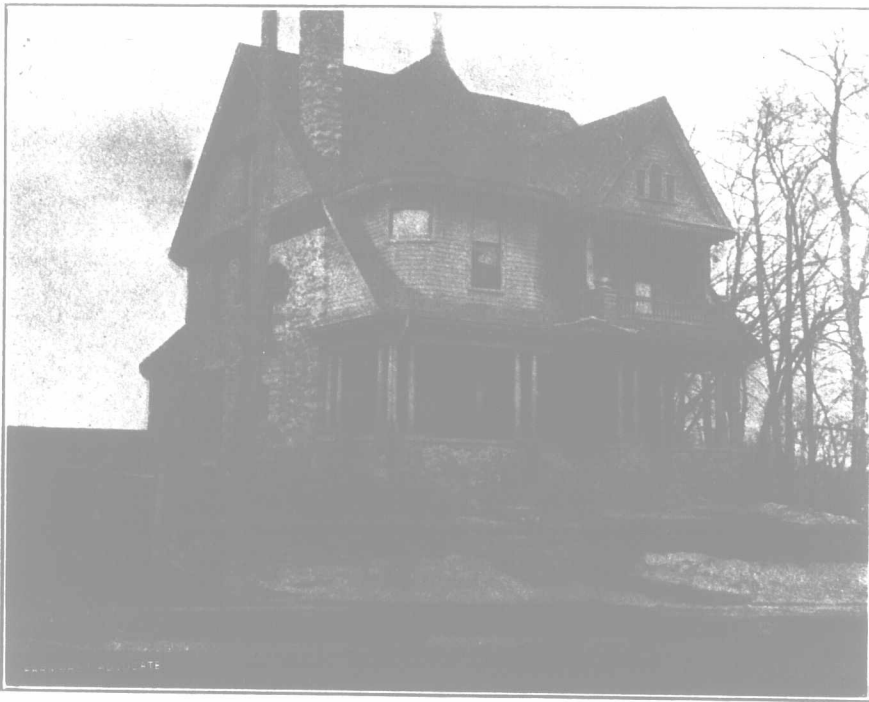
Steamed Batter Pudding.—Beat 1 egg, add  $\frac{1}{2}$  cup sugar and lump of butter size of a walnut. Sift one teaspoon baking powder and  $\frac{1}{2}$  teaspoon salt into 2 cups flour. Stir in a cup chopped raisins into flour. Beat all together, adding gradually  $\frac{3}{4}$  cup sweet milk. Turn into buttered pudding dish, and steam 1 hour. Serve with cream and sugar.

Separate yolks from whites, and beat in a bowl with the sugar until both are well mixed. Then put in the lemon juice and grated rind and place the bowl in a dish of boiling water on the fire. Stir slowly until the mixture begins to thicken; then add the beaten whites of the eggs, and beat for two minutes, or until the whole resembles very thick cream. Remove from fire, and let cool. A good filling for tarts.

Potato and Rice Croquettes.—1 cup cold mashed potatoes, 1 cup cold boiled rice, 1 beaten egg, salt, pepper and celery salt (if liked) to season. Mix with  $\frac{1}{2}$  cup milk, form into croquettes, dredge with flour, and fry.

Prune Souffle.—5 eggs,  $\frac{1}{2}$  teaspoon cream tartar,  $\frac{1}{2}$  cup sugar,  $\frac{1}{2}$  lb. prunes cooked and cut in pieces, 4 tablespoons prune juice, 2 tablespoons lemon juice, if convenient. Beat whites of eggs dry; add cream tartar, and gradually beat in half the sugar. Fold in the prunes and juice with which the other half of the sugar has been mixed. Turn into a buttered baking dish, smooth the top, and dredge with granulated sugar. Set on many folds of paper in a pan and surround with boiling water. Let bake until the center is firm. Do not allow the water to boil. Serve with cream and sugar, or boiled custard, made of the yolks of the eggs,  $\frac{1}{2}$  cup sugar, pinch salt, 1 pint of milk.

Steamed Fig Pudding.—6 ounces suet,  $\frac{1}{2}$  lb. figs (any fruit may be used),  $\frac{1}{2}$  lb. bread crumbs,  $\frac{1}{2}$  lb. sugar, 1 beaten egg, 1 cup milk. Chop the suet and figs. Mix the bread crumbs with the suet and the sugar with the figs, then mix the two together. Add the milk to the beaten



Residence of Mr. Durand, London.

Cobblestone house. Well-built stone fence enclosing the lawn.

Flannel Cakes.—1 tablespoon butter, 1 pint flour, pinch salt, 2 eggs, 2 cups milk, 2 teaspoons baking powder. Rub the butter into the flour in which has been sifted salt and baking powder. Have yolks of eggs beaten light, add the milk to them, and beat into the flour until smooth. Last of all, add the beaten whites of eggs. Bake on a hot griddle.

One-Egg Cake.—1 tablespoon butter, 1 small cup sugar, 1 egg, 1 $\frac{1}{2}$  cups flour,  $\frac{1}{2}$  cup milk (scant),  $\frac{1}{2}$  cup currants, 1 teaspoon baking powder. Rub butter and sugar to a cream, then add the well-beaten egg. Sift the flour and baking powder together; add them and milk to the mixture; beat well, then add the currants, which have been floured. Beat well, and bake in a loaf pan, or in small patty pans.

Orange Pie.—To the grated rind of half a lemon and half an orange, add the juice of both the lemon and orange. Beat to a cream  $\frac{1}{2}$  cup sugar, the yolks of 2 eggs, and a teaspoon of butter. Heat in a bowl of hot water until of the consistency of cream and put into the pie-crust and bake. Beat whites with 2 tablespoons sugar. When pies are done, cover with the meringue, and set in the oven for a few minutes.

Egg Cream.—2 eggs, 2 tablespoons sugar, grated rind of half a lemon,

egg and stir in. Nutmeg or other spice may be added if desired. Steam 4 hours in a covered mould.

Baked Potatoes.—Scrub skins well with a brush and water, wipe dry, rub with butter or lard, and bake until very soft. This is a most wholesome way of cooking potatoes.

#### Two Fancy Salads.

1. Cook together 1 pint can of tomatoes, a sprig of parsley, a slice of onion, 6 cloves. Season with salt and pepper. When cooked, strain, and put on the stove again. Soak 2 tablespoons of gelatine in 2 tablespoons cold water for  $\frac{1}{2}$  hour. Rub it smooth and pour into hot tomato. When dissolved, take from the fire, stir, and add 2 tablespoons lemon juice. Pour into cups, and let stand 8 hours. Turn out; scoop a hole in top of each, and fill the hole with nice salad, made of minced chicken, celery and walnuts, dressed with mayonnaise.

2. Scoop out the pulp of nice, red apples, first cutting a thick, round slice off the stem end. Fill the hole with a salad made of finely-minced celery and walnut meats, letting it heap up above the apple. Place the apples in individual dishes on lettuce leaves, celery leaves, or shredded cabbage.

## The Roundabout Club

(PRIZE ESSAY—COMPETITION III.)

### A Midwinter Reverie.

An insidious enchantress is she for whom our burry English tongue has, as yet, found no suitable name; so that we are perforce obliged to call her as the French do, "La Reverie," although it does not much matter what we call her, for she never comes when she is called, but instead, steals upon us unawares at awkward or forbidden hours, as, for instance, at five in the morning; after the only too faithful alarm-clock has given voice to its clamoring call to action, and I, for one, should be up and doing. The room is always rather chilly then, and the bed, by contrast, so snug and warm, that it is no wonder that "La Reverie," that most soothing and sympathizing of fairies, nestles in with me caressingly, to claim unpulsed, one hour from the long day. Now, I would not have my readers believe that I go out of my way to seek her, just because the clock has rung and the room is cold. No! No! I am indeed quite brave. I know that I would spring up from bed almost immediately, did not the mischievous fairy, who at all other times of the day steadily eludes me, claim my hospitality. She it is who comes to me, not I to her, yet such is her peculiar power, that when she comes, she reverses the usual order of etiquette rules, for she is the hostess and I am her guest.

To entertain me, she brings out a portfolio of pictures, and together we turn the well-worn pages.

The first picture is of a little girl, stooping, hollow-chested, walking in timid fashion towards her father, who has come to visit her in the convent, where the death of her mother has compelled him to place the child until such time as he can himself take her to a distant auntie on a farm.

"My poor little guinea-hen," he says, fondly and pityingly, as he lifts her light form to his knee, "Pray God that the country air will fill out your poor little lungs, and make my little girl big and strong and straight!"

The second picture is that of a romping, tom-boy girl of sixteen, riding horseback astride of a colt over which she has no control, as he has only a halter on. She has been sent to fetch the horses, and no one ever dreamed that she would have the foolhardiness to mount the untrained colt. But, ah! how quickly she repents. There's a short, steep slope. The horses, as by common accord, all start at a gallop. With an eager whinny the colt kicks up his heels and dashes madly after them. The girl cuts a semi-circle in the air, and, striking the ground, lies very still in the long grass.

The picture after that is of the girl lying for a whole year on the broad of her back in a quiet room, learning the lesson of life, and during all that time "La Reverie" has been a very angel of salvation and consolation, for she brought to the invalid the time when she would be healed, and once more strong; the time again, perhaps a little more distant, when she would be rich and famous, then, above all, more sacred and more precious, the time when she would love, and be loved, and have little children playing about her knee.

The next, again, is the girl at the point where "brook and river meet." Not for nought those dreams of the long year; for ambition has seized her soul. She would go on now; mount the heights, astonish and reform the world. But, behold! just as she has made a difficult start towards the first rung of the ladder, a man's hand is thrust insistently towards her; his lips pleading, demand her own. And it is not the prince, rich and powerful, that she has dreamed of, either, but only a farmer; a plain farmer; a tiller of the soil!

What will the girl do? On one side is the world, unknown as yet, but on that very account, all the more alluring and promising of wondrous things; on the other is the man, saying: "Sweetheart, come; you and I will show the world how good it is to draw sustenance from the soil, when it is done with loving ardor and intelligence. We will bring to our work the same preparations and education that is found necessary for the other



professions, and we will make good. Come!"

"Well," says the girl brightly, "if I do not go to the world, it will at least not be disappointed, for it does not know of my existence. I'll throw the old world over. It's getting along finely, anyway, and I'll come to you. It is clearly my nearest duty."

At the bottom of this picture, Love had written the simple words: "Love Wins."

The last of the series of pictures is the present; the woman snuggling in the warm, comfortable bed, with wide-open, dreamy eyes. At the side is the tiny crib, where the son and heir of his parents' wide acres and verdant fields is contentedly sleeping, even though the partly-open window is drawing in little flurries of snow on the polished floor of the dainty room. The man was right. They have made good. Spring is coming, and God willing, they will make better still, for the long winter has been full of study, and, with the help of agricultural papers and bulletins, of wise planning and preparation, fields will be sub-drained, the soil treated scientifically, better seed will be purchased, and so on, ad infinitum. The woman, on the whole, is well satisfied, for, barring the annoyances and misfortunes that a kindly Providence sends from time to time for the good and growth of the human soul, there are no regrets for the past, no anxieties for the present, no fear for the future. "Surely, surely," says the woman tenderly, "the Hand of God doth rest on the tiller of the soil."

"Ah! it is a great mistake," says La Reverie softly, and apropos of nothing, "to ever talk of going down in life. As long as we look with joy and hope to the renewing of the spring, we believe in God, for we rest in His promise, and we are ever climbing. It is not from the bottom of the grave that we shall go to meet our Lord, but from the mountain-top, where, as Moses, we shall draw our last breath with our eyes open to the Promised Land."

MRS W. E. HOPKINS.  
Brussels Co., Ont.

(PRIZE ESSAY—COMPETITION III.)  
A Midwinter Reverie.

The wood fire burns brightly in the big fireplace; the sitting-room in the old farmhouse is a picture of cozy comfort; the shadows are creeping in at the casement windows; to read is fast becoming "a battle of the brows," so, closing my book, and gazing half dreamily into the fire, I let fragments of thought drift idly through my mind, as the fleecy snow clouds float lazily through the evening air.

In the garden, the phlox and larkspur are shaking their yellow stalks, as though impatient of the teasing winds, and the brown branches of the old apple tree creak dimly and protestingly, and up there, in a convenient niche, shaken by the wind, and filled with snow, I see a wee gray nest. For a few short summer weeks, what a world of love and care was contained in that little nest. Where are the nestlings now, I wonder, perhaps building homes for themselves under sunnier skies, perhaps waiting nearby in some sheltered nook for the spring to come again.

Ilk happy bird, wee helpless thing,  
That in the merry months of spring  
Delighted me to hear thee sing.

What comes o' thee!  
Where dost thou cow'r thy chattering  
and close thy e'e?

At the end of the snow-filled lane,  
"where winter winds are piercing chill,"  
the woods lie, ghostly in the shadows.  
"Alas! how changed from the fair scene,  
When birds sang out their mellow lay,  
And winds were soft, and woods were  
green,  
And the song ceased not with the day."

Under the ground, away from the frost and wind, a whole universe lies, wrapt in slumber. Giant roots are there, and the sap which fills their hearts, the life-blood of the trees, is ready at the first hint of spring, to fill their thousand pulses, bursting forth at every pore, and clothing them with a shower of delicate drapery. There, too, are countless cozy winter homes, homes of wild rabbits, well stored with nuts and grain, homes of drowsy, plump woodchucks, homes of tiny, sleeping dormice, honey-filled homes of bees—all waiting for the magic wand of

spring, the "open sesame," that shall free them from their long imprisonment.

Even now, the woods are not deserted. The shrill ring of metal, and the happy voices of youth, echo through the woodland, as the skaters glide over the frozen river, filling the air with laughter and song. No fireside reveries for them! Their warm young blood quickens at the touch of the stinging winter air, and, though the shadows lengthen, still they linger, eager to seize the last precious moments. Oh, happy hearts of youth, you also have your dreams—wonderful as an Alladin's palace, beautiful as a fairy garden—"dreams that the soul of youth engage, e'er fancy has been quelled." God grant you a gentle awakening, that the beautiful ideals of youth be not too roughly handled, nor ever lose their loveliness and power of inspiration.

And now, let me dream a while of spring, of soft, fragrant banks, and bright, smiling May flowers, and dainty, modest hepaticas in the woods, of tender blades of grass, and joyous, skipping lambs in the meadows, of gentle showers, and soft breezes, and cattle on a thousand hills, of busy workmen, and plodding teams, and brown, steaming earth in the fields, of songs of birds and voices of children everywhere.

"When the warm sun that brings  
Seed time and harvest, has returned  
again,  
'Tis sweet to visit the still wood, where  
springs  
The first flower of the plain.

The softly warbled song  
Comes from the pleasant woods, and colored wings  
Glance quick in the bright sun, that  
moves along  
The forest openings."  
Middlesex Co., Ont. G. H. S.

Ruskin.

"What is wise work, and what is foolish work? Wise work is, briefly, work with God. Foolish work is work against God."—Ruskin.

In the prize essay by Agnes Hunt, we find a quotation from Ruskin, which seems to disparage hand labor. Ruskin, with his fine, ingrained, artistic soul, who has played so important a part in the world of literature, and of thought, who goes right down into the heart of things, and shows us truths that many people are not willing to acknowledge, such a man as this we cannot, must not, judge hastily. In fact, were we to read all, and not a few of his sayings, we would be far from judging at all, but instead, meekly bow our heads, and give homage where homage is due.

Here we have a man with a mind and soul so far in advance of us ordinary mortals, that when a sentence seems dark and obscure, let us not wearily drop it, but try to study it out to find the real, true meaning; there certainly is a meaning, and it will be time well spent finding it out.

Now, let us look at the most objectionable clause in the quotation. "Rough work, honorable or not, takes the life out of us." What is rough work? Rough work is where the mind and heart takes no active part with the hands in their work. The work which shows the best the mind and heart can produce, is very seldom rough work.

Everyone should read Ruskin's essay on work. Here is what he says: "There is a working class—strong and happy—among both rich and poor. There is an idle class—weak, wicked and miserable—among both rich and poor." Here is work making strong and happy.

Now, let us go back to rough work again. Take ditching, before the days of the ditching machine. Ditching is surely hard work, and to the man who only saw his shovel, and the mud, it would be very rough work he would turn out. But the work of a ditcher who had carefully taken his measurements, who saw the finished ditch from the beginning. In other words, whose mind and heart was in his work, could never be called rough work. Of course, there are some poor creatures, not very richly-endowed with brain power, but these are not as numerous as those who have the brains but do not use them. A field prepared for seed, which shows a smooth, finely-pulverized surface, shows hard hand work, but surely not rough work. The farmer has plowed and harrowed and



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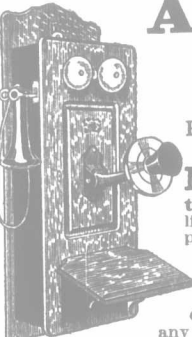
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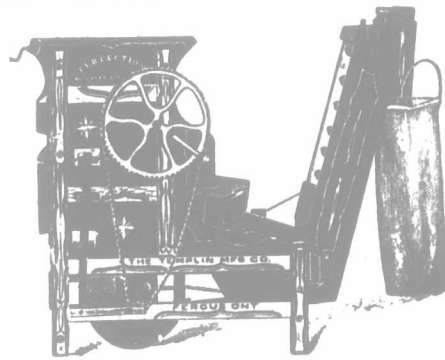
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rolled, and put such heart and soul in his work, that it eventually shows such a work of art that any painter might well be proud of.

Here is Ruskin again along this line of thought: "If your work is first and your fee last, work is your master, and the Lord of work, who is God. If your fee is first, and your work last, the lord of fees, who is the devil, is your master." "Work first and you are God's servant. Fees first and you are the fiend's servant." Now, that is putting it pretty strong at first glance, but let us see. We all, or the most of us, must mind the fees, and the greater the need of these, the more we lose sight of our real selves. Would we all stop working if there were no need of fees? No, we would not. Some of us probably would take a good breathing spell, but before long your born farmer would be back to his plow, your ditcher would look longingly to where drains were needed. They would then realize how much their mind and heart was in their work, and how infinitely nearer to their hearts, than their fees seem to be now.

NANI WEBSTER.

**A Stirring Scene.**

Autumn hushed the world to silence  
While September, night and morn,  
Flung a haze of golden glory  
On the emerald seas of corn.  
Streamlets crept with drowsy murmur,  
Mazy dell and meadow through;  
Fairy fingers nightly pencilled  
Forest leaf with dainty hue.  
Straggling bees from blooms belated,  
Added to their amber hoard;  
Mellow sunbeams wines and sweetness  
In the flushing apple stored.

Evening's hush lay on the meadows,  
Clacking doors and ringing calls,  
Told where lads their weary horses,  
Guided to their littered stalls.  
Now, the muttered low of cattle,  
Plodding home in straggling train,  
Now, the merry voice of milkmaid,  
Faintly echoed down the lane.

But where yonder blushing maples,  
Half the ample house conceal,  
Katie Lee stands making porridge  
Of the golden Indian meal.  
Katie, queen of rural beauties—  
Katie, in whose dreamy eye,  
Brimming worlds of lurking mischief,  
'Neath her drooping lashes lie—  
Katie of the wavy tresses,  
Floating down like twilight haze,  
Tangling hearts in stronger meshes  
Than the artful hunter lays—  
Katie of the dainty dimples,  
Faint by fairy touch impressed—  
Katie of the heart the truest,  
Beating in the human breast.

As from Katie's busy fingers,  
Fell the streaming sands of gold,  
It just happened Willie Watson  
Down the grassy pathway strolled  
To the quiet room, and, pausing,  
Leaned against the open door.  
(Katie MIGHT, but would not tell you,  
This "just happened" oft before.)

Scarce a glance of recognition,  
Katie to the caller threw,  
But, perhaps, her busy fingers  
Just a little faster flew.  
Yet a form so lithe and stalwart,  
Brow and eye so frank and clear,  
Might, e'en to a timid maiden,  
Worth a stolen glance appear.

Gazing at the living picture  
As the gloaming shadows fell,  
Silence closed his lips and held him  
Fettered by a magic spell.  
Passing strange that Willie Watson,  
Gayest lad in home or field,  
First in merriment or jesting,  
Felt his lips by silence sealed.

Still her lashes were unlifted,  
Still she uttered not a word,  
But the seething, bubbling porridge,  
With increasing vigor stirred.  
Half indignant, half reproachful,  
Willie murmured with a sigh,  
"Katie, so that pot of porridge  
More attractive seems than I?"  
"Yes," the maid replied in accents  
Sweet as tinkling waterdrops,  
"This is very entertaining;  
This not only SIGHS, but POPS."

Once again 'tis mild September,  
Passing months have swiftly flown;  
Yonder's Katie stirring porridge  
In a cottage of her own.

—Lyman C. Smith

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—Benjamin Franklin.

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### The Beaver Circle.

[All children in second part and second books, will write for the Junior Beavers' Department. Those in third and fourth books, also those who have left school, or are in High School, between the ages of 11 and 15, inclusive, will write for Senior Beavers'. Kindly state class at school, or age, if you have left school, in each letter sent to the Beaver Circle.]

#### Another Competition.

Dear Beavers,—Don't you think it is about time you were having another competition? For your subject, take "Gardening." If possible, tell about some garden that you yourself have made. Prizes will be given for the best and most interesting competitions. Competition open for two weeks. Address, "Puck," "The Farmer's Advocate," London, Ont.

#### Beaver Circle Notes.

Such a great heap of letters have come in since New Year's that we simply cannot find space for all, so have to hand a number over to the w.p. b. We are, however, keeping the most interesting ones. Don't be discouraged if your special letter does not appear. Try to write a better one next time. And remember, you must sign age and class if you want your letter to be printed. Could not Mary Hayes, of Sussex Corner, N. B., and Mae Barnard, Baltic, P. E. I., write us something about the ocean and the fisheries? We are so far inland here that thousands of our boys and girls, who never saw the sea, would find the account very interesting.

#### Our Letter Box.

Would any of the Beaver Circle be able to tell me where I can get a pure-bred Scotch Collie pup, and how much it will cost. I had a dear old Collie dog. He was very wise, but he got his foot taken off in a trap. LORNE SMITH. Worthington, Algoma, Ont. I am sorry this letter was delayed so long. Perhaps some of our Beavers can write directly to Lorne about the Collie pup.

#### Music.

(Original poem, by Doris Matthews, age 11, Book IV., Norwich, Ont.) "Music hath charms to sooth the savage breast"; Well said is this, and when in need of rest, Or wearied with life's battle we would fain Lay down our arms and as we are remain. To hear in the calm sweetness of the even, A strain of music brings us near to heaven, And soothed and strengthened by this aid, And calmed and cheered, we are more perfect made.

#### L. Maenard Gray Sends Some Games.

(1) Sailor's Music.—Everybody decides what musical instrument they will imitate. For instance, the harp, hurdy-gurdy, Jew's-harp, piano, bones, clarinet, accordion, etc., are used. The leader acts as if he were playing a fiddle. As long as he plays the fiddle, each one continues to play on his own instrument. But if the leader imitates any of the other players' instruments, then the one (whose instrument he imitates) must start playing a fiddle. If the person does not begin playing the fiddle, he has to pay a forfeit. (2) Game of Statues.—Everybody is a statue excepting two, who act as a showman and would-be-purchaser. The showman describes the statues, turns them around, gives their prices, tells their best points, regrets that this one was injured on the nose in packing, another one got a little dirty on the voyage, and wasn't

washed yet. The statues must stand still, and if one should laugh or move, he must pay a forfeit. I have lots of other good games and amusements, and will be pleased to send them. L. MAENARD GRAY. (Age 11, Book IV.) Poplar Hill, Ont.

Dear Puck,—I have seen your Beaver's letters and would like to belong to your Circle. I read with pleasure the letters of the last competition. I live on a farm bordering on Hay Bay. We have a good boat, and I have for my own a dog, a cat, and a year-old colt. I have much fun with my dog and colt in the field, and my dog will not kill cats, will dig out and kill large groundhogs, which destroy meadows. He is a Scotch Shepherd, and is a swift runner and good fighter. Hoping to be an active member of your Circle. ARTHUR BOGART, (Age 13, Book IV.) Gosport, Ont.

You seem to be of a pugnacious turn, Arthur. O!!!—but you'll have to keep a good muzzle on your dog these times. Tell us about your boating trips some day.

#### Our Junior Beavers.

Competition for Junior Beavers. Write a story on "What I Most Love to Play With," and send letters so that they may reach Puck within two weeks.

#### Nan's Birthday.

"I'm glad it's my birthday," said sunshiny Nan; "Here are my presents—two dolls and a fan, A cage for my Polly, two books and a letter— There's nothing, I'm sure, that I could like better."

"And here is a parcel from dear Cousin Flo, Who sends me a skipping-rope, wishing to know If I can skip longer and better than she? If I can—why then, maybe, she'll come here to tea."

"So now I must skip as fast as I can," And away to the garden sped sunshiny Nan; For if there's a pleasure she cannot forego, 'Tis the joy of a visit from dear Cousin Flo.

Dear Puck,—I thought I would like to write to the Beaver Circle. Mother gave me a dish, and I put it up high on the support for the clematis, and every day we put some breadcrumbs, meat, apples and potatoes in it for the birds. Some day I am going to try and take a snapshot of the birds; if good, will send one to "The Farmer's Advocate." I go to school when I feel well, and the weather is not too stormy. Am in the First Book. ERNEST HAMILTON BENHAM, Rockwood, Ont.

We shall be so glad to get the picture, Ernest.

#### A Peevish Plant.

The learned writers for the press Are very, very good At proving how we waste on dress Or furbelows or food. Each writer new who makes his bow With other sages vies To show the unhappy mortals how They may economize.

They tell us of the thrifty French, Who all excesses shun, But I'm not anxious to retrench; It isn't any fun. I'm weary of this endless song; I wish some seer wise Would show us how to get along And not economize.

## Loose Tea Loses Flavour

It not only loses flavour, but worse than this, loose tea takes on new odors, such as coal oil, molasses, onions, coffee, soap, etc.,—to say nothing of its exposure to the sun, dust, dirt and air. Therefore for your protection

# "SALADA"

is sold only in sealed lead packets—never in bulk.

### WHAT WILL PAINT DO?



Well, this brand will make your house a prince amongst its neighbors. It will tell of tone and prosperity about yourself. It will make you happier in your home.

### RAMSAYS PAINTS

bring happiness to your home. They never disappoint. You are secure in buying this old established well-known brand. Always genuine and of great repute for tone and beauty. You can have our handsome Booklet on house painting to help you if you write us. Ask for Booklet AB Free.

A. RAMSAY & SON CO., THE PAINT MAKERS. Montreal. Est'd. 1842.

## BE PREPARED FOR THE HARVEST WITH THE RIGHT MACHINE

YOU cannot afford to run any risk of delay at harvest time. Every minute counts when the grain is ripe for cutting. Every minute of smooth, rapid, uninterrupted work will pile up your profits. Every minute of delay due to a slow, inefficient, bungling or broken-down machine will rob you of a part of your just reward. Let the harvest find you prepared. Start today to look over your equipment. Face the question squarely.

Is it going to permit you to get all the profits from your acres. If it is not—now is the time to choose the machine that will. Because you are going to be busier every day from now on.

We want you to take proper time to make your selection because we know if you do you'll want a Deering. It's one of the best machines for your use. It's built to meet the conditions encountered on Canadian farms.

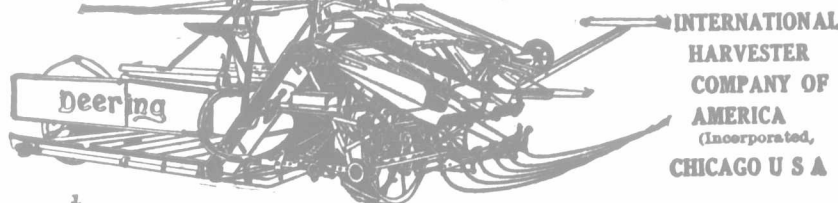
It will get all your grain no matter if it is tangled or down in the shortest possible time. It has strength, a wide range of adjustment for all conditions of grain and ground surface, and the draft is as light as it is possible to secure in a perfect working binder.

It is a proved machine. It has been in use for more than a generation, and its superior has never been produced. You cannot make a mistake in purchasing one. The Deering line comprises—

Harvesting Machines, Binder Twine, Mowers, Tedders, Hay Rakes and Side Delivery Rakes, Hay Loaders, Disk, Shoe and Hee Drills, Cultivators, Seeders, Smoothing, Spring Tooth and Disk Harrows, Land Rollers, Scufflers. Deering agents also handle Gasoline Engines, Cream Separators, Hay Presses, Wagons, Sleighs and Manure Spreaders.

Call on the local agent for catalogue and particulars on any Deering machine or implement, or write the International Harvester Company of America at the nearest branch house named below:

CANADIAN BRANCHES: Brandon, Calgary, Edmonton, Hamilton, London, Montreal, Ottawa, Regina, Saskatoon, St. John, Winnipeg, Yorkton.



INTERNATIONAL HARVESTER COMPANY OF AMERICA (Incorporated, CHICAGO U S A









**POULTRY AND EGGS**

Condensed advertisements will be inserted under this heading at two cents per word each insertion. Each initial counts for one word, and figures for two words. Names and addresses are counted. Cash must always accompany the order for any advertisement under this heading. Parties having good pure-bred poultry and eggs for sale will find plenty of customers by using our advertising columns. No advertisement inserted for less than 30 cents.

**BARRED and White Rock eggs, \$1 per 15; \$4 per 100.** S. L. Jayne, Grafton, Ont.

**BEST** laying strain Barred Rocks, large size. Eggs, \$1.00 per 15; \$4.00 per 100. A. E. Donaghy, Colborne, Ont.

**BRED-TO-LAY** strains of Barred Plymouth Rocks, White Wyandottes and Rhode Island Reds. Send for our beautifully-illustrated catalogue. Free. L. R. Guild, Rockwood, Ont.

**BARRED ROCKS**—I have a few cockerels and pullets bred from first winners at Toronto and London exhibitions. Eggs now for sale. Leslie Kerns, Freeman, Ont.

**BARRED** Rock eggs for hatching, good laying strain, one dollar for thirteen. Satisfaction guaranteed. Nelson Smith, Jerseyville, Ontario.

**BUFF** Orpingtons, Barred Plymouth Rocks, White Wyandottes, imported, and 200 to 230 egg strains; carefully mated; farm raised; combining size and quality. Eggs, \$1.50 per fifteen. Ingleside Farm, Hamilton, Ontario.

**BARRED** Plymouth Rocks, 237-egg strain; one dollar per setting. Mrs. J. R. Henry, Waterdown, Ont.

**BLACK** Langshans will work wonders in your flock. Eggs, \$3 dozen. Glenloch Farm, Office 396 Yonge St., Toronto.

**BUFF** Orpington eggs that hatch; nine chicks guaranteed. Four special pens, \$3 setting. Splendid utility stock, extra heavy layers, \$1 setting. Illustrated catalogue free. Hugh A. Scott, Caledonia, Ont.

**CHOICE COCKERELS**—Rhode Island Reds. Fine large birds, \$1.50 each. Golden Wyandottes, large, rich plumage, grand birds, \$1.50. Rose-comb Minorcas, large, handsome, hardy, \$2.00 each. Sacrifice prices. Why not improve your flocks with these high-class cockerels. Pullets for sale. A. McGugan, Rodney, Ont.

**CANADA'S** best Anconas Winter layers. Very profitable. Free circulars. Tells all about Anconas and Leghorns. Edmund Carlyle Apps, Box 224, Vice-President International Ancona Club, Brantford, Ontario.

**EGGS** for hatching from prizewinning Buff Rock stock, \$2 and \$3 per 15. J. C. Hahn, 226 Queen St., South, Berlin, Ont.

**EGGS**—From choice S.-C. White, Brown and White Wyandottes, \$1.50 per 15. Have your order booked early. Mrs. Lovering, Barrie, Ont.

**EGGS** from pure Indian Runner ducks, 10c. each. Single-comb Rhode Island Reds, \$1 per 15. Frank Baird, Glanworth, Ont.

**J. H. FRY**, Chesley, Ont., has two grand pens of White Wyandottes. Pen No. 1 is headed by a fine cock, mated to seven grand pullets. Eggs, \$2 per 15; \$3.50 per 30. Pen No. 2 is headed by a grand cockerel, weighs 10 lbs. Mated to eight fine hens. Both pens prizewinners. Eggs, \$1.50 per 15; \$2.50 per 30.

**KELLERSTRASS**—Cook Strain White Orpingtons, Hellyer's strain Buffs. Eggs, \$1 and \$2 setting. Stock for sale. H. Ferns, 715 William Street, London, Canada.

**MOTTLED** Ancona eggs from thoroughbred stock, \$2 for 15; circular free. B. W. Wardle, Box 134, Corinth, Ont.

**ROYAL** City Poultry Yards—12 years a breeder of White Wyandottes. 5 grand pens, all headed by winning males. Eggs, for balance of season, \$2.50 per 15. Still a few males and females to dispose of. Also eggs from pen of A No. 1 Buff Orpingtons, \$1.50 per setting. Wm. Wilson, Prop., 219 Grange St., Guelph, Ont. N. B.—My birds have the run of 5 acres, and are full of vigor.

**SINGLE-COMB** Black Minorcas—Stock and eggs for sale. Ontario winners and great layers. Satisfaction guaranteed. For particulars write: H. Dunning, Thornton, Ont.

**SINGLE-COMB** White and Brown Leghorns. Winners at Meaford Show, 1910; 6 birds winning 11 prizes. Eggs and stock for sale. James Cooper, Box 934, Collingwood.

**S.-C. W. LEGHORN** and R.-C. B. Leghorn eggs for hatching, from best of stock, \$1.00 per 15. William Charlton, Ilderton, Ont.

**WHITE** Wyandottes. Eggs, \$1.25 per setting. C. W. Beaven, Prescott, Ont.

**WHITE** Rock eggs at \$1.50 per setting, R. C. Rhode Island Red eggs at \$2; also some choice cockerels of both breeds for sale. Howard Smith, Winona, Ont.

**WHITE** Rocks, Buff Orpingtons. Choice prize-winning strains. Eggs, \$1 per setting. Wm. A. Rife, Hespeler, Ont.

**WHITE** Wyandottes. Choice breeding females. A few good cockerels. W. D. Monkman, Bond Head, Ont.

**WHITE** Wyandotte eggs, Martin strain, farm raised, fifteen for one dollar; shipped in Morgan egg basket. Order early. Marshall Smith, Palmerston.

**\$6** A HUNDRED buys the finest White Leghorn eggs for settings. Original utility birds from Curtiss Bros. E. C. Dunston, Crystal Beach, Ont.

**GOSSIP.**

Volume 73, of the American Shorthorn Herdbook, recently issued, has been received at this office, thanks to Secretary John W. Groves, Chicago, Ill. The volume contains the pedigrees of bulls numbering from 299001 to 307000, and females numbering from 35001 to 47000. Also the rules of entry, and an appendix of milking records which is quite creditable to the breed.

Official records of 152 Holstein-Friesian cows were accepted by the American Holstein Association, from February 8th to February 19th, 1910. This herd of 152 animals, of which one-half were heifers with first or second calves, produced in seven consecutive days, 58,889.3 lbs. of milk, containing 2,096.725 lbs. of butter-fat; thus showing an average of 3.56 per cent. fat. The average production for each animal was 387.4 lbs. of milk, containing 13.794 lbs. of butter-fat; equivalent to 55½ lbs. or 26¼ quarts of milk per day, and over 16 lbs. of the best commercial butter per week. It will be noted that this issue of the reports show an increased average production of fat, without a corresponding increase in the average production of milk; thus giving a higher average per cent. fat than usual.

**SHIRE SALE AND ANNUAL MEETING.**

At the auction sale at Islington, London, the week of the Shire Horse Show, the 84 head sold averaged £116 7s. The highest price was 320 guineas, and two two-year-olds brought 300 guineas each.

The annual meeting of the Shire Horse Society revealed a prosperous condition of affairs. The increase of membership over last year is 108, and there has been an addition of £1,069 to the funds.

The export trade showed a large increase, 677 export certificates having been granted, against 389 in the previous year. The Prince of Wales will be the President for the current year.

The question of the use of unsound stallions was raised, and a member moved a resolution that, if in three months' time the Council should have taken no action in the matter, the Secretary should be asked to take a poll of the members on the subject. In discussion, it was claimed that nothing short of an Act of Parliament, making it an indictable offense to travel an animal unless it had a veterinary certificate, would be of any benefit. The resolution was lost, only three voting for it.—F. Dohirst.

**AN INTERNATIONAL SHEEP SHOW.**

There is a movement on foot to establish a permanent International Sheep Fair, to be held in Chicago some time in September, or immediately after the fall-fair circuit is over. This show is to be exclusively for sheep, with all breeds represented, and to include wool and mohair exhibits, wool grading and sorting, sheep- and goat-shearing contest, sheep-butcherer contest, sheep-dipping, and a lot of other "wrinkles" that will make it interesting and educational. It will not be a fat-stock show, although feeding experiments will be conducted in a limited way by the agricultural colleges. It is not intended to compete in any sense with the International.

In conjunction with this show will be held a combination sale for show, breeding, and carload lots of sheep. The Eastern breeders will find an outlet for their high-class stock, and also for their commercial sheep. The rangeland will come on to buy rams and breeding stock, and the big Western stud flockmen will show their sheep, as well as the Eastern breeders. The English breeders will also co-operate in every way to make it a success. The Flock Register and Wool-growers' Association, and the leading breeders and importers, are said to be all enthusiastic over the scheme. The Honorable James Wilson, Secretary of Agriculture, heartily endorses the idea, and offers the co-operation and support of the Government. The agricultural colleges are enthusiastic, and everybody wonders why we have not had it before. The railroads will give reduced fares, and the express companies will make special rate for shipping out wool that will be sold in small numbers.

James Bowman, Guelph, Ont., writes:

Since last reporting our sales of Aberdeen-Angus cattle and Suffolk sheep, we have sold the useful pair of young cows, Elm Park Pride 6th—2133—, and Elm Park Rosebud 8th—2132—, to the Michigan Agricultural College. One of our show bull calves, E. P. King 13th—3545—, to David S. Scott, Marnoch, Ont. A useful bull calf, to James Mitchell, of Centralia. One of our show heifers, E. P. Keepsake 7th—2876—, to Manitoba Agricultural College; also her full brother, Elm Park Lad 3rd, our steer calf shown at Chicago. To Iowa Agricultural College, Ames, Iowa. Prof. Kennedy and a number of others considered him about the best calf in the show to carry over. Jas. D. McGregor, of Brandon, Manitoba, purchased all the Suffolk ewe lambs we could spare him, numbering twenty, and one yearling grade Suffolk wether, and seventy Barred Rocks, cockerels and pullets, and our first-prize heifer calf at Brandon and Regina Shows, Elm Park Matilda 2nd. C. C. Elliott, of Strathcona, Alta., has secured our second-prize yearling heifer at Winnipeg and Brandon Shows, E. P. Matilda—2878—, and E. P. Mayflower 12th, one of our show calves at Toronto and London. This pair should strengthen Mr. Elliott's nice herd, which he has got together. J. J. Bell, of Islay, Alta., has just ordered our very useful bull, E. P. Mailbag—1854—, and a yearling Suffolk ram. We have still a fine lot of young bulls and females for sale, among them first-prize calf at Toronto, 1909.

**TRADE TOPICS.**

An entirely new departure in fanning mills is claimed by the Templin Manufacturing Co., Fergus, Ont., for their "Perfection" seed and grain separator. This new implement depends more on sieves and vibration than on wind. A special device for cleaning oats out of other grain is used. Bagger is attached. Write them.

**FREE SAMPLE OF AMATITE.**—Many of the new readers of this paper may not know that the makers of Amatite Roofing distribute free samples for the information of prospective purchasers. Some of our readers have probably doubted that a roofing could be made which would need no painting, and the sample of Amatite is offered as evidence that a practical mineral surface has been invented. Sending for the free sample does not entail any obligations, and there is no charge—not even for postage. With the sample is sent a little book telling all about Amatite, and showing pictures of roofs in all parts of the country where Amatite has given protection without painting for many years. Just drop a postal card to the nearest office of The Paterson Manufacturing Company, Ltd., Toronto, Montreal, Winnipeg, Vancouver.

**\$1,550 IN PRIZES FOR PENMANSHIP.**—The Canadian Business College, of Chatham, Ont., has adopted a rather novel, but yet practical way to bring before public notice the splendid textbook on penmanship which has been recently published by the principal of the school. For many years, Mr. McLachlan, the author of the system, has had the reputation of turning out high-class penmen, and the first edition of his book sold out in less than eight months. The new edition of 10,000 copies is going rapidly. By the terms of the offer, cash prizes will be offered for penmanship to any teacher or pupil wishing to compete. Eight prizes in all are offered to teachers—the first amounting to \$315— and eleven to public and separate school pupils—the first prize being \$325. The pupils' contest will take place in June, 1911. Write at once for information, as the condition of competing is that competitor must use McLachlan's book on penmanship. Address, D. McLachlan, Canada Business College, Chatham, Ont.

**A Few Pointers on Telephone Law!**

"The Ontario Telephone Act, 1910," which was passed during the recent Session of the Legislature, APPLIES TO EVERY TELEPHONE SYSTEM OR LINE IN THIS PROVINCE, not being operated under a "Dominion" Charter, whether owned by a company, association, municipality, or private individual.

Under this Act, unless prevented by an agreement which has ALREADY BEEN SUBMITTED TO AND APPROVED BY THE BOARD OF RAILWAY COMMISSIONERS FOR CANADA, every telephone system or line must interchange service with any other adjacent system or line, other than the "Bell," under mutual agreement, or upon such terms and conditions as the Ontario Railway and Municipal Board may decide.

All agreements for interchange of service with the Bell Telephone Company must be submitted to the Ontario Railway and Municipal Board, and must be approved by that Board before they shall have any force or effect. It is also illegal to enter into any agreement which restricts competition, until the Ontario Railway and Municipal Board has first approved of the terms of such proposed agreement.

The Canadian Independent Telephone Association will be glad to furnish any further information regarding this legislation, and will readily respond to any inquiries in regard thereto.

If you are interested in telephone matters, and desire any information or assistance, without placing yourself under an obligation to any particular manufacturer or supply house, write to

**FRANCIS DAGGER,**  
21 Richmond Street, W.,  
Toronto, Ont.

**PURE-BRED POULTRY!**  
Barred Plymouth Rocks.  
White Orpingtons.  
We have the finest strains in North America. Stock and eggs in season. Enivar Poultry Farms, Lansing P. O., Ont.

**WANTED**  
A few private farmers to ship me Poultry, Eggs, Syrup and all other farm produce. Will pay highest market price.  
**W. J. FALLE,**  
Prince Albert Ave., Westmount, Montreal.

**DIDN'T WANT JUSTICE.**  
A well-known attorney of this city had a client whose case presented a mass of technicalities, of which his lawyer took every possible advantage. Before the final argument and handing down of opinion, however, the client was forced to take a journey of some hundreds of miles and was compelled to be absent for several weeks. He arranged with his attorney to flash him by telegraph the result of the trial of his case, but told him to so word his telegram that the addressee alone would comprehend its import.

The result was the awarding of a verdict in favor of the litigant in question, and his delighted counsel sent him the following message:

"Justice and truth have triumphed."  
What was the amazement at receiving a few hours later a telegram from his client which said:  
"Yours received. Hard luck. Appeal immediately."—Philadelphia Times.





Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted, and Pet Stock.

**TERMS**—Three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 50 cents.

**BRITISH Columbia Farm Lands**—80,000 acres on Grand Trunk Pacific Railway. Fort George district. Retail or en bloc. Rich soil. Ideal climate. Easy terms. The Mercantile Trust Co., Ltd., Vancouver, B. C.

**BRITISH Columbia—Fort George lands.** 50,000 acres fertile wheat and mixed farming lands. Send for photographs and surveyors' reports. The Wright Investment Co., Dominion Trust Building, Vancouver, B. C., Canada.

**FOR SALE**—Rubber and leather belting, pulleys, shafting, hangers, iron pipe. All sizes and lengths. Write for free list and prices, stating sizes Imperial Waste & Metal Co., 7 Queen St., Montreal.

**FRUIT, Flowers, Fowls** at gramming prices. Catalogue free. A. W. Graham, St. Thomas, Ont.

**GOVERNMENT standard seeds for sale:** Red Clover, \$9.50; Alfalfa, \$11.00; Manchurian Barley, 70c; Silver Mine Oats, 50c; White Siberian Oats, 50c; Splendid White Peas, \$1.00. Ask for samples. The Caledonia Milling Co., Limited, Caledonia, Ontario.

**IF interested in growing strawberries** send for my catalogue; it's free. Tells you how to grow them. Jno. Downham, Strathroy, Ontario.

**MEN everywhere** to build concrete silos, water-tanks, etc., by system to be demonstrated at the Cement Exhibition in London, March 28 to April 1. Applicants to furnish references as to their ability to look after such work and handle men, and should apply in person at the Exhibition, or write to L. S. Odell, Engr. Contr., 111 Wellington St., London, Ont.

**MAKE your own will.** No lawyer required. Bax's Correct Will Form. Full instructions and specimen with form, postpaid twenty-five cents Bax Company, Dept. B, 267 Arthur St., Toronto.

**O. A. C. No. 21 Barley.** Another grand lot now ready. I increased one pound to nine hundred bush in three crops. Filled eighty-five orders last spring. One dollar. Jno. Elder, Hensall, Ont.

**POSITION wanted** as farm manager or herdsman by single man. Twelve years' experience with pedigree stock; well recommended. Apply, Robson, 83 Kent St., Ottawa.

**SEED CORN**—Twenty-one varieties. All will grow. Fifty years' experience. Send for free catalogue. M. A. Jones, Ruthven, Essex Co., Ont.

**SOUTHWESTERN Ontario-grown Alsike Seed** (Government standard), \$13 per 100. Bags free. Will send sample if desired. M. Walker, Florence, Ont.

**TONGUE support** for harvesting machines, seed drills, etc.; takes weight off horses' necks; 500 sacher in one county. Agents wanted. S. K. Brubacher, Elmira, Ont.

**VANCOUVER Island** offers sunshiny, mild climate; good profits for young men with small capital in business, professions, fruit-growing, poultry, farming, manufacturing, lands, timber, mining, railroads, navigation, fisheries, new towns. For authentic information, free booklets, write Vancouver Island Development League, Room A 102, Law Chambers Bldg., Victoria, B. C.

**WANTED**—Good general servant for household on British Columbia farm. Twenty dollars per month the year round. Alex. Lochore, Lytton, B. C.

**WANTED**—Farm hand, single; must be good teamster and experienced in farm work. Write, stating experience and wages, to W. G. Pettit & Sons, Freeman, Ont.

**WANTED**—A married man for farm work; must be experienced. Yearly engagement if satisfactory. Apply: J. A. Pettit, Freeman, Ont.

**WANTED**—Persons to grow mushrooms for us. Small waste space in yard, garden or farm can be made produce from \$15 to \$25 per week. Write for illustrated booklet and full particulars. Montreal Supply Co., Montreal.

**Delhi Tannery** Custom robe and fur tannery. If you have a cow hide or horse hide you want tanned or made into a robe or a fur coat, or have any kind of hides, skins or furs you want tanned, send them to me and have them dressed right. **B. F. BELL DELHI, ONT.**

**WANTED**  
To purchase Standard-bred stallion.  
**JAMES M. FRAWLEY, SUDBURY, ONT.**

"Before we were married you said you'd lay down your life for me," she sobbed. "I know it," he returned, solemnly; "but this confounded flat is so tiny there's no place to lay anything down."

#### IMPRESSION.

The artist was of the impressionist school. He had just given the last touches to a purple-and-blue canvas when his wife came into the studio.

"My dear," said he, "this is the landscape I wanted you to suggest a title for."

"Why not call it 'Home'?" she said, after a long look.

"Home? Why?"

"Because there's no place like it," she replied, meekly.—Glasgow Times.

#### QUESTIONS AND ANSWERS.

1st.—Questions asked by bona-fide subscribers to "The Farmer's Advocate" are answered in this department free.

2nd.—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer.

3rd.—In Veterinary questions the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.

4th.—When a reply by mail is required to urgent veterinary or legal enquiries, \$1.00 must be enclosed.

#### Veterinary.

##### DISEASED LIVER.

Sow, nursing pigs, refused food, and died in two hours. A post-mortem revealed liver black, and very easily torn; also part of the heart flabby.

J. B. McV.

Ans.—She had a diseased liver, which condition could not have been suspected, and, even if it had, nothing could have been done. We cannot tell what causes cases of this kind. V.

##### LUMP JAW.

Cow has a hard lump as large as a hen's egg below the eye. I thought it would disappear, but it is getting no better.

C. S.

Ans.—This is lump jaw. Give her iodine of potassium three times daily. Commence with one-dram doses, and increase the dose by ¼-dram, daily, until she refuses food and water, fluid runs from eyes and mouth, and the skin becomes scruffy. When any of the symptoms become well marked, cease giving the drug. If necessary, repeat treatment in two months. V.

##### HOOSE IN A CALF.

Calf had a cough and died. A post-mortem revealed the windpipe full of fine white worms.

F. M.

Ans.—This is called hoose, and is very hard to treat. It occurs, in some cases, in low-lying districts, on land near rivers, etc. Causing the patient to inhale the fumes of burning sulphur will sometimes effect a cure, or the administration of ½ ounce oil of turpentine in gruel, twice daily, is sometimes successful, but in many cases the disease proves fatal. Some recommend the injection into the trachea of ½ ounce turpentine, but this requires a veterinarian. V.

##### FATALITY IN COW.

Cow was apparently all right at noon and was found dead at 5 o'clock that evening. She was considerably bloated, and, evidently, had not struggled much. A post-mortem revealed dark blotches on the lungs, and there was a jelly-like substance attached to them.

C. T. D.

Ans.—It would have required a careful post-mortem, by a person who knows what to expect under such conditions, to determine the cause of death. The dark spots you mention on the lungs, were due to what is known as hypostatic congestion, which takes place after death in animals that die without loss of blood. The jelly-like substance, also, unless existing in large quantities, was due to an escape of serum from the blood vessels after death. Animals do not die so suddenly from lung trouble. I am of the opinion the cow died from an attack of acute and excessive tympanitis (bloating), due to indigestion. It is possible death was due to anthrax, but, if so, there will probably be more fatalities. If so, a veterinarian should be called to investigate, as it is very dangerous to skin or hold a post-mortem on an animal that dies from anthrax, or other diseases due to a specific virus. V.

##### LAME STALLION.

We bought a registered Shire stallion. He was very fat. In three days he commenced to go lame, and in six days he could hardly move. I took his shoes off and he seems a little better. What is best to do in such a case? J. P.

Ans.—The symptoms are so indefinite, it is impossible to do more than make a guess about the case. You do not even state whether it is the fore or hind feet that are sore. I presume it is the fore and that the trouble is in the feet. I

would advise you to call your veterinarian in to treat the case, as he is too valuable to take chances. I would advise the administration of a purgative of 12 drams aloes and 4 drams ginger. Apply hot poultices of linseed meal to the feet until the acute soreness passes off, and then apply a blister to the coronet, get him shod with bar shoes, and give a little daily exercise. V.

##### PIGS AILING.

I have a litter of five pigs about six months old which took a swelling under the throat before they were closed up off the grass; were kind of stiff, would fall forward, and their eyes would roll up. The lump in the throat seemed sore to the touch. One died and the others are swelling in the throat yet. Please explain what was the matter with them, and prescribe treatment. S. I.

Ans.—I am of the opinion that the pigs have bronchocoele, or goitre (an enlargement of the thyroid glands). I would recommend the daily application of an ointment made of 2 drams each of iodine and iodide of potassium, mixed with 2 ounces vaseline, and that they be turned out for a few hours every fine day, and, until grass can be had, they be given all the raw mangels they will eat, in addition to milk, shorts, and some chop. V.

##### TUBERCULOSIS.

Sold a fat cow to a butcher. A large growth, full of pus, was found in one lung. There were no other nodules or abnormal condition. One veterinarian said it was a tubercular lesion, and another said it was simply an abscess, with no indication of tubercular matter. The cow, while living, was apparently healthy.

1. Do you think it was tuberculosis?  
2. Where could I get the pus examined to make sure?  
3. Would it be correct for me to test my cattle myself, and, if so, where can I get the necessary information?  
4. The cow was tested four years ago, and she passed. T. L. D.

Ans.—1. I have no doubt about her being tubercular. Abscesses of this size and nature do not form in the lungs from other causes without causing severe constitutional disturbance.

2. If the pus has not become too rancid, any bacteriologist can examine it. The Government Bacteriologist, Department of Agriculture, Ottawa, would probably do it.

3. Unless you have had experience in testing cattle, I would advise you to employ a veterinarian, as a test conducted by a person without knowledge and experience would not be valuable. You will be able to get both tuberculin and instructions from the Department of Agriculture, Ottawa, on certain prescribed conditions.

4. She might easily have been healthy four years ago, and tubercular now. V.

##### EMBOLISM.

Mare will be due to produce her fourth foal in May. Last year, after foaling, she ran idle until haying, when she was required to draw in the hay. In driving through a plowed field, she began to stamp with hind feet, and show pain and stagger; would probably have fallen, but one of my men held her up. The quarter of the affected leg swelled. We turned her out in a field with her colt, and she seemed all right, and the swelling disappeared in a few hours. Three weeks later she was hitched again, and acted the same way in a few minutes. When the snow came, she was put at light work again, but so soon as she had to exert herself to any extent, she showed the same symptoms. J. M. H.

Ans.—This is called embolism, a partial plugging of an artery, probably the external iliac, an artery that supplies the muscles of the group and haunch. When exercised, the circulation is increased, and the blood cannot pass through the partially-occluded artery fast enough, and the vessel anterior to the stoppage becomes engorged, causing pressure upon the nerves, and, in some cases, a swelling of the muscles. As soon as the circulation becomes less, when the mare is at rest, no inconvenience is caused. There is little that can be done for it. Nature, in some cases, effects a cure. The administration of 1 dram iodide of potassium, three times daily, hastens recovery in some cases, but I would not advise treatment until the coming foal is a few weeks old. V.

#### Miscellaneous.

##### CEMENT FLOORS FOR SILOS.

I would like to hear what you people think of silos with cement bottoms, or do you think it would be better with loose gravel? R. H. N.

Ans.—We recommend cement foundations and basin-shaped floors for silos, as a means of keeping the silo in shape and excluding rats. When these are not troublesome, the cement floor is not particularly necessary, though we always advise a foundation of masonry, either cement or stone.

##### PATRONIZING CREAMERY OR CHEESE FACTORY—CHOICE OF BREED.

1. Which would be the more profitable way of disposing of my milk? I can send to a cheese factory and receive, after paying for drawing and other expenses, an average of \$19 per ton for milk, or I can send to a creamery and receive 26 cents per pound for butter-fat. Our milk will test about 4 per cent.

2. I want to start a pure-bred herd of dairy cows. Would you kindly advise me which breed you think would be the best. Would you advise me to start with French-Canadian cows, as I noticed in "The Farmer's Advocate" of June 13, 1910, a picture of some cows and a bull, and an item describing them. They seemed to be a great dairy breed. N. B.

Ans.—1. Under these circumstances, patronize the creamery by all means. With milk testing four per cent., you would receive at the rate of \$20.80 per ton of milk from the creamery, obtaining besides, a much more valuable by-product for feeding.

2. While the French-Canadian breed of cattle is hardy, noted for economical production of butter-fat, and admirably suited to the conditions for which it is especially adapted, still it would not be our choice of breeds. Just what would be our choice, it would hardly be in order for us to state. There is more than one good breed, and more depends on the selection of strains and individuals than on the choice of breeds. Read all the articles we have published on the various breeds, and make your own selection.

##### CONFINING SPRING.

I have a strong spring at the lower end of a pasture field at the edge of a swamp. I have been trying, without success, to raise it, as the cattle would not go down to the spring to drink on account of the mud. We dug it out about 3½ feet square, to what we thought was the hardpan. It was of a gray limy nature, and the spring bubbled up in the middle of it. We then turned the open end of a coal-oil barrel over the spring. In the other end of the barrel we bored a hole, and put in an inch gas-pipe, rising four feet from the barrel. We banked up the barrel with earth, and weighted it down with heavy stones. The water filled the barrel, and came up about six inches into the pipe. Then it would burst through the banking around the barrel and come up on the outside. Can you please tell me any simple way I can raise that water to run it into a trough on higher ground for cattle to drink? Can you please explain how it was that the barrel would fill before it would burst away? Was it because of air? I would be very glad to get some information on this subject from your columns. SUBSCRIBER.

Peterboro Co., Ont.

Ans.—You have a pretty hard proposition. A cement circular curb strikes us as being the most likely solution. If the spring rises through a small opening in the hardpan only, and comes from some depth below, it should be possible to confine it by building a cement curb, with foundation well down into the hardpan. If, as is quite probable, the water oozes out over a considerable area, or if the soil through which it rises is not water-tight, it will be practically impossible to confine it unless by covering the whole area with cement, with an opening in center. You might be able to catch the spring on higher ground, and lead it out there.

The trouble with the barrel was not because of air, but because the water had other ways of getting out.

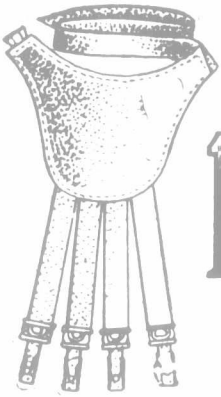


# OUR DIAMOND JUBILEE YEAR



**SPECIAL**  
**French Kid Gloves**

No. 949 L.—Ladies' Real French Kid Gloves, two dome fasteners, black, white or tan; every pair guaranteed; beautiful, thin, soft, pliable Kid, fine finish, matchless value. Examine these carefully in your own home, and if you don't find them worth \$1.00, return them at once, and we will refund your money, together with the return postage. **Paquet Special price, per pair. 79c**



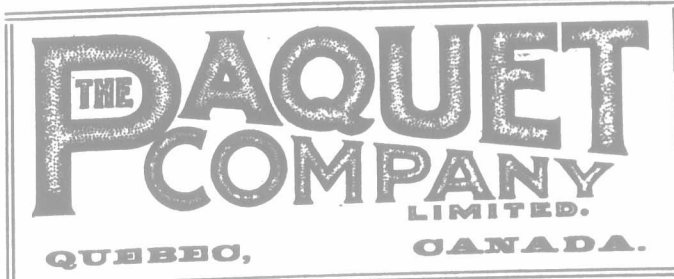
**SPECIAL**  
**Hose Supporter**

No. 983 L.—This Special Hose Supporter is made specially for our trade, and the value is exceptional. Moire pad with belt, plain lisle elastic garters, protected fasteners and fine rubber buttons. We will send this PREPAID to your address on receipt of price, and if you are not satisfied that it is worth at the very least 30c., return it at once, and we will refund your money. **Paquet Special price only. 19c**



**This Beautiful Guipure Lace Collar**  
**Prepaid to Your Address for Only 19c.**

No. 978 L.—This handsome Guipure Lace Collar, exactly like the illustration, will be sent, PREPAID, to any address in Canada on receipt of this remarkably low price. The length is 14 inches, and the height is 4 1/4 inches on the sides and 2 1/4 inches in front and back. You may have your choice of white, cream or black. Examine this Collar carefully in your own home, and if you don't find it the best value you were ever offered, return it at once, and we will refund your money, together with the return postage. **Paquet Special price only 19c**



**SPECIAL**  
**Ladies' Handbag**

No. 964 L.—This Handbag, exactly like the illustration; fine imitation of Seal Grain Leather, black or brown, gilt-mounted, ball clasps, best quality glazed lining, is another proof of the Paquet Value Supremacy. On receipt of this remarkably low price we will send you this Handbag, PREPAID. If you don't find it the best value you ever saw, return it and get your money back. **Paquet Special price only. 47c**



**SPECIAL**  
**42-inch Venetian**

No. 995 L.—The PAQUET SPECIAL Venetian Cloth is famous from coast to coast for its quality and unequalled value. Tourists and visitors who throng Quebec both in summer and winter invariably become enthusiastic over this. The width is 42 inches, and the color-range includes all the new spring shades. Samples will be sent you FREE upon request. **Paquet Special price, per yard. 68c**

## A Safe Place to Put Your Savings

This company offers you as security its \$2,000,000 of assets. These assets are of the highest grade, consisting almost entirely of first mortgages on first-class real estate. You really cannot find a safer place to leave your savings than with us.

This company will pay you 3 1/2%, according to agreement, on your savings. \$1 opens an account. If you desire to invest \$100 or more you can secure 4% interest by buying our debentures. Interest paid 1/2-yearly.

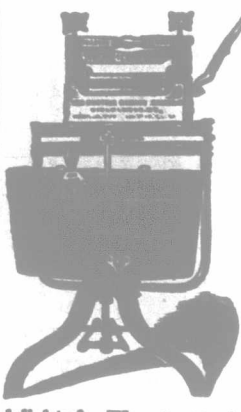
**3 1/2%** — **Agricultural Savings & Loan Co.,** — **4%**  
109 DUNDAS STREET LONDON, ONTARIO.

WHEN WRITING ADVERTISERS KINDLY MENTION THE FARMER'S ADVOCATE.



### You Can Do the Weekly Washing in Six Minutes

The 1900 GRAVITY WASHER cuts out labor and saves money. Does a big family washing—and wringing too—in short order. The Gravity washes a tubful spotlessly clean in six minutes. Prove it at our expense.



Any Woman Can Have a 1900 GRAVITY WASHER On 30 Days' Free Trial

Don't send one cent. Try it first at our expense—if you are responsible. We'll pay the freight. See the wonders it performs. Thousands are in use and every user

delighted. We are constantly receiving letters from hosts of satisfied customers. The 1900 Gravity is sold on small payments. Send for our fascinating FREE Book to-day. Write me personally—

F. A. U. BACH, Manager,  
The 1900 Washer Co., 357 Yonge Street  
Toronto, Ontario M7S

The above offer is not good in Toronto or Montreal and suburbs—special arrangements made for these districts.



### "ELECTRO BALM" CURES ECZEMA,

Also Piles, Burns, Scalds, Chapped Hands and Face.

Gentlemen use it after shaving. This Balm is handled by the best firms, and is highly recommended by those who have used it.

Write for Free Sample  
50c. a Box at all Dealers or upon receipt of price, from  
THE ELECTRIC BEAN CHEMICAL CO.,  
Ltd., OTTAWA.

## Splendid Dairy Farm for Sale

Situated on the St. Lawrence River on mile west of Prescott, Ont. 210 acres, about 25 acres woods; in fine condition. This is a rare chance for a farmer to go into cattle and dairying. Terms favorable. Apply to

J. McCarthy & Sons Co.,  
PRESCOTT, ONTARIO.



GILSON MFG. CO. 150 York St., GUELPH, ONT.

When Writing Mention The Advocate

### GOSSIP.

A good dairy farm, comprising 210 acres, about 25 acres of which is in woods, situated on the St. Lawrence river, one mile from Prescott, Ont., is advertised for sale in this issue by J. McCarthy & Sons Co., of Prescott.

### HOLSTEINS AT AUCTION.

As advertised in this issue, Wm. Slaght, Bealton, Norfolk County, Ont., will sell at auction, on March 30th, thirty head of pure-bred Holstein cattle, on The Maple Stock Farm, comprising eighteen females and twelve bulls, said to be in the pink of condition, careful breeding and good feeding having made the cows a choice lot, having good size, good square udders, milking fifty to eighty pounds per day. In this herd are such cows as Aulinda Crown De Kol 6515, R.-of-M. cow, milk 80 lbs. a day, and over 15,000 lbs. for one season, and Lizzie Pietertje 2694, making 19½ lbs. butter in seven days, and many others quite as good. Most of the mature cows are in the R. of M. Some very promising heifers are in the sale, and a number of the cows are in calf by Count Mercena Faforit, a great sire. The young bulls are of the kind that will please, eight of which will be ready for service, sired by Sir Oliver Schuiling, whose stock are all true to color, good shape, and good size. One of his sons, Doctor Schuiling, at Toronto Exhibition, in 1909, won first prize for a senior bull calf. Most of these in the offering are equally as good, and nearly all are from R.-of-M. dams. Send for a catalogue, and get the breeding of these cattle. Trains will be met at 10 a. m. and 10.55 a. m., at Villa Nova Station, M. C. R., and everything offered will be positively sold.

### GLENGOW SHORTHORNS.

For nearly fifty years, without a dispersion or break in breeding, the Glengow herd of Scotch Shorthorn cattle, the property of Wm. Smith, Columbus, Ont., has been going steadily on. Founded on those three great Scotch families that, during all these years have proved their superior merit as early-maturers, easy-feeders, good-milkers, and possessed of strong, robust constitutions, not one has ever shown any signs of tuberculosis. The herd comprises Wedding Gifts, Strathallans and Killbean Beautys, on which have been used bulls specially selected for their thick, mellow flesh, and robust appearance, the major part of the herd being daughters of the two great bulls, Royal Bruce =26018=, a Bruce Rosalie, and Imp. Ben Lomond, sire of last year's Toronto junior champion heifer, that sold for \$2,000 at the late sale at the stockyards in West Toronto. The younger ones of the herd are the get of the two Clara-bred bulls, Lord Clare =59596=, a son of the Constantine bull, Imp. Cyclone, and Royal Clare, a son of the Bruce Mayflower-bred bull, Imp. Royal Bruce, among them being a number of most attractive heifers, one and two years of age, that are a very desirable lot for foundation stock. 1910 has brought an active demand for herd-heads from this renowned herd, several having been sold for shipment to distant parts, only two being left on hand fit for service; a pair of right good ones, carrying a wealth of flesh evenly put on. One is a roan, 15 months old, a Wedding Gift, sired by Lord Clare, dam by Imp. Ben Lomond. The other is a roan, 13 months old, a Strathallan, sired by Poyal Clare, dam by Imp. Ben Lomond.

### BOOK REVIEW.

#### ABOUT DUCKS AND GESE.

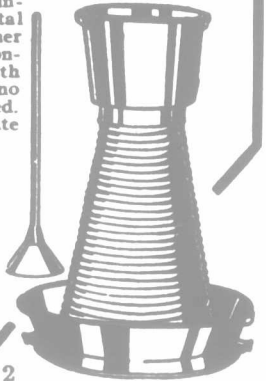
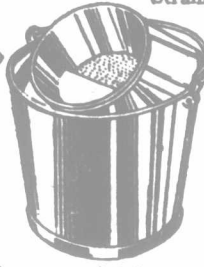
The increased attention being paid to poultry-keeping in Canada is having the effect of stimulating the rearing of ducks and geese. Those who are taking up these specialties, either on a large or small scale, will be interested in knowing that a splendidly illustrated third edition has been issued by the Reliable Poultry Journal, of Quincy, Ill., of a 100-page book, "Ducks and Geese." From breeds to marketing it contains practically all that anyone would wish to know on the subject, although a good index would make it handier for quick reference. The pages are of large size, and well printed on good paper. It may be ordered, paper covers, through this office at 75 cents per copy.

## MAKE DAIRYING PAY BETTER

Strain your milk as it leaves the cow, not afterwards, and see that you strain milk only, not milk, dirt and bacteria. You can make pure milk an absolute certainty by using the

### STERILAC SANITARY PAIL

Note its clever construction. The funnel is detachable. As the milk falls on the slant towards the milk, it passes direct to the strainer into the pail. All dirt falling into the opening is caught on a deep metal shelf inside the funnel—not on the strainer—thus milk and dirt never come in contact. You can use ordinary cheese-cloth for straining. Capacity 14 quarts, no joints on the inside; it is easily cleaned. Price, \$2.50. Used by all up-to-date

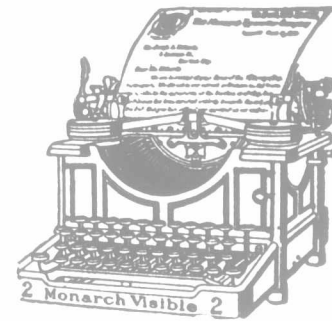


farmers and dairymen.

### PURITY MILK COOLER-AERATOR

Cools milk rapidly, within 2 degrees of running ice water, well or spring water, whichever you use. Rapid cooling and thorough aeration ensures milk keeping sweet for 48 hours and destroys odors. The milk flows through the perforated pail on top on to the corrugated body which ensures the milk running down slowly so that it is perfectly cool when it reaches the retaining pan. There are outlets at each side of this pan. This cooler is well made, has splintered seams, is easy to clean and simple to operate. Will last for years. Price, \$6.50. Guaranteed as represented. Write for large catalogue of dairy supplies, FREE.

W. A. DRUMMOND & Co., 175 King St. E., Toronto



Nine-tenths of our advertising and our sales talk is on the model of the Monarch, which carries paper 14 6/10 inches wide.

Why? Because we know it is the best machine for every one. We know the extra carriage length does not impair its durability, its speed, its adaptability to regular work, or its light, easy action.

Because we know it will last a business lifetime; that the use of wide forms is rapidly extending; that in this prosperous and progressive Canada the small business of to-day, one year, five years hence will be a mighty enterprise.

Buy for the present and for the future.

**THE MONARCH**  
**Typewriter Co'y, Limited,**  
98 King Street West, Toronto.

## POTASH MEANS PROFIT

Test the truth of this statement by using Potash this year in conjunction with a Phosphatic and Nitrogenous Fertilizer.

Potash is an Absolutely Essential Plant Food, and may be obtained from all leading Fertilizer Dealers and Seedsmen in the highly concentrated forms of

### MURIATE OF POTASH AND SULPHATE OF POTASH

Potash promotes maturity, and insures high-class quality of all Farm, Orchard and Garden Crops.

Write us for full particulars and FREE copies of our bulletins, including "Fertilizers: Their Nature and Use"; "Fertilizing Orchard and Garden"; "The Potato Crop in Canada"; "The Farmer's Companion," etc., etc.

Dominion Agricultural Offices of the Potash Syndicate  
1102-1105 Temple Building, Toronto, Can.

## SEED POTATOES

A Change of Seed is Always Advantageous.

I am offering 5,000 bushels pure-bred seed potatoes grown from imported English, Scotch and American seed. Extra First Early, First Early, Second Early, Main Crop, Late Main Crop. For prices, etc., address:

**W. P. NILES, WELLINGTON, ONTARIO**  
Grower of Seed Peas, Beans, Potatoes, Oats and Barley.



GOSSIP.

The 31st volume of the Shire Horse Studbook of Great Britain, recently issued, has, through the courtesy of the Secretary, J. Sloughgrove, 12 Hanover Square, London, been received at this office. The volume contains the pedigrees of stallions numbering from 26859 to 27944, and mares numbering from 58903 to 62506.

For the forthcoming Royal Show at Liverpool, prizes to the amount of £10,620 are to be offered. For the next year's Show, the city of Norwich has been selected, and the King will be President of the Society for 1911. For the show of 1912, both Doncaster and York have sent invitations. A special committee was appointed several months ago to consider the new Development Act, and it suggests that assistance from the fund created by the Act should be given to scientific agricultural research and to the improvement of live stock.

AREA OF U. S. SHEEP-SCAB QUARANTINE REDUCED.

As a result of the efforts of Federal and State authorities to eradicate the disease known as sheep scab, an order has been issued by the United States Secretary of Agriculture, effective March 15th, releasing from quarantine the entire State of Washington, and large portions of Oregon, Nevada, Utah, Colorado and Arizona, as follows: That portion of Oregon lying east of the Cascade Mountains; the Counties of Lincoln, Clark and Nye, in the State of Nevada; the Counties of Beaver, Piute, Iron, Garfield, San Juan, Washington and Kane, in the State of Utah; all of the Territory of Arizona, except Navajo and Apache Counties, and all of the State of Colorado, except the Counties of Conejos, Rio Grande, Saguache, Huerfano, Castilla, Las Animas, Baca, Bent, Prowers, and portions of the Counties of Montezuma, La Plata, Archuleta, Pueblo, Otero, and Kiowa. The release of so large an area at this time indicates the good progress made during the past year in the work of stamping out this disease, which is a great handicap to the sheep industry.

When the Bureau of Animal Industry began systematic work more than ten years ago for the eradication of sheep-scab, this disease prevailed over large areas in the West, and was rapidly spreading. Gradually the infection has been stamped out, and the area reduced, until the territory now remaining under quarantine consists only of the States of Kentucky, Texas, and California, the Territory of New Mexico, the southern portion of Colorado, two counties in Arizona, the northern parts of Utah and Nevada, and the Western portion of Oregon. The good results have been accomplished with the co-operation of State and local officials, and the support of progressive stockmen. It is believed that with a continuation of active work by all concerned, the disease may be completely eradicated from the West within a very few years.

Copies of the order mentioned, giving the boundary lines in detail, may be obtained on application to the Chief of the Bureau of Animal Industry, Washington, D. C.

TRADE TOPIC.

Books issued as an advertisement are often handsome, and sometimes interesting. Rarely, though, are they both at once in any such degree as is the latest product of The Pedlar People, of Oshawa, those advertisers in plain English, with whose straight talks most of our readers are familiar. This progressive house has just issued a new edition of their famous booklet, "Roofing Right," which is finely illustrated from actual photographs of farm buildings in all parts of the Dominion that have been roofed with Oshawa Shingles. The new "Roofing Right" contains forty-eight pages, magazine size, and is quite a complete treatise on the merits and faults of all kinds of roofing materials. The Pedlar People have a few copies remaining of the large edition recently printed. One will be sent free and postpaid on request, to any subscriber of this paper who mentions it when making his request. When writing, ask for Booklet No. 16.

An interesting story, relating the facts that a farmer found out about a Trade Mark.

This is a plain, truthful story about a farmer who lost dollars—hundreds of them—by saving cents.

He knew how to farm—how to get every quarter out of his cattle and the soil. But—there was one thing this farmer did not know. He did not know as much about Bird Neponset Products as he should. He did not know that the Trade Mark you see in this announcement was a guarantee of lasting quality—a guarantee just as good as gold. So he roofed his barn with a roofing very similar in appearance to Paroid Roofing. It cost just as much to apply that roofing as it would have cost to apply Paroid, and, when applied, it looked good. It even looked fairly good at the end of the first season's wear. But during the second winter Jack Frost bit into it, April Showers soaked it. The hot summer sun blistered it. Fall's driving rains swept through it. A two years' test reduced this handsome roofing into a mushy, leaky business that called for a new roof. Then this farmer investigated the roofing question. He discovered that Bird Neponset Products

had stood the test of time—that Paroid Roofing is no uncertainty. He found out that the "Little Girl" and the name "Neponset" was the century-old firm's guarantee of Quality and Durability. It's easy to figure out how he lost considerable money on his barn alone. He also lost money on his poultry shed. And he was mighty lucky that he didn't lose more on both. But, he was a philosopher as well as a farmer. He ripped off the "Just as good" roofing and covered his buildings with Paroid. Let him finish the story: "A man who pays attention to his business on the farm can make money. But when it comes to erecting or repairing buildings it's the easiest thing in the world to waste hundreds of dollars. The important thing about farm buildings IS the right roofing. The wrong roofing is never worth its first cost—never worth laying.

Because I was fooled once I investigated the roofing question, now I know. Take my advice, when building or repairing, look for the "Little Girl" Trade Mark—before buying roofing. That Trade Mark is on every roll of



MADE IN CANADA

PAROID ROOFING

—an absolute guarantee of value based on the time test—the only test there is—for a roofing. F. W. Bird & Son are the originators of the complete Roofing Kit—there's cement, nails, rust-proof caps and complete directions for laying in each roll of Paroid.

**OUR OFFER:** When you see Paroid on your roof—if it is not satisfactory tell us and we will send you a check for the cost of the roofing and the cost of applying it. If any BIRD NEPONSET PRODUCT ever proves defective in manufacture we will replace it. If a broader guarantee than this could be made we would make it.

**N. B.** Write to our Building Counsel Department for free information concerning any building problem you may have to solve. Give full particulars, and state exact dimensions.

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F. W. BIRD & SON - Main Office & Factory HAMILTON, ONT.

ESTABLISHED 1817

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Eastern Branch: 144 Union St. ST. JOHN, N.B.

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STEELE · BRIGGS  
SEEDS

TESTED FOR GERMINATION

TESTED FOR PURITY

SOLD BY LEADING MERCHANTS EVERYWHERE.

Make Your Daughter a Musician.

She will then be more interested in the home—not so anxious to spend her time at the neighbors. She will also be a great help in entertaining visitors, who always enjoy selections rendered on the Sherlock-Manning—the organ with the superior tone quality. Get illustrations of designs, etc., from us by return mail.

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SHERLOCK-MANNING ORGAN CO., LONDON, ONTARIO.

MAKE YOUR HENS PAY!


A few dollars spent in our poultry-raising course will enable you to make more money out of your hens. Learn about the care, breeding, feeding, marketing, etc., of poultry; about poultry houses, incubators, etc., from one of the leading poultry experts of Canada who has a model poultry farm, and is recognized as an authority all over the United States and Canada. Ask about our course. We have also course in agriculture and stock raising. Canadian Correspondence College, Limited, Dept. E., Toronto, Canada.

Imp. Clydesdale Stallion for Sale, rising six years old; good stock-getter, weighs about 1,800 lbs. Will be sold reasonable and on easy terms. Address: BOX 25, WEST MONKTON, ONT.

Please Remember to Mention "The Farmer's Advocate" When Writing



**McDonald's**  
TESTED SEEDS  
TRUE VIGOROUS RELIABLE



Have Produced the Finest Crops for the past thirty years.

If you grow crops of any kind or description, a request by mail will bring you our handsomely illustrated catalogue. Write at once. Do it right now. May mean dollars in harvest.

**Kenneth McDonald & Sons**  
OTTAWA, ONT.  
Dept. C

**At Last The Perfect Washer**



Our "Champion" is easily the champion of all washing machines. All cogs and machinery covered. Lever and High Speed Balance Wheel operating together simply cut the work of washing to the lowest possible point.

Don't think of buying a washing machine until you have seen the "Champion". If your dealer can't show it, write us for booklet. 76

**DAVID MAXWELL & SONS, - ST. MARY'S, ONT.**

*Penman's System of*  
*McLachlan's*  
*Penmanship*

SHOULD BE IN THE HANDS OF EVERY TEACHER, BOY AND GIRL. \$1,000 LEGACY WOULD NOT BE WORTH AS MUCH TO YOUR BOY AS A COPY OF THIS BOOK IF PROPERLY USED.

It is in 72-page book form, sells for 50c., and is WORTH MANY TIMES ITS WEIGHT IN GOLD.

WE OFFER \$315 to find the best penman among the teachers in the public schools of British North America, giving ten months to get ready. ANY TEACHER MAY WIN THE \$315. There are eight prizes in all for teachers, ranging from \$15 to \$315. They total \$585. Send for particulars of the prizes and conditions of the contest.

WE OFFER \$325 TO FIND THE BEST GIRL OR BOY PENMAN among the public-school pupils of British North America, giving sixteen months to get ready. There are eleven prizes in all, ranging from \$10 to \$325. They total \$765. Particulars of these contests sent free. Send 50c. for copy of the Pen Book and be a competitor. Addressing:

**D. McLACHLAN & CO.,**  
Dept. F., Canada Business College,  
CHATHAM, ONT.

WE CAN TRAIN YOU AT YOUR HOME IN BOOKKEEPING, SHORTHAND and PENMANSHIP.

Catalogue F. gives particulars of home courses. If you purpose attending a business school, write for our catalogue E., addressing as above.

When Writing Mention This Paper.

**GOSSIP.**

**LAKEVIEW STOCK FARM.**

The Lakeview Stock Farm at Bronte, Ont., the property of E. F. Osler, easily ranks among the best-equipped dairy and fruit farms of Canada, comprising 400 acres of rich clay loam, 80 of which are in fruit trees, principally apples, there being a large frost-proof storehouse for the storage of apples, where they are held until the most favorable selling season. The farm buildings are most complete, strictly modern and high-class, the stable walls being principally hollow brick, thus entirely eliminating that disagreeable dampness so often seen in stables with solid walls. The cow stable is 104 by 50 feet, thoroughly ventilated, abundance of light, and perfectly free from dampness. The floors and mangers are cement, all other fixtures being iron piping, thus ensuring the best possible sanitation and cleanliness. Water is supplied from an outside tank, into which it is pumped by wind power. In one corner of the stable is the weighing-room, thoroughly equipped, where every cow's milk is accurately weighed and recorded; the milk is then transferred to the dairy building, the transfer being made on a Bissell track, where the separating is done by steam power. At present, the cream is being shipped to Toronto, every can being securely sealed as soon as filled. The horse stable is 100 by 50 feet, divided into 13 single stalls, and 15 box stalls, the interior being splendidly finished in Norway pine, the lighting and ventilation being perfect, ensuring the health of the grand string of imported Clydesdale mares and fillies, whose lives are not idle ones by any means. Manure from all the stables is handled by a most-complete and intricate system of Bissell carriers, finally ending up in a covered and cemented manure-pit, where it is dumped directly into the spreaders and taken to the fields. The hogpen, in which from one to two hundred hogs are kept, is probably the most complete in Canada, 110 by 30 feet, the floors and troughs are of cement, a plank sleeping corner being in every pen. A unique idea in the layout is that there is a door between every pen, which, when opened, completely divides the pen in two parts, and when all are open there is an alleyway from one end of the pen to the other. The yards are all either heavily gravelled or cemented, thus ensuring a dry, clean footing at all times. But Mr. Osler's main pride is in his great herd of Holstein-Friesian cattle, now some 55 strong, at the head of which is the remarkably richly-bred bull, Count Hengerveld Fayne De Kol, a son of Pietertje Hengerveld's Count De Kol, who is the sire of De Kol Creamella, the world's champion milk cow, with a record of 119 lbs. in one day, and 780 lbs. in seven days. He has five daughters, with records that average over 30 lbs. of butter in seven days, ten with records that average over 25 lbs., and thirty with records that average over 20 lbs., and three granddaughters with records that average 28.7 lbs.; also his own dam, Pietertje Hengerveld, has a seven-day record of 21.85 lbs. The dam of Count Hengerveld Fayne De Kol is Grace Fayne 2nd, record 26.30 lbs. She is also the dam of Grace Fayne 2nd's Homestead, the world's champion butter cow, with a record of 35.55 lbs. in seven days. As a four-year-old, her record was 29.16, as a five-year-old, 30.55 lbs. butter-fat test 4.37 per cent; as a six-year-old, 35.55 lbs., test 5.42 per cent. The females of this herd are an essentially high-class lot, and, now that building operations are getting completed, allowing more time to be devoted to the herd, Holstein breeders may expect to see great results from tests in the near future. A few of these now in the Record, but which will be tested as occasions present themselves, we enumerated: Rose Retter, 24 lbs. butter in a seven-day test; a daughter of hers, by Porsch Calamity, made 15 lbs. as a two-year-old in seven days; Grace Wayne made 18 lbs. in seven days, and 734 lbs. in thirty days; her daughter, Cecil Wayne, made 17.18 lbs.; Another of her daughters, Greta Korndelke, was never officially tested, but is now giving 69 lbs. of milk a day; Queen Tika De Kol, at 1 year 11 months and 13 days, made 144 lbs.; De Kol Mantill Red, at 2 years 2 months, made 16 lbs.; Wayne R's Calamity Porsch, as a 1-year-old, made

(Continued on next page.)



**NOTICE THE TEETH**

In considering the purchase of a Spring-Tooth Cultivator notice the Teeth very carefully. They are one of the most important parts of this kind of an implement. It depends upon the Teeth as to how well it does its work. See that they are of proper length, proper shape and temper; that the points are reversible, for that means double value to you. Next see that the Frame is simple and strongly built of steel and malleable iron so that it will stand the strain and wear well. Ask our agent about a

**FROST & WOOD  
"CHAMPION" SPRING TOOTH CULTIVATOR**

and you will see a machine that embodies all these good points. He will tell you that the Teeth are tempered in oil and tested; that they are made of Crucible Spring Steel, and the reversible points are an especial advantage as when one becomes worn by hard, stony ground it can instantly be reversed, and you have a new sharp point. Teeth can be spread or taken off when used for corn or root crop cultivation. It is an implement that gives perfect satisfaction because it does perfect work and stands rough wear. Our Free Catalog F-50 gives more good points. Write for it, or get it from our nearest agent.

The FROST & WOOD CO., (Ltd.), Smith's Falls, Ont.

**The right protection**

You ought to have roofs made of the real, natural waterproofer—Trinidad Lake asphalt—for every building on your farm.

**Genasco Ready Roofing**

is made of Trinidad Lake asphalt. It protects against rain, snow, sun, air, heat, cold, and fire because it doesn't crack, rot, rust, or blow off; and it lasts longer than any other roofing. That's the roofing that saves you time, labor, and money.

Easily applied by any intelligent farm-hand. Write for samples and the Good Roof Guide Book. Ask your dealer for Genasco, and look for the hemisphere trade-mark. Mineral or smooth surface. A written guarantee—if you think it necessary.

**THE BARBER ASPHALT PAVING COMPANY**

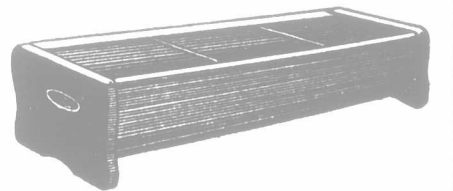
Largest producers of asphalt, and largest manufacturers of ready-roofing in the world.

Philadelphia, New York, San Francisco, Chicago, D. H. Howden & Co., Ltd., 200 York St., London, Ont. Roofers Supply Co., Ltd., Lake and Bay Sts., Toronto.

Cross-section, Genasco Smooth-surface Ready Roofing  
Trinidad Lake Asphalt  
Asphalt-saturated Wool Felt  
Trinidad Lake Asphalt

**Pay for this STEEL WATER TROUGH after you've proven its quality**

We feel sure you will be eager to replace those old, half-gnawed, unsanitary wooden water troughs with our STEEL WATER TROUGHS once you've seen them. So we ask the privilege of sending one of our STEEL TROUGHS to you entirely at our expense. Examine it carefully.



Notice that the body is of heavy galvanized steel plate, imported from England. Test the enormous strength of the steel head. It's practically indestructible. Our troughs are proof against frost. They cannot rust or leak. The most sanitary and everlasting water troughs you can buy. Just send us your name and address and tell us to send you the trough. Standard lengths of troughs are 8 ft. and 12 ft., and widths across top 23 and 27 inches. Special sizes made to order. Booklet giving complete description mailed free if you ask Dept. W.

The Steel Trough & Machine Co., Ltd., Tweed, Ont.



# "Ideal" Fence has features that shrewd buyers appreciate

## That's why our Agents are so successful

Taking orders for "IDEAL" fence is far easier than you may think. The "IDEAL" has features that shrewd buyers appreciate. The railways buy "IDEAL" because of its weight and quality, because of the gripping tenacity of the lock on the

### "IDEAL" WOVEN WIRE FENCE

It is undoubtedly the strongest fence lock in existence. The farmers buy "IDEAL" for the same reasons as do the railways. "IDEAL" fence is easiest to sell. That is why our agents are so successful.

Don't you think it would be wise to write us for complete particulars in regard to becoming the "IDEAL" fence agent in your locality? Do so to-day. If you wait until to-morrow you give your neighbor a chance to get in ahead of you.



The McGregor-Banwell Fence Co. Limited  
WALKERVILLE, ONTARIO

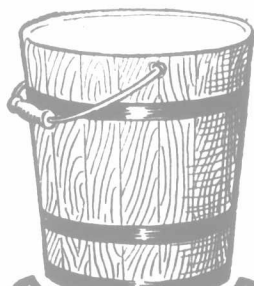
#### GOSSIP.

(Continued from page 518.)

17 lbs. Aaggie Grace Manor Josephine, 20.84, and several others along about the same. All young bulls old enough for service have been sold, but there are several very richly-bred ones coming on. One of them is a 6-months-old son of Brightest Canary, whose four nearest dams' records average 28 lbs., dam De Kol Mantill 3rd, record 16 lbs. as a 2-year-old; there are few better bred young bulls alive than this. The others are all sired by the great stock bull, and out of the above-mentioned cows.

#### NEWCASTLE SHORTHORNS AND TAMWORTHS.

The Newcastle herd of Shorthorn cattle and Tamworth swine, the property of A. A. Colwill, Newcastle, Ont., was visited by a "Farmer's Advocate" representative a few days ago. Mr. Colwill has been before the people of Canada, through the columns of "The Farmer's Advocate," as a breeder of these special lines of pure-bred stock for a great many years, and the continually-increasing demand he receives for breeding stock shows that his numerous customers are satisfied with the treatment they receive from his hands. The Shorthorn herd is now about 30 strong, all bred on heavy-milking lines, descendants of the two imported cows, Snowdrop (imp.) =497=, and Louisa =304=; the major part of them the get of Village Hero =19274=, Brave Baron =23259=, a son of Imp. Indian Chief, and the stock bull just sold, Baron Tulip =53879=, a Tulip-bred son of Imp. Baron Beaufort, dam Tulip Queen 2nd (imp.), by Macbeth. On hand, for sale, are a dozen heifers from one to two years of age, that should soon be picked up by parties looking for milking-bred Shorthorns, as they are priced very easy. There are also for sale two yearling bulls, bred on the same lines. The Tamworths need no introducing; their high-class quality, coupled with their ideal type, as evidenced by the phenomenal success they have met with at the leading Canadian shows for a great many years, where they have won championships galore, is too well known to need repeating. The stock boar, Imp. Cholderton Golden Secret, has proved a huge success as a sire of remarkable uniformity, his get finding a ready sale, and giving entire satisfaction to their purchasers. Nearly all of the dozen or more brood sows are either daughters of his or daughters of that famous old Toronto champion, Colwill's Choice, those that are daughters of his being bred to his lieutenant in service, Morrision Fred 5746, sired by Imp. Knowle King David, dam Morrision Lass, by Newcastle Warrior. During the last year, Mr. Colwill has had a very heavy demand for Tamworths, so much so that he has found great difficulty in filling his orders, the demand being particularly heavy for young boars, of which there is only one left fit for service. He is five months of age, a straight pig, of good length and type. In young sows, there are several from five to six months of age, three of them are wonders, only five months of age, averaging in weight 225 pounds, and are high-class show animals.



## A pail, with water—a brush—and a pkg. of Alabastine

are all you need to transform an ordinary-looking wall into a beautiful and artistic wall which will appeal to the most refined taste. Any one can apply Alabastine. Alabastine colors are permanent—they do not rub off. They give that artistic soft, velvety effect which can be produced only by Alabastine. It hardens with age, becoming a part of the wall. Alabastine can be re-coated without removing the old coats.

### CHURCH'S Alabastine COLD WATER

Alabastined walls are now the most popular. There is nothing so charming, so sanitary, so cheap. In the modern home, Wall Paper, held on by flour paste, is now tabooed. The sales of Alabastine in Canada have doubled in the last two years.



None Genuine without little Church on Label

#### FREE STENCILS

To still further popularize Alabastine and again double its sales, we have organized a Decorative Department, and are prepared to offer FREE COLOR SCHEMES and FREE STENCILS to all users of Alabastine. Write today for particulars—our advice is FREE. Let us help you to beautify your home at moderate cost.

The Alabastine Co., Ltd., Paris, Ont.  
31 Willow St. 8

There is one extra-nice young sow in pig, about six months of age. Several litters are coming on, for which Mr. Colwill is now booking orders.

#### Raise a Pig.

- If you wish to own an auto that will travel fast and far, Raise a pig.
- If you have a dear desire for a splendid private car, Raise a pig.
- If your daughter yearns for jewels that will make a lurid blaze, Or your wife would be a leader where some other matron sways; If you wish to give up toiling and in comfort spend your days, There's a way—don't overlook it— Raise a pig.
- If you're sick of serving others and are longing for a change, Raise a pig.
- If you wish to gaze at wonders that are far away and strange, Raise a pig.
- If your son would like to squander money on a chorus girl; If you yearn to own a castle having walls inlaid with pearl; If your darling daughter wishes to be married to an earl, There's a way—don't overlook it— Raise a pig.

—Anon.

#### TRADE TOPIC.

**BE READY TO CURE HORSE AILMENTS.**—Because a farmer has to work with his horses and have their services nearly every day in the year, it is absolutely necessary that he be posted on their common ailments, and know how to treat their injuries. Little things happen too frequently to horses to be all the time depending on others. It is inconvenient, as well as expensive, to go for a horse doctor when a horse goes lame, or there is a swelling to reduce, or a wire cut to heal. It is not out of place to suggest, as we have frequently done before, that it is wise to have such a thoroughly good and reliable horse remedy as Kendall's Spavin Cure constantly on hand. Kendall's Spavin Cure is now, and for a long series of years has been, a standard horse remedy. Its compounder must have understood horses and their diseases. He brought the ailment and the cure together, and this applies, not merely to one ailment, but to many common troubles of the horse. In this connection, we want to commend to our readers a little book called "A Treatise on the Horse and His Diseases." This book, and Kendall's Spavin Cure, ought always go together. The book is a useful little compendium of horse knowledge. It gives symptoms, describes diseases, suggests proper treatment. In very many cases, Kendall's Spavin Cure is the only remedy needed. The book can be had free at the drug store, where Kendall's Spavin Cure is sold, or it may be secured by writing to the Dr. B. J. Kendall Company, at Enosburg Falls, Vermont, U.S.A., if you enclose a two-cent stamp to pay postage.

## PROVE IT!

Don't take our word for it. Ask us to prove to you that the **SELKIRK STIFF-STAY FENCE** is Heavier, Stiffer, Stronger, More Secure and Serviceable than any fence you have ever seen. It is the Best and Most Economical Fence to Buy, and consequently to Sell.

**FILL OUT THIS BLANK AND SEND IT TO US.**  
SELKIRK FENCE CO., HAMILTON, CAN.

Gentlemen,—I want to examine for myself the merits of S. S. S. Fencing and Gates. Send me a free sample piece of the fence with descriptive matter and agent's terms.

Name.....  
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## VASELINE IN TUBES

### Vaseline Camphor Ice

Heals chapped hands, cracked lips and skin.

### White Vaseline

Invaluable internally for coughs, colds, sore throat, croup.

### Capsicum Vaseline

Better than mustard plasters; does not blister.

### Borated Vaseline

A valuable remedy for catarrh.

### Mentholated Vaseline

Allays neuralgic pains, nervous headache; cold in head.

### Camphorated Vaseline

Eight per cent. gum camphor; for rheumatism, gout, etc.

### Carbolated Vaseline

Best antiseptic dressing known.

### Vaseline Oxide of Zinc

Quickly heals eruptions, sores and wounds.

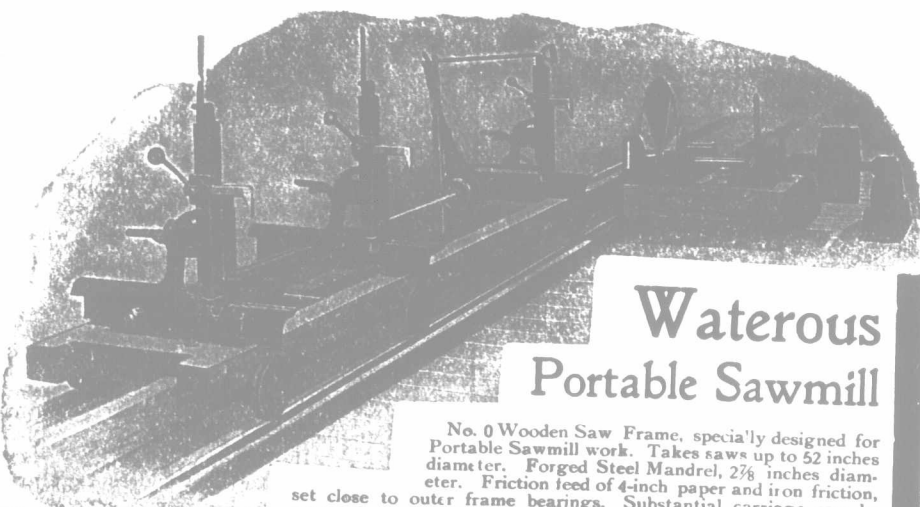
### Pure Vaseline

Known world wide as the best and safest family remedy.

### OUR FREE VASELINE BOOK

Call the special merits of each Vaseline preparation and gives directions for its proper use. Send us your name with street address, mentioning this paper, and we will mail you a copy, postage prepaid.

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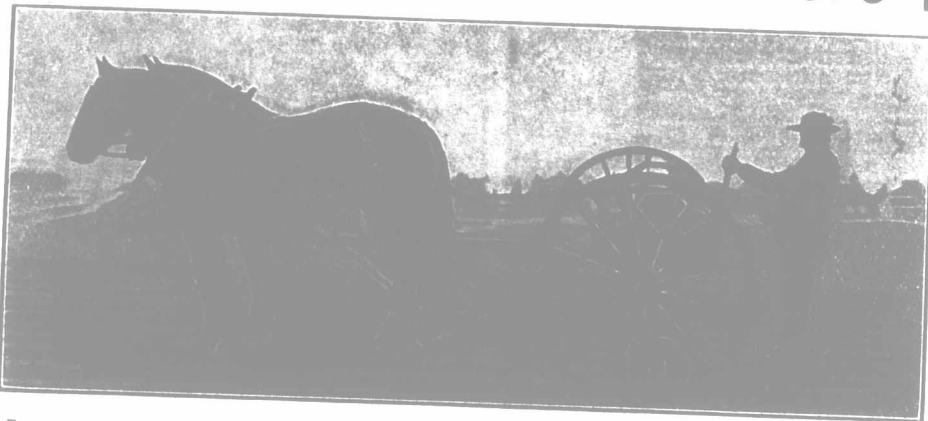


## Waterous Portable Sawmill

No. 0 Wooden Saw Frame, specially designed for Portable Sawmill work. Takes saws up to 52 inches diameter. Forged Steel Mandrel, 2 3/8 inches diameter. Friction feed of 4-inch paper and iron friction, set close to outer frame bearings. Substantial carriage can be returned or giggered from 5 to 10 times as fast as feeding speed. Carriage will accommodate good size logs. Standard carriage for rack feed is 16 feet 11 inches long; rope feed 17 feet 6 inches long. Frame extra wide, of heavy red pine stringers, edges bound with heavy iron. Log seats independent taper movement, and are fitted with our patent upper and lower steel hook Peel Dogs, setting and holding Paws, designed to eliminate lost motion and permit a set of 1-16 in. h. Steel-set shaft 1 1/2-16 inches diameter and 16 feet long. Carries pinions which operate knees and is fitted with heavy cast iron hand-wheel for hand setting. Track 54 feet long. This is one of the finest Portable Sawmills made. It will pay you to send for our free catalogue, which describes it, as well as many others in detail. Drop us a card to-day.

The Waterous Engine Works Co'y, Ltd.  
BRANTFORD, ONTARIO.

## THE DRILL THAT BRINGS BIG CROPS



The LEADER is not just an ordinary drill by any means, but every part has been designed and built just as well as it is possible to make it, and every operation it has to do has been considered, and the drill built to do it as well as it can possibly be done.

The left lever forces the furrow openers into the hardest ground, or carries them over soft spots. The furrow openers (either Disc or Hoe) open the land just right for the seed to be deposited and properly covered. They do not clog in trashy or wet land. The force feed forces just the correct amount of seed out all the time without skipping or bunching.

The draft is light, and the drill properly balanced.

This is the drill you want. You had better order one at once.

THE PETER HAMILTON CO., LIMITED, PETERBOROUGH, ONT.

### BOOK REVIEW.

#### NEW VIEW OF PLANT-BREEDING.

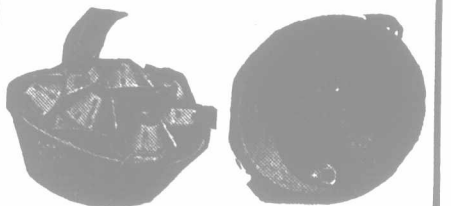
From the Open Court Publishing Co., of Chicago, Ill., we have received "for the favor of review," a copy of "Plant Breeding," by Hugo De Vries, Professor of Botany in the University of Amsterdam, Holland. (Copies may be ordered at \$1.65, postage paid, through this office.) We have had inquiry for this book, and from the discussions at various meetings in Canada of late, it is evident that its subject is receiving the earnest attention of many thoughtful students. This season, more than ever before, the relation of theory and practice will be studied on Canadian seed plots. Illustrative in style, the work is popular enough for general reading, and is bound to do good, whether its conclusions are accepted in toto or not. It sets people thinking. The author propounds his theory of the origin of species and varieties in plant-breeding by sudden mutations, rather than the slow and almost invisible process of natural selection as set forth by Darwin in his theory of evolution. De Vries holds to that theory, but contends that our conception of the mode of descent must be changed. He contends that a species, like an individual, has its birth, lifetime and death; that there is a struggle for life among species, and that the fittest survive. He states that the gradual change of one species into another has never been proven by a clear, distinct case. Such changes are lateral and sudden-mutations.

Most of these essays were originally given as lectures during the author's visit to America in 1906, when he studied first hand the work of Luther Burbank, the plant-breeder of California, and Dr. Cyril G. Hopkins, of the University of Illinois, distinguished by his work in corn improvement (yield, physical characteristics, and chemical qualities), by breeding from single, selected ears. For this chapter alone, the book is well worth reading, because corn-breeding for seed is now being taken up in earnest in Canada. Burbank's main work is in producing, by crossing and selection, new plants, beautiful as useful. Thousands of the chaotic progeny of the innumerable crosses made are discarded and burned every year. German plant-breeders have followed the principle of slow and gradual amelioration, or improving cereals from a multiple sample, or by what is called "mass selection," as distinguished from single-head selection as a starting point, in which Le Couteur and Patrick Shirreff were the precursors of the method rediscovered and applied by Prof. Hjalmar Nilsson, at the Swedish Experiment Station, Svalof, an account of whose work is the crucial feature of the book before us. For some years the German principle was followed, but finding that the results did not, after a certain point was reached, show the improvement desired, finally the plan was adopted of selecting individual plants, distinguished by certain characteristics which prove constant and uniform, with the exception of accidental hybrids. Remarkable success is said to have attended this method in the improvement of Swedish seed and grain crops. Such plants are called "mutants," and are the initial points of a new species. Incidentally, De Vries mentions the discovery (independently) by Willet M. Hays, then of the Minnesota Experiment Station, now Assistant Secretary of Agriculture at Washington, of improved types of wheat from phenomenal yielding mother plants. Artificial crossing is still practiced at Svalof, and Seed Commissioner Geo. H. Clark, of Ottawa, who spent some time there last summer, considers that the statement on page 50 of the book is a little overdrawn—"and especially should all endeavors of winning ameliorated varieties of cereals by means of hybridization simply be left out of consideration," etc. We might add that the suggestion has been made that the famous Red Fife and Dawson Golden Chaff wheats of Canada originated after the manner described by Prof. Nilsson. "The Farmer's Advocate" would be glad to receive authentic testimony from readers on points of practical interest which this book is certain to raise for discussion.

## Put the Joke on Him

If any one tells you that disks are no essay in a modern cream separator, put the joke on him. Ask him why traction engines and automobiles need no horses. He'll say, "Because they have got power enough without horses."

Then tell him that Sharples Dairy Tubular Cream Separators need no disks because they produce skimming force enough without them—that Dairy Tubulars have no "fillings" yet produce twice the skimming force, skim faster, skim several times cleaner and last longer than common machines.



Full pan shows disks from common separator. Other pan shows the only piece used inside Sharples Dairy Tubular Bowls.

Tubular sales easily exceed most, if not all, others combined. Tubulars probably replace more common separators than any one maker of such machines sells. The manufacture of Tubulars is one of Canada's leading industries. The World's Best.

Write for  
Catalog  
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Yrs

THE SHARPLES SEPARATOR CO.  
Toronto, Ont. Winnipeg, Man.

## Seed Grain SEEDS

We have the following selected Seed Grain to offer, and varieties true to name:

**OATS**—Tartar King, Ligowa, Banner, White Jewel, Big Four, Abundance, Sensation, Improved American, Irish White, Black Joannette, 50-pound Black. Any of the above 65c bush. Bags extra, f.o.b. Guelph. Early Oats—"Daubenay," 80c bush. New Varieties—"White Wave" (imported), \$1.75 bush. Bumper King, 85c bush.

**NEW SEED BARLEY**—O. A. C. No. 21 (six-rowed), selected seed; a big yielder, good stiff straw, \$1.25 per bush; 10-bush lots at \$1.20. Mandschuri Barley (six-rowed), 80c bush. Black Hulless Barley, \$1.30 bush.

**SPRING WHEAT**—Wild Goose, \$1.35 bush.

**PEAS**—Early Centennial, Golden Vine, Prince Albert, \$1.20 bush. Canadian Beauty, \$1.30 bush.

**RED CLOVER AND TIMOTHY**—Fancy Red Clover, \$11.00 bush. Choice No. 1, \$10.50 bush. f.o.b. Guelph. Fancy Timothy, \$3.00 bush. Lucerne or Alfalfa, \$13.00 bush. Alsike, \$9.00 bush.

Write us for prices. State kind wanted. We carry other seed grain not mentioned here. Terms cash with order.

X Bags, 25c each; Hochelega Bags, 30c each; sacks, 10c each. All prices f.o.b. Guelph.

James Hewer & Son

Seedsman,  
90 Macdonnell St., Guelph, Ont.  
See later announcement re Seed Potatoes and Corn

## NEW TELEPHONE DIRECTORY

THE BELL TELEPHONE COMPANY OF CANADA is about to publish a new issue of the

## Official Telephone Directory

FOR THE  
DISTRICT OF WESTERN ONTARIO,  
including LONDON

Orders for new connections, changes of firm names, changes of street addresses, or for duplicate entries, should be handed in AT ONCE TO

C. H. BEARD, Local Manager.








AUCTION SALE

## 30 Holstein-Friesian Cattle 30

At Maple Stock Farm, Bealton, Ontario,  
**WEDNESDAY, MARCH 30th, 1910**  
EIGHTEEN FEMALES AND TWELVE BULLS.



Maple Herd represents several of the greatest families of the breed: De Kol, Johanna, Wayne, Pietertje, Posch, Mechthilde, Schuiling, Mercena, Bonheur, etc. Nearly all the matured cows are in the advanced register making good records. The bulls rising one year old are a choice lot, good color, good size. Count Mercena Faforit is at the head of the herd. His dam, Faforit 7th, grand champion at Toronto and London, 1905-06. His sire's dam, official record 27.65 lbs. of butter in seven days, 112 lbs. in thirty days. A number of these cows are in calf by this great bull. All heifers freshening soon enough before the sale will be officially tested. Catalogues will be ready by March 21st, 1910. Maple Stock Farm is situated three miles north of Villa Nova station. The advertiser has made arrangements with the M. C. R. to stop train from the east due at Villa Nova at 10 a. m., and train from the west at 10.55 a. m. Both trains will be met at the station. Train leaves Villa Nova for the east at 4.55 p. m., connecting with the G. T. R. at Hagersville. Train for the west leaves at 4.30, connecting with T. H. & B. Ry. at Waterford. Sale commences at 1 p. m. sharp. Terms: 6 months' credit on approved notes; 3 per cent. off for cash. Positively no reserve.

Auctioneers: W. Almas, Brantford, and J. Wigg, Cayuga.  
**W. SLAGHT, - - - BEALTON, ONT.**  
SALE HELD UNDER COVER.

# EWING'S

## —the "Pure-Bred" Seeds

There are "pure-breds" and "scrubs" in seeds as well as in stock. When you breed "pure-bred" stock you raise fine, profitable animals—when you breed "scrubs" you get scrubs, and nothing more.

Scrub seeds are generally cheap to buy, but always most expensive to plant, for "scrubby" crops don't pay for land and work, let alone fertilizer and seeds.

Ewing's Seeds are pure-bred. They are grown from selected plants, the strongest, healthiest, most perfect of their kind. Naturally they reproduce splendid crops of the same uniformly high quality.

Ewing's Seeds instead of the doubtful kind will often mean double the crop. If your dealer doesn't keep Ewing's, buy from us direct.

Write for our big Illustrated Catalogue. It's useful, interesting and free.

Wm. Ewing & Co., Seedsmen, McGill St., Montreal.

# SEEDS




## PAGE WHITE FENCES

Page Fences wear Best—Styles for Lawns, Parks, Farms and Railroads. 14,000 miles of Page Fences and 73,000 Page Gates now in use in Canada. Our 1910 Fences are better than ever. Page Gates for 1910 have Galvanized Frames. Get our latest prices and booklet.

**THE PAGE WIRE FENCE CO., LIMITED**  
Largest fence and gate manufacturers in Canada

WALKERVILLE TORONTO MONTREAL ST. JOHN WINNIPEG VICTORIA

## PRAIRIE LAND

with some timber. Best location in Canada for grain and cattle. Good climate. A PRORICK COUNTRY, with railroads, civilization and good markets. This is the place to make money. Come and see for yourself the fine weather, tall grass, big crops. Easy terms. Cheap excursions. Our map and folder explain Canadian conditions with absolute truthfulness. Write SCAND. CANADIAN LAND CO., 172 Washington St., CHICAGO.

**GOSSIP.**

The 20-months' Shorthorn bull, Nonpareil Hero, by Nonpareil Count, is advertised for sale by J. K. Hux, Rodney, Ontario.

**HIGH PRICES FOR SHIRES.**

At an auction sale of Shire horses, held in Agricultural Hall, London, England, Feb. 24-25, a two-year-old filly, by Dunsmore Raider, sold for 560 guineas, and 15 others, mares and stallions, sold for prices ranging from 200 to 320 guineas each; 157 head, sold at this sale, made an average price of £107 11s.

**BRAMPTON JERSEYS.**

As a high-class herd of Jersey cattle, the Brampton herd, the property of B. H. Bull & Son, Brampton, Ont., have, for nearly a quarter of a century, demonstrated their superiority at the leading Canadian shows, from Halifax on the East to Vancouver on the West. The herd is now about 250 strong, 50 of which are yet taking milk, 40 others being yearling heifers, the whole herd being in splendid condition, under the skillful care of the herdsman, Robt. Stinton. Arrayed in a single row are no less than six grand champion cows, Mon Plaisir's Fanny, Brampton Primrose, Imp. Sweet-eyes, Minnette of Brampton, Brampton Ruby, and the noted old Sunbeam; also the Toronto junior champion of last year, Brampton Henrietta. This heifer is now, as a two-year-old, milking 36 lbs. a day that tests 5 per cent, equivalent to 12.60 lbs. butter-fat in 7 days. The milk average of these great cows is 40 lbs. a day; average test, 5 per cent.; estimated butter in 7 days, 17 1/2 lbs. Few herds of Jersey cows in the world could show seven such cows. Another of the good young things is a three-year-old daughter of Arthur's Golden Fox, just freshened, and is giving 40 lbs. a day. Out of her, for sale, is a yearling bull, sired by Imp. Ferrior, which should be a most desirable herd-header, bred as he is. Another great heifer is the two-year-old, Brampton Lady George, whose daily card shows from 32 to 33 lbs. a day, and improving. She is a daughter of Brampton Electa, who has given 45 lbs. a day of milk, and 19 lbs. of butter in seven days. Out of this heifer is a young bull, sired by a son of the great champion, Blue Blood. There is also a 4-months-old bull, a brother of hers. Here are a pair of young bulls whose breeding on producing lines cannot be beaten, and should make herd-headers of a high order. Another of the great cows of the herd is Darling, champion at the Dominion Exhibition in 1908, with a milk record of 50 lbs. a day. She shows her wonderful producing abilities in her large and well-balanced udder. Out of this cow is a yearling bull, sired by a son of Golden Fern's Lad, a grand young bull, whose breeding could not be improved on. A two-year-old daughter of the old cow, consequently a sister to this young bull, calved at 18 months of age, and gave 30 lbs. of milk a day. As chief stock bull, has lately been repurchased that great old bull, Blue Blood, four times grand champion at Toronto, as well as champion of the Maritime Provinces. Twelve of his daughters are in the herd, and their heavy-milking qualities and show-ring form induced the firm to buy him back, in spite of his twelve years. Nearly all the mature cows are now in calf to him, the others being bred to Imp. Brampton Jolly Oakland, who has to his credit second at Toronto and first at London. He was purchased at a long price, and was the richest-bred bull for sale on the Island. The heifers are being bred to Brampton Stockwell, a son of Mon Plaisir's Fanny. Toronto grand champion last year, whose butter test is 2 lbs. a day, when 211 days in milk, and two of her daughters have butter tests of 2 1/2 lbs. a day at 3 years of age. Some of the heifers are being bred to Brampton Raleigh, whose sisters and sire's sisters are making the best butter tests of any Jersey family in the United States to-day. One of his sisters now in this herd is giving 26 lbs. a day at 2 years of age, and freshened in August last, her milk testing over 5 per cent. All told, there are for sale five young bulls fit for service, and 15 bull calves; also females of all ages, and in any number.

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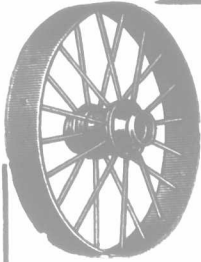
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QUESTIONS AND ANSWERS. Veterinary.

FATALITY IN MARE.

Mare refused oats in the evening. Next morning her tongue, eyes and throat were swollen; eyes red, and running water; tongue turned dark and cold, and projected out of her mouth. She died at noon. Was this contagious, and what treatment should have been given?

W. L.

Ans.—This was acute erysipelas, due to an undetermined alteration of the blood. It is not contagious, and no treatment is effective in such acute cases. V.

UNTHRIFTY PIGS.

I have a batch of nine pigs, four months old, that only weigh about 30 pounds apiece. I feed them one gallon and a half of chop, half barley and half oats, three times a day. If I feed more, they get too fat and choke up. They seem to have a cough; worse after feeding. They look well, but do not grow. Please tell us if we can do anything for them. I weaned them at seven weeks old, and they did well for a month or more, with the above result. H. R.

Ans.—I am of the opinion these pigs have lung worms, for which nothing can be done, or their trouble may be bronchitis, caused by a parasite, and, if so, the inhalation of the fumes of burning sulphur might help them. I have known cases of this nature in which a partial recovery took place when the pigs were allowed free run in fine weather, but, as a rule, an animal that is diseased will not thrive well. It would be wise in this case to kill one and hold a careful post-mortem, as, no doubt, the same trouble is operating in all. V.

MARE WITH COUGH.

Mare coughs, and passes a large amount of flatus per anus. G. H.

Ans.—The symptoms indicate broken wind, or heaves, for which there is no cure. The symptoms can be helped by careful feeding and attention. Feed on first-class straw, instead of hay, and give larger quantities of oats than when feeding hay. Dampen everything she eats with lime water. She is probably a heavy feeder, so feed bulky food in limited quantities, so as not to allow her to overload the stomach at any time. If possible, avoid working or driving her immediately after having a full meal. The administration of drugs in these cases is a useless expense. If she is not heavy, the administration of the following, every morning, will probably check the cough, viz., 2 drams solid extract of belladonna, 1 dram powdered opium, 20 grains digitalis, and 1 dram camphor, mixed with sufficient oil of tar to make plaster; rolled in tissue paper, and given as a ball. V.

LYMPHANGITIS.

Mare is subject to attacks with the following symptoms: She becomes stiff in right hind leg, and is swollen from hock to body, and very sore to the touch. The swelling extends downwards to foot. She suffers for a few days, then the pain decreases, and the swelling gradually subsides. J. B.

Ans.—This is lymphangitis or weed. Repeated attacks usually result in a chronically enlarged leg, which cannot be reduced. It is due to good food and want of exercise. Prevention consists in giving regular exercise, and feeding a reasonable amount of laxative food, as bran, or raw roots, in addition to the regular food. Treatment of an attack consists in giving a purgative of 8 drams aloes and 2 drams ginger, feeding nothing but bran for 24 hours after giving dose. Follow up with 3 drams nitrate of potassium, three times, daily, for two days. Bathe leg long and often with hot water, rub dry, and apply a liniment made of 1 ounce camphor, 1/2 ounce oil of turpentine, 4 ounces tincture of arnica, 8 ounces alcohol and water to make 1 pint. As soon as lameness disappears, give regular exercise. V.

Geo. Davis & Sons, Alton, Ont., have, as stated in their advertisement, seven richly-bred Aberdeens-Angus bulls, from 9 to 10 months of age, of choice quality, being the mellow, mossy-coated kind, sired by the excellent stock bull, Coch-rane of Tweedhill, American No. 107704, Canadian 1905. These bulls will be sold very reasonably to make room.



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**For Sale: Suffolk Punch Stallion,**  
Sired by pure-bred Suffolk Punch stallion, Ontario, Brown. Six years old. THOS. KNAGGS, VANDECAR, ONT.

**QUESTIONS AND ANSWERS. Veterinary.**

**LUMP ON HIP.**

A hard lump has appeared about six inches behind my horse's left hip. H. L.  
Ans.—This is either a tumor or an abscess. If the former, it will have to be dissected out; if the latter, it should be lanced as soon as ready, and the cavity flushed out, twice daily, with a five-percent. solution of carbolic acid, until healed. Make a liniment of 3 parts each of oil of turpentine and raw linseed oil, and 1 part liquor ammonia fortior. Rub twice daily with this for three days. If an abscess, this will hasten the formation of pus; it will become soft in the center, when it should be lanced. If a tumor, it will be better for you to employ a veterinarian to operate. V.

**DOCKING AND MISCELLANEOUS QUESTIONS.**

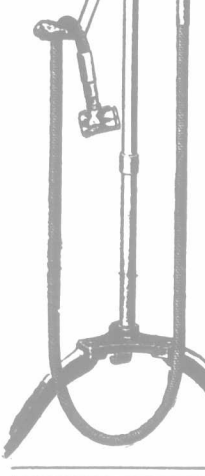
1. Would you advise docking a colt at 1 or 2 months old, or waiting until it is older?
  2. What dry dressing should be applied to wound?
  3. How long after operating should the cord be left on?
  4. Give treatment for acute indigestion in the cow.
  5. Would the same treatment do for a horse? W. L. H.
- Ans.—1. When the colt is strong and healthy, the age mentioned is a favorable time, but a few months' makes little difference. In spring colts, the operation is usually performed in the fall, about weaning time, but may be performed at any age.  
2. Equal parts iodoform and boracic acid make an excellent dry dressing, but, as a matter of fact, it is not often dressings of any kind are applied.  
3. The cord is simply to prevent bleeding during the operation, and as soon as precautions, as searing, stitching, or whatever means are taken to prevent bleeding has been done, the cord should be removed.  
4. Give 3 ounces oil of turpentine in a pint of linseed oil, and follow up with a purgative of 2 lbs. Epsom salts and 1 ounce ginger.  
5. Yes; but give a purgative of 8 drams aloes and 2 drams ginger, instead of the Epsom salts. V.

**LAME MARE.**

Driving horse went a little lame on one fore foot last August. There is no visible alteration in structure of either foot or leg. I have been told that a ringbone is developing, but there is no enlargement noticeable. I have not driven her since last fall. She is not very lame, but, after driving, she favors the foot. I have blistered the coronet two or three times during the winter, but do not think the blister I have used is strong enough. G. H. H.

Ans.—These cases of chronic and obscure lamenesses are very hard to diagnose, even when a person has the opportunity of making a personal examination. It is very probable if a ringbone was present there would be visible enlargement before this. I am of the opinion the trouble is in the coffin joint, and it is not probable a perfect cure can be effected. The best treatment is just what you have been giving, viz., long rest and repeated blistering of the coronet. I would advise you to continue this treatment. The blister usually used for such purposes consists of 2 drams each of biniodide of mercury and cantharides, mixed with 2 ounces of vaseline. This, if properly applied, is sufficiently severe. The action of any blister depends largely upon its application. It must be well rubbed into the tissues, else its action will not be well established. Clip the hair off for two inches high all around the hoof. Tie her so that she cannot bite the parts. Rub the blister well in. In 24 hours, rub well again with the blister, and in 24 hours longer, apply sweet oil. Turn her loose in a box stall now and oil every day. Repeat the blistering every four weeks as long as you can give rest, and after you commence to drive her, use bar shoes, and keep foot soft by applying a poultice at nights. V.

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In the spring when your horses are soft and you put them at the hard spring work they sweat a great deal. Their heavy winter coat holds this sweat and it dries out slowly. If left to stand they take cold easily and at night they chill and are liable to all kinds of complaints. If you clip them they dry off fast and there is no question but they stand much less chance of taking cold when dry than if wet. You would not like to stand on a raw spring day or on a chilly spring night with a heavy wet suit on. Neither do your horses. It pays to clip them and blanket, if necessary on cold nights. Your horses dry off much faster, they feel better, rest better, get more good out of their food and do better work. They are better all around. Is it the humane and profitable thing to do. The quickest, least expensive and most satisfactory way to clip is with

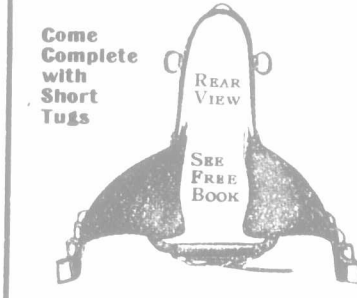
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Every horse-owner who will now consider the practical in valuable time and horseflesh by using a set of HUMANE HORSE COLLARS to prevent all collar troubles, will certainly buy a set with his spring harness. Or, get a set to cure your sore horses while they work. The success of the HUMANE HORSE COLLARS for the past three years proves this. Investigate.

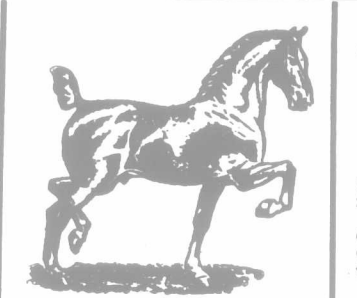
**HUMANE HORSE COLLARS**



It is a fact that only one set of HUMANE HORSE COLLARS on a farm will cure up and keep cured of collar troubles all your horses. Don't use "sweat pads"—it's cruel—especially in hot weather—injures your horses; and besides, the sweat pads cost you more than most collars before you get through. You don't need them with these collars. Every set comes complete with short tugs and ready to use—less trouble to put on and take off—and fit any horse perfectly all the time by simple adjustment. Built to last for years by expert workmen, and durable materials.

Don't think of buying your spring harness until you write or fully investigate THE HUMANE HORSE COLLARS. Get our book first.

**WHIPPLE HORSE COLLAR COMPANY, LIMITED**  
Hamilton, Ontario.



**UNION STOCK - YARDS Horse Exchange**  
WEST TORONTO, CANADA.

The Greatest Wholesale and Retail Horse Commission Market.  
Auction sales of Horses, Carriages, Harness, etc., every Monday and Wednesday. Horses and harness on hand for private sale every day.  
The largest, best equipped and most sanitary stables in Canada. Half-mile of railway loading chutes at stable door. Quarter-mile open track for showing horses. Northwest trade a specialty.  
**HERBERT SMITH, Manager.**  
(Late Grand's Repository.)

**CLYDESDALES AND FRENCH COACHERS**

We have still on hand a few choice Clydesdale stallions—all young—that for size, style and quality will stand inspection. We have also a few Clyde fillies—imported and Canadian-bred, and two French Coach stallions. Correspondence and inspection invited. Our prices are easy and terms to suit. Phone connection.

**R. NESS & SON, HOWICK, QUEBEC.**

**MY NEW IMPORTATION TO HAND.**

In my new importation of 4 Clydesdale Stallions and 6 Clydesdale Fillies, I have material that will stand comparison with anything ever imported. They have great size, beautiful mould, full of quality, right fashionably bred and perfect action.  
**JOHN A. BOAG & SON, QUEENSVILLE, ONTARIO.**

**Imported Clydesdales**

My first importation for 1910 has just arrived. Stallions up to a ton in weight, from 1 to 5 years of age. Draft character and faultless underpinning are a predominating feature. Also a few big choice fillies 2 and 3 years of age. **WM. COLQUHOUN, MITCHELL, ONT.** Phone connection.

**WAVERLY CLYDESDALES AND HACKNEYS**

My 1910 importation of Clydesdale stallions and fillies, and Hackney stallions and fillies, are now in my barns. One and two-year-old Clyde fillies of a character and quality never before excelled. My Hackney stud was never so strong in high-class animals. All are for sale and prices right. **ROBT BEITH, BOWMANVILLE, ONT.**

**Clydesdales Home from the Shows**

Intending purchasers would do well to see them before buying. Prices moderate.  
**Myrtle, C. P. R. SMITH & RICHARDSON, Columbus, Ont.**

**Imported Clydesdales**

1910 have arrived. They were selected to comply with the Canadian standard, combining size, style, quality and faultless underpinning with Scotland's richest blood. They will be priced right, and on terms to suit. **C. W. BARBER, GATINEAU PT., QUEBEC.**

**IMPORTED CLYDESDALES AND HACKNEYS**

In my stables at Ingersoll, Ont., I have always on hand Clydesdale stallions and fillies, and Hackney stallions, personally selected in Scotland for their high-class type, quality and breeding. Let me know your wants.  
**W. E. BUTLER, INGERSOLL, ONT.**





**Hundreds of Letters Testifying to Superiority of PRESTON Safe-Lock Construction and Galvanizing**

If you live near Mr. J. C. Payne of Cayuga, Ont., go and see his barn. It has been covered with PRESTON Safe-Lock Shingles for more than ten years. So far the roof has never leaked a drop. Mr. Payne says: "So far I have seen no wear or injury to the shingles."

Mr. W. J. McPherson of Berryton, Ont., says: "The safe-lock shingles purchased from you ten years ago have given splendid satisfaction." "The roof has never leaked a drop." "They seem to be as good as the day they were put on."

If after ten years of service PRESTON Safe-Lock Shingles do not show a sign of wear how long do you think they will last? Fifty years? A hundred years would be nearer the mark.

You see, PRESTON Safe-Lock Shingles are the only steel shingles that are made and galvanized according to British Government Specifications. Shingles galvanized according to

these rigid specifications are good for twice the service of shingles galvanized in the ordinary way. When you buy PRESTON Shingles you get the most lasting roofing material it is possible to procure.

Mr. Ernest B. Oliver of Wellburn, Ont., says: "Some of my neighbors said the snow would blow under them, but I fail to see any yet, and we have had some bad storms."

We could easily fill up a space ten times this size with letters from farmers testifying to the good qualities of PRESTON Safe-Lock Shingles but prefer to have you talk with those who have used our roofing in your locality. Just write us for their names. We would consider this a great favor.

**METAL SHINGLE AND SIDING CO., LIMITED, PRESTON, ONT.**  
Branch Office and Factory: MONTREAL, - QUEBEC.

Also send for our new booklet, "Truth About Roofing." We will send it free as a reward for telling the name of the paper in which this ad. appears. Otherwise we charge 10c for it.

**PRESTON SAFE-LOCK SHINGLES**

**VANCO Lime Sulphur Solution**

(Made in Canada)

Lime Sulphur Solution has absolutely proved its efficiency as a fungicide and destroyer of parasites on trees and vegetables.

"VANCO" Lime Sulphur Solution is the best form in which you can get this valuable spray.

"VANCO" has more sulphur in solution, gallon for gallon, than any other preparation, and is consequently more effective.

"VANCO" is uniform in quality, so you can always depend on it.

"VANCO" Lime Sulphur Solution contains no sediment. Every ounce is active material, and there is no sludge to clog the nozzles.

One barrel makes 12 for spring, or 50 for summer spray. \$8.00 per bbl. f. o. b. Toronto.

**"VANCO" Lead Arsenate**

is the surest and safest spray for all leaf-eating insects. It kills more certainly than Paris Green, sprays easier, sticks better, and never burns the foliage. Contains 15% to 16% Arsenic Oxide.

10c. to 13c. per lb. according to quantity.

We introduce the idea of High Quality at Lowest Price. "VANCO" Spray Chemicals are prepared by practical men, and have successfully passed Government analyses and practical tests.

**Chemical Laboratories Limited** 10  
126-136 Van Horne Street, - - TORONTO.

**FENCE FOR SALE**

**4,000 Rods 4-bar 40-inch No. 9 Fence**, stays 22 inches apart. In lots to suit, in 40-rod rolls. **PRICE 23c. PER ROD.** Freight paid east of Fort William. This fence was made up for a foreign customer, who failed just before shipment was made. Also, some bargains in small lots of 7-Bar, 8-Bar and 10-Bar Fences. Particulars on request.  
**THE EMPIRE FENCE EXPORT COMPANY, LTD., Walkerville, Ont.**  
Good dealers desired in Unoccupied Canadian territory.

**QUESTIONS AND ANSWERS.**  
Miscellaneous.

**PROBABLY TUBERCULOSIS.**

Some of the hens in our vicinity are dying with what is, to us, an unknown disease. They get lame, but eat well as long as they can hobble around to get the feed. Their heads look all right. Towards the last they get thin. From such a slight description, would you have any idea what it might be? J. S.

Ans.—It is probably tuberculosis, for particulars concerning which consult recent issues of "The Farmer's Advocate"—both poultry and inquiry departments. For a positive diagnosis, express the body of a dead fowl to the Bacteriological Department, Ontario Agricultural College, Guelph.

**ARGUMENTS FOR SILO.**

I am intending either to build a silo or buy a gasoline engine and cutter, for a stock of 10 cows and 20 young cattle. Which would be the better investment, and why? A. R.

Ans.—Build the silo and provide your animals with succulent feed in winter. This is especially important with dairy cows. More milk, and for that matter also more beef, can be produced from good silage than from the same amount of corn fed as dry fodder. This is more particularly true after Christmas or New Year's. Once a silo is filled your whole crop of corn is disposed of—cut, shocked, husked and all. Waste is reduced to a minimum, and if you have more corn than is required for winter feeding, it may with practically no loss be held over for feeding in summer or the following winter. A good silo will usually pay for itself in two years, if not sooner. It is about the most economical feed storage we have.

**BROOM CORN.**

1. What are necessary conditions in soil and climate for growing broom corn, suitable for the manufacture of brooms?
2. How is broom corn planted, cultivated, harvested and cured, and how much does it usually yield per acre of merchantable material?
3. Where could it be sold, and how much is it worth per ton?
4. What variety is best to plant? Lennox Co., Ont. SUBSCRIBER.

Ans.—1. Broom corn is of the same species as sorghum and Kaffir corn. Any soil that will produce a good crop of corn is sufficiently fertile for broom. The plant is sub-tropical, and does best in a warm, sunny climate, where there is sufficient rain in the early part of season to produce strong, rapid growth. It has been grown in Western Ontario, but probably not very successfully, as its culture was soon abandoned.

2. Broom corn is usually sown in drills, from 3 to 3½ feet apart; the standard variety about 3 inches apart in the row, while the dwarf sort, which is used for whisks, etc., should have six to eight plants to the foot. In the start the plant is of slow growth, and frequent and careful cultivation is needed to keep down weeds. After it is a foot high its growth is rapid, and such cultivation as corn gets will answer. It is usually harvested when in bloom, so that the brush may be of a good green color. The stalk is cut by hand, about eight inches below where the straws of the brush begin, and only this part is taken. A large number of men are required for this work and for the seeding or threshing which follows. Special machinery is required for the latter operation. The brush is afterwards dried and baled. The stalks of the dwarf sort, if cut immediately after the heads are removed, make good fodder. The yield of merchantable broom brush is from a fifth to a third of a ton per acre.

3. Unless there is a broom factory near there is difficulty in disposing of a small quantity except through middlemen. The average price for a number of years in the United States was about \$80.00 per ton. Very much higher prices are sometimes received, but usually after such a period more broom corn is planted, and the price drops suddenly.

4. Much depends on grade of seed. There are nearly 20 varieties, but name is of little consequence. Seed from crop that produced good brush is the essential thing. From the foregoing it may be judged best not to plant any.

**HEADACHE**

AND

**Burdock Blood Bitters.**

The presence of headache nearly always tells us that there is another disease which, although we may not be aware of it, is still exerting its baneful influence, and perhaps awaiting an opportunity to assert itself plainly.

Burdock Blood Bitters has, for years, been curing all kinds of headaches, and if you will only give it a trial we are sure it will do for you what it has done for thousands of others.

Mrs. John Connors, Burlington, N.S., writes:—"I have been troubled with headache and constipation for a long time. After trying different doctors' medicine a friend asked me to try Burdock Blood Bitters. I find I am completely cured after having taken three bottles. I can safely recommend it to all."

For sale by all dealers.

Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.



**MIDDLEBROOK ABERDEEN-ANGUS.** I am now offering for sale three choice young bulls; also a few females, either bred or with calf at foot to Hundred, grand champion Angus bull at Toronto last year. JOHN LOWE, Elera, Ont., P. O. and Station.

**ELM PARK ABERDEEN-ANGUS**

At the largest fairs of 1909 in Eastern and Western Canada our herd won over 30 prizes, composed of championships and 1st and 2nd prizes. If you want the kind that win, either sex, write, or come and see them.

JAMES BOWMAN, Elm Park, Guelph, Ont.

**HOMESTEAD ABERDEEN-ANGUS**

Two extra good bull calves left, 9 and 11 months old; also females, all ages. Will be priced low to sell this month.

W.M. ISCHE, Sebringville, Ont.  
Long-distance Phone.

**Aberdeen-Angus Cattle**

7 choice Aberdeen-Angus bulls for quick sale, from 9 to 10 months.

Geo. Davis & Sons, Aiton, Ont.

**FOR SALE: SOME NICE YOUNG Aberdeen-Angus Bulls**

and some females of all ages. Also a first-class Clydeale stallion. J. W. Bart, Caledonia, Ont.

**ABERDEEN - ANGUS**

Will sell both sexes; fair prices. Come and see them before buying. Drumbo station.

**WALTER HALL, Washington, Ont.**

**Aberdeen-Angus** Young bulls fit for service. Cows with calves at foot. Heifers. If you want anything in this line write: James Sharp, "Tweedhill," Rockside, Ont., Cheltenham Sta., C. P. R. and G. T. R., also Erin, C. P. R.

**HAWTHORN HERD OF DUAL-PURPOSE**

**Shorthorns**

For sale: Young cows and heifers; bred right; priced right; and the right kind. Come and see them.

Wm. Grainger & Son, Londesboro, Ont.

**Willow Bank Stock Farm SHORTHORNS AND LEICESTERS.**

Herd established 1855; flock 1846. The great Duthie-bred bull, Imp. Joy of Morning—52070—, and the Missie bull, Royal Star—72502—, heads my herd. Choice selections to offer at all times in both bulls and females.

JAMES DOUGLAS, CALEDONIA, ONTARIO.

**GEO. AMOS & SONS**

MOFFAT, ONTARIO.

Herd headed by Lancaster Floral, by Old Lancaster (Imp.), Scotland's Crown, by Ben Lomond (Imp.) and Waverly, by Mildred Royal. Write, or come and see us. White Wyandotte Eggs, good strains, \$1.50 per 15.

Farm 11 Miles East of Guelph, C. P. R.

**Shorthorns and Leicesters.** For sale: Choice-bred young bulls, and a number of 1 and 2 year-old heifers. All got by Imp. sires, and out of grand milking dams. And Leicester rams and ewes of all ages. W. A. Douglas, Tuscarora, Ont., Caledonia Station.

**SHORTHORNS** One choice young Lady Fanny bull for sale—good herd header; also several young heifers. A few prizewinning Berkshires, both sexes. Write or come and see them. Prices moderate. ISRAEL GROFF, ELMIRA, ONTARIO.



# RUBEROID ROOFING

Stands On Its Record

It is the **only** Roofing that has met the **test of time.**

There are upwards of 300 imitations and substitutes, and they cost more in the end.

**Only One Genuine**



Beware Imitations

It is the **only** Roofing that is made in **impregnated colors Red, Brown and Green.**

Before deciding on any Roofing for any purpose

**Get Our FREE BOOK**

It gives you information you should have about All Roofings. **Write to-day.**

Fac-simile of the "Ruberoid Man" appears on the outside wrapper, and the word "Ruberoid" is stamped in the underside of the fabric every few feet.

The Standard Paint Company of Canada, Limited  
Manufacturers, MONTREAL.  
DEALERS EVERYWHERE.

## DYER sells Fence at Factory Price

I can sell you Crown Wire or Iron Fence, any style, give you far better quality and save you money. Same on Metal Gates. I sell direct from Factory to you at small margin, leaving you salesman, jobber and retailer profits. Never been done in Canada before. Over fifteen years experience in Fence and Gate business has taught me how. Let me quote you E. L. Dyer, Mgr., Crown Fence and Supply Co. Toronto, Can. —I pay all freight. Don't buy Fence or Gates until you read my free booklet.

### A. Edward Meyer

P. O. Box 378, Guelph, Ont.,

Breeds **SCOTCH SHORTHORNS** Exclusively. Twelve of the most noted Scotch tribes have representatives in my herd. Herd bulls: Scottish Hero (imp.) = 55042 = (90065) 295765 A. H. B.; Gloster King = 68703 = 283804 A. H. B. Young stock for sale. Long-distance phone in house.

### Shorthorn Cattle

Would price my stock bull, Star Prince = 53900 =. Red. It would pay anyone wanting a bull to come and see his produce. Oldest bull I have left by him will be a year old in February. A winner in Toronto and London. Females of all ages. Some very good heifers in nice condition. All reds or good roans. **J. T. GIBSON, DENFIELD, ONT.**

### Scotch Shorthorns

At Toronto Exhibition this fall yearling bulls bred by us won 1st and 3rd in class and junior champion. We also bred the sire of these bulls. The grand champion steer at Guelph was sired by a bull of our breeding. We have 10 young bulls for sale now, bred the same. Write for breeding and prices. **John Miller, Brougham P. O., Ontario.** Claremont Stn., C. P. R., 3 miles.

### Spring Valley Shorthorns

Herd headed by Clipper Chief (imp.) = 64220 = (94673). If you want to get an imported bull, or a good Canadian-bred one to head your herd, be sure and write, or come and see them. Long-distance telephone. **KYLE BROS., AYR P.O., ONT.**

### HIGH-CLASS SHORTHORNS

I have on hand young bulls and heifers of high-class show type, pure Scotch and Scotch-topped, sired by that sire of champions, Mildred's Royal. If you want a show bull or heifer, write me. **GEO. GIER, Grand Valley P.O. and station, also Waldemar station.**

### Shorthorn Bull and Females.

We now offer a choice 11-months-old red bull calf of good quality, straight lines and nicely fleshed. Dam, by Joy of Morning, is a good milker, of the Mysic family. Sire the well-known Golden Count. Have also for sale a good young red cow with heifer calf at foot, and a few choice heifers, all bred to Prince Victor. **J. & D. J. Campbell, Fairview Farm, Woodville, Ont.**

### Geo. D. Fletcher, Binkham P.O., Ont.,

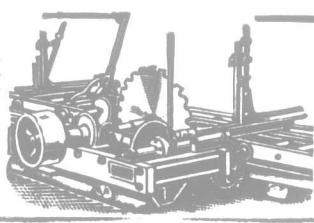
offers four choice **Shorthorn** bulls, 10, 13 and 18 months old, with both breeding and quality for herd-heads. Prices easy. Stock bull, Benachie (imp.) = 69954 =; also Shorthorn females and Yorkshire sows. Erin shipping station, C. P. R.



### AMERICAN SAW MILLS

Make most money because they do best work in quickest time with least power and smallest crews, owing to their simple construction and improved, patented devices. Portable and stationary. All sizes. Variable Friction Feed, Combined Ratchet Networks and Quick Receptor and other superior features. Free Catalog and Prices will interest you. Lists our complete line of wood working machinery.

American Saw Mill Machinery Co.  
113 Hope St., Hackettstown, N. J.  
1564 Terminal Buildings, New York



### 275 BURLINGTON SHORTHORNS 275

**3 Choice Imported Scotch Shorthorn Bulls—yearlings.**  
**1 Imported 2-year-old Bull, red—an extra sire.**  
**10 Bulls, 9 to 16 months old—all by imported sire.**  
**30 Choice Young Cows and Heifers—mostly bred or have Calves at foot.** Long-distance telephone. Farm 1/2 mile from Burlington Jct. Sta., G. T. R. **J. F. MITCHELL, Burlington, Ont.**

**SCOTCH SHORTHORNS**—Eight extra good young bulls, from 10 to 15 months old; 20 choice cows and heifers, forward in calf or with calves at foot. Prices reasonable. Inspection invited. **W. G. PETTIT & SONS, Freeman, Ont.** Farms close to Burlington Jct., G. T. R.

### INVERNESS SHORTHORNS

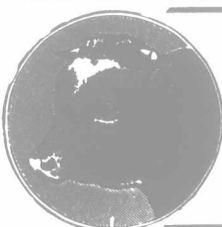
I can supply Shorthorns of all ages, with richest Scotch breeding and high-class individuality. **W. H. BASTERBROOK, Freeman, Ont.**

### Imp. Scotch Shorthorns

—When looking for Shorthorns, be sure to look me up. Young bulls fit for service, and females all ages; bred in the purple, and right good ones. **A. C. Pettit, Freeman, Ont.**



**Maple Leaf Shires, Shorthorns, Hampshire Hogs** 1- and 2-yr.-old Shire stallions, females from yearling fillies up; Shorthorns, both bulls and heifers; a choice lot of young Hampshire pigs, both sexes, beautifully belted. **PORTER BROS., APPLEBY P.O., BURLINGTON STA. Phone.**



### 30 HEIFERS AND 29 BULLS

PRESENT OFFERING.

Bred right, made right and at prices to make you feel right. Come early and get your choice. List of these, with catalogue, will be mailed to those who ask for them.

**H. CARGILL & SON, CARGILL, ONT.**

### SALEM SHORTHORNS!

Young bulls and heifers, sired by the great show and breeding bull, Jilt Victor (imp.), at **J. A. WATT, SALEM, ONT.** ELORA STATION, G. T. R. and C. P. R. Long-distance Telephone.



**VALLEY HOME SHORTHORNS AND BERKSHIRES** If you want a first class Shorthorn bull or heifer come and see what we have, or if you want a show animal with a choice pedigree we have them. For description of herd see Xmas Number of The Farmer's Advocate, on last page. **S. J. PEARSON, SON & CO., MEADOWVALE, ONT., P. O. AND STATION, C. P. R.**

### QUESTIONS AND ANSWERS. Miscellaneous.

#### SHORTS, OATS AND BUCKWHEAT.

Shorts would cost \$25.00 per ton; instead I buy buckwheat at \$26 per ton, and oats at \$25 per ton, mix and grind. Adding \$1.60 per ton for grinding, which would be the most profitable for feeding cows? **I. S. T.**

Ans.—Would advise you to put that question to your cows, in the form of a feeding experiment. From the standpoint of chemical analysis, the shorts at \$25 per ton should prove better value than buckwheat at \$26 or oats at \$25, leaving grinding out of consideration entirely. In practice we are by no means certain you would find it so, though we would advise using part shorts. We submit the following average comparison of the composition of these three feeds:

	Protein. %	Carbo-hydrates. %	Ether Extract. %
Shorts	12.2	50.	3.8
Oats	9.2	47.3	4.2
Buckwheat	7.7	49.2	1.8

At the prices named, buckwheat is the poorest value, though the floury portion of the buckwheat grain has a high feeding value.

#### RAPE AND WHITE TURNIPS FOR FEEDERS.

I would like to ask as to what value rape and white turnips are for fall feed for steers that are to be fed in the winter? Is there any danger of bloating when first turning in on the rape? I intend to work up a field until about July, then sow rape and white turnips for fall feed. **OLD SUBSCRIBER, York Co., Ont.**

Ans.—Rape is one of the most nutritious green crops that can be grown. Shaw estimates that it is worth twice as much as green clover, weight for weight. It is especially valuable for sheep, which fatten on it readily. There is no doubt that for cattle also it furnishes excellent forage, but precautions against bloating have to be taken. Cattle should be turned in the first day for a short time only, and for a lengthening period on several succeeding days when dry, before it is safe to allow them to pasture constantly on it. White turnips are less nutritious than rape or Swede turnips, but unless cattle "scoured" too much on them, would also give steers a fine start for fattening. It is recommended when stock are being pastured on such crops that they have access to a grass pasture.

#### STONE VS. CEMENT SILO.

My intention is to build a silo this coming summer, but it will be of stone, starting with 22-inch wall at bottom and tapering to 6 inches at the top, and built with cement mortar and plastered on the inside with cement. Stone to be field stone, and the cost of the building of it, including cement, one hundred and fifty dollars.

1. Would you advise a stone silo like this, when I have gravel on my farm?
2. Do you know of any stone ones built, and what are the objections to them?
3. Is a cement one 1 foot at the bottom and 6 inches at top strong enough?
4. Does a cement silo need to be plastered on the inside?

**R. A. D., Dufferin Co., Ont.**

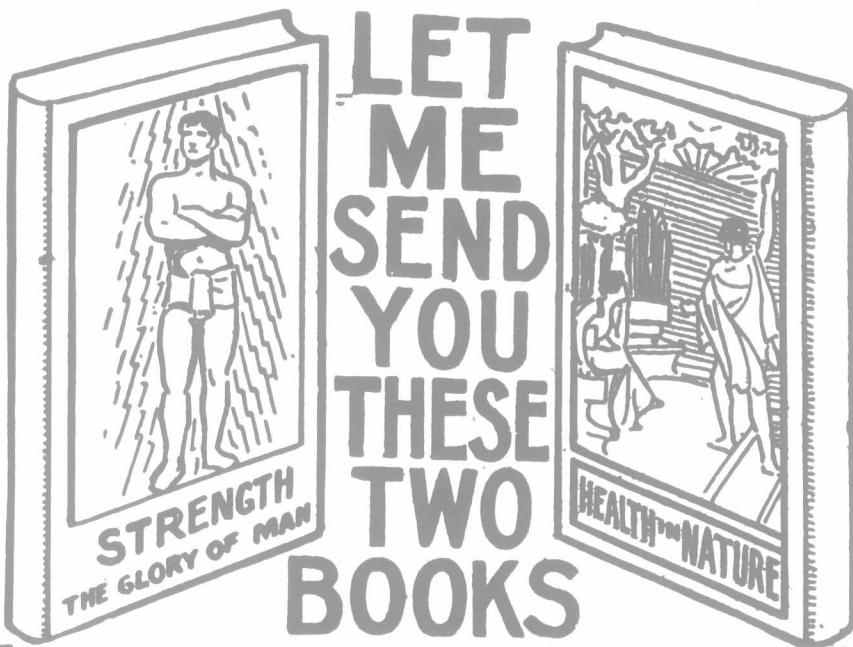
Ans.—1. Would advise cement rather than stone silo, unless you can get the stone one erected very cheaply. You give proposed cost, but not dimensions.

2. Yes, there are some, but very few have been put up lately. The main objection is the usually greater cost. There is also, unless walls are very thick, the difficulty of reinforcing effectively with wire or rods.

3. More than strong enough. Some excellent cement silo walls are but six inches thick from top to bottom. Reinforcing wires are, of course, imbedded in the wall.

4. No. Washing inside walls with pure cement and water answers all purposes.





**LET ME SEND YOU THESE TWO BOOKS FREE**

To every reader of this paper who is not well and strong I will send, on receipt of coupon below, a copy of my two books, "Health in Nature" and "Strength." These books explain in a simple and logical way what we all wish to know: What life consists of, the cause of disease, and the simple, inexpensive way of becoming well, strong and happy without the use of drugs.

**If You Are Suffering**

from **BACKACHE, LUMBAGO, RHEUMATISM, INDIGESTION, WEAK STOMACH, KIDNEY, LIVER OR BOWEL TROUBLE, BILIOUSNESS, DYSPEPSIA, NEURALGIA, NERVOUS DEBILITY, MELANCHOLY,** etc., or if you are blue and discouraged and feel that life is not worth living, you should by all means send for these two books.

**Vim, Vigor, Vitality**

were given to all of us, and if we have lost our strength perhaps we alone are to blame. Space will not permit me to explain my theory fully, but I cure by pouring into your body at night while sleeping a harmless, strength-giving, eight hours' flow of galvanic electricity; a powerful stream of real life, vitality, energy, nerve force, from the Dr. Sanden Hercules Electric Health Belt (improved October, 1909). 500,000 now in use. Free trial until cured. My books will explain it thoroughly. They are sent free, sealed, by mail upon request, or, if in this city, call at my office, test Belt, talk over your case. Advice free at the office or by mail.

**DR. A. F. SANDEN,** 140 Yonge Street, TORONTO, ONT.  
Office Hours, 9 to 6; Saturdays until 9 p.m.

NAME.....  
STREET.....  
CITY.....  
PROVINCE.....

**Maple Hall Shorthorns**  
Are bred on most fashionable Scotch lines, and are of high-class individuality. For sale are 6 young bulls from 6 to 10 months of age. A low, thick, sappy lot. Also 10 yearlings and 10 two-year-old heifers. Show material in this lot. Telephone connection. **DAVID BIRRELL & SON, GREENWOOD P. O., ONT., CLAREMONT STATION.**

I am offering 5 young bulls of choice breeding and color, all sired by the champion bull, Royal Chief 65495. **ROWAN HILL SHORTHORNS** R. F. Duncan, Carluke P.O., Ont.

**IRVINE SIDE SHORTHORNS** 3 bulls fit for service; 1 fifteen months' roan from imp. sire and dam; 1 thirteen months' roan from imp. sire and English Lady dam; also 10 yearling and two-year-old heifers. Write us, or call and see us before buying. **J. WATT & SON, Sal. m P. O., Ont., Elora Sta**

**CHOICE SCOTCH BULLS** FOR SALE. HERD-HEADING QUALITY. Farm adjoins Exeter, on G. T. R. **H. SMITH, R. R. 3, Hay, Huron Co., Ont.**

**QUESTIONS AND ANSWERS.**  
Miscellaneous.

**SERVICE OF PROCESS.**

Who is the proper person to serve garnishee papers, the sheriff or the person in whose interest they are served?

Ontario. LEX.  
Ans.—If the case be in the High Court or County Court, it is usual and proper for the service of the papers to be effected by the sheriff or his deputy, or other officer; if in the Division Court, by the bailiff. But the party who sues may serve the papers himself, or employ some person other than an officer of the court to attend to the matter. It is mainly a question of costs; and ordinarily the party against whom the proceedings are taken, even although the litigation should result in a judgment against him for debt and costs, would not be liable to pay as a part of such judgment any costs in respect of the service of process unless such service had been effected by the proper officer of court in that behalf.

**EVAPORATING APPLES.**

1. I am considering the building of an apple evaporator, according to the plan recommended in "The Farmer's Advocate," of January 13th. About how long would it take to dry a floor full of sliced apples, say 5 inches deep, with hot fire in large stove?

2. Will they require to be dried hard to preserve them?

3. Do they require to be fumigated to preserve from worms; if so, please give method?

J. G. D.  
Ans.—1. A floor of sliced apples would require about 12 hours to dry properly. In the meantime they would, of course, have been turned over and carefully watched.  
2. The amount of evaporation cannot be definitely defined. You can only determine this by actual practice, but an examination of any ordinary sample of dried fruit that has kept well will, in all probability, indicate the degree of dryness required. Some will be slightly over-dry, and other parts not quite dry enough. To remedy this, the evaporated stock is piled for a day or so and thoroughly mixed. The dry slices will then absorb the moisture from those that are not quite dried, and the whole will be of uniform quality.

3. Bleaching should be done as soon as the apples are peeled, in a properly-made box, containing fumes of sulphur. They should remain in the sulphur fumes about forty minutes. A. McNEILL.

**MATERIAL FOR CONCRETE WALL—SUNFLOWERS IN SILO.**

1. Will you please tell me how much gravel and cement it will take to put a wall 7 feet high and 10 inches thick under a barn 26 by 36?


2. I have two silos that I fill every year with corn and sunflowers. Now, what is the feeding value of good ripe sunflowers compared with good corn?

E. N. C.  
Ans.—1. If mixed 1 of cement and 8 of gravel, which is quite rich enough, the wall specified, not counting foundation, would require about 6 cords of gravel and 23 barrels of cement.

2. This is the first time we have heard of anyone ensiling sunflowers, stalks and all. The stems are so woody that they are considered unsuitable even for being made into silage. Only the heads are supposed to be used. The seeds are rich in oil, and Prof. Robertson once had an idea that horse beans to supply protein and sunflower heads to furnish oil might be advantageously ensiled along with corn, which is rich in carbohydrates, thus providing a silage that would in itself constitute a balanced ration. Unfortunately, horse beans have not done well in many parts of Canada, and experience has proven that it is wiser to depend on clover or alfalfa hay for the protein. The oil is not of so much importance, as it may, to a large extent, be substituted in the ration by carbohydrates, hence we question the economy of growing sunflowers with corn for ensilage. We have before us no analysis of sunflower seeds or stalks, but Henry records that Bartlett, of the Maine Experiment Station, concluded that with the same cultivation corn would produce a third more protein and twice as much carbohydrates as sunflower heads. This takes no account of the oil.

**METALLIC CEILINGS**

Both clean and fire-proof—no dust and dirt falling, as from plaster ceilings. Costs no more, but looks thrice as artistic. The life of a plastered or papered ceiling is short and nearly every year needs repairs. Our **Metallic Ceiling** will last as long as the house—always fresh and clean. We can send you hundreds of pretty designs to select from for both **ceilings and walls.**



Our beautiful free booklet tells you all about Metallic Ceilings and Walls. Send for one.

"Really I don't know how people can stand the constant drudgery necessary to keep the ordinary ceilings and walls clean. Metallic is so clean and sanitary."—The Philosopher of Metal Town.

MANUFACTURERS 1749

**Metallic Roofing Co.**

**Shorthorns**

**FOR SALE!** Several choice Canadian-bred bulls ready for service; also a good imp. two-year-old bull of the Brawith Bud family. A number of cows and heifers of different ages of right type and quality. Write or call on **H. J. DAVIS, Woodstock, Ontario.** Long-distance Bell phone. C. P. R., G. T. R. main lines

**SHORTHORN BULLS**

I have some choice young bulls, from imp. sire and dams. Good ones at reasonable rate. Come and see them. Prices right. Also some choice heifers.

**J. Brydone, MILVERTON, ONTARIO.** G. T. R. and C. P. R. Station.

**SHORTHORNS**

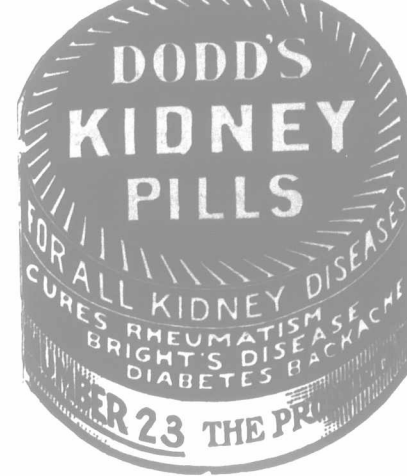
Choice young bulls and heifers, dark roans and reds. One white bull calf at a bargain. Dams all from a milking strain. A few Shropshire ewe lambs. Write for prices.

**JOHN RACEY, Lennoxville, Que.**

**Bud's Emblem = 63860 = (284905) A. H. B.** First-prize aged bull C. N. E., 1909, by that famous champion and sire of champions, Old Lancaster, imp. = 50068, heads the Old Maidrum herd of **SHORT-HORNS**, near Guelph. **A. F. & G. Auld, Eden Mills P. O., Ont.**

**Shorthorn Bull—Nonpareil Hero**, sired by Nonpareil Count, his dam being a great milker. This 20-months-old bull is choice quality, his dam, of the Flora family, also good milkers. Price, \$125 for quick sale. **J. K. HUX, Rodney, Ont.**

A witness in a railroad case at Fort Worth, asked to tell in his own way how the accident happened, said:  
"Well, Ole and I was walking down the track, and I heard a whistle, and I got off the track, and the train went by, and I got back on the track, and I didn't see Ole; but I walked along, and pretty soon I seen Ole's hat, and I walked on, and seen one of Ole's legs, then I seen one of Ole's arms, and then another leg, and then, over one side, Ole's head, and I snys, 'My heavens! Something muster happened to Ole!'"



**DODD'S KIDNEY PILLS**

CURES RHEUMATISM BRIGHT'S DISEASE DIABETES BACKACHE

**23 THE PR**



## Ring-Bone

There is no case so old or bad that we will not guarantee

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to remove the lameness and make the horse go sound. Money refunded if it ever fails. Easy to use and one to three 45-minute applications cure. Works just as well on Ringbone and Bone Spavin. Before ordering or buying any kind of a remedy for any kind of a blemish, write for a free copy of

### Fleming's Vest-Pocket Veterinary Adviser

Ninety-six pages of veterinary information, with special attention to the treatment of blemishes. Durable bound, indexed and illustrated. Make a right beginning by sending for this book.

FLEMING BROS., Chemists,  
74 Church St., Toronto, Ontario

## BRAMPTON Jerseys

CANADA'S GREATEST JERSEY HERD

We are offering for sale one 2-year-old bull and four yearlings, fit for service; also six bull calves; females of all ages. Come and see them, or write.

B. H. BULL & SON, BRAMPTON, ONT.

**High Grove Jerseys and Yorkshires.** No better blood in Canada. Present offering: Two young bulls, 12 and 20 months old, respectively; females all ages. Prices and all information on application.

ARTHUR H. TUFTS, P.O. Box 111, Tweed Ont.

## HOLSTEINS

FOR SALE at bargain prices, my whole herd, consisting of cows soon due to freshen, heifer calves, and bulls fit for service. Come and see, or write.

W. H. McNISH, Lyn, Ontario.

## HOLSTEINS AND YORKSHIRES

R. HONEY, Brickley, Ont.  
Northumberland Co.

Offers a choice lot of boars and sows ready to mate; also orders taken for the coming crop of calves from Prince Posh Calamity Bleske and R.O.P. cows.

**DON'T** Buy a HOLSTEIN BULL till you get my prices on choice goods from thirteen months down, from best producing strains. "Fairview Stock Farm." FRED ABBOTT, Harrietsville, Ont.

**For Sale**—7 Holstein bulls; Tamworth pigs from 2 to 6 months old. White Wyandotte cockerels and Buff Orpington hens. BERTRAM HOSKIN, The Gully P.O., Ont. Phone connection via Cobourg.

A traveller, riding a horse that had seen better days, stopped on a country road in Donegal and asked a peasant: "How far is it to Letterkenny?"

Now, every true Irishman, gentle or simple, is a born sportsman, and has a keen appreciation of the points of a good horse. So, after surveying the sorry steed with the eye of a connoisseur, the rustic replied, slowly:

"That depends."

"How depends—depends on what?"

asked the traveller, somewhat impatiently.

"Well," returned Pat in the same measured tones, "ye see, sor, wid a dacent horse it's a matter av five mile or so; wid that quare baste av yours it's fully tin; but," with a sudden burst of energy, "if it was wan av Major Doyle's blood mares, bedad ye'd be there now!"

### Do farmers eat the proper sort of food?

The farmer of today buys a much larger proportion of the food that goes on the table than he did ten years ago. It's a good thing that this is so because he has a great variety to select from.

He should, however, use great care in selecting for the best results in health and strength.

The widespread tendency in the city to increase the amount of Quaker Oats eaten is due very largely to the recent demonstrations by scientific men that the Quaker Oats fed man is the man with greatest physical endurance and greatest mental vigor.

Farmers should give this subject careful thought and should increase the quantity of Quaker Oats eaten by themselves, their children and the farm hands.

### QUESTIONS AND ANSWERS. Miscellaneous.

#### PIGS TAKE FITS.

I have now, or had, rather, eight shoats (Berkshires), three months old, which seemed thrifty until a few days ago. When they start to eat, several of them drop right back and get stiff, act like a genuine "cat-fit." Some get apparently over the spell in a few seconds, while others take longer. Two have died already, and a couple more look as if they would not last long. Am feeding shorts, feed flour, and a small percentage of sweet skim milk.

Ans.—This ailment is thought to be due to liberal feeding and insufficient exercise, causing indigestion. It occurs in the case of pigs that have been thrifty, and fattening, rather than growing. We would advise changing the food to ground oats or barley, fed dry, and the milk or swill given in a separate trough. Charcoal, or a mixture of one part sulphur to ten of wood ashes, kept in a low box in the pen, may serve as a corrective of the stomach. A run in the barnyard for half an hour in mild days, will probably be helpful. There is very little satisfaction in administering medicine to pigs; changing the conditions and the feeding is generally advisable in such cases.

#### CURING HAMS.

Would you kindly give directions for properly curing and smoking hams, shoulders and bacon? The meat of a certain packing company is lightly covered with what seems to be corn meal, and is the best we ever had. Would like if possible to do mine in the same manner.

Wentworth Co., Ont.  
Ans.—To cure a ham: (1) Boil together for half an hour 6 quarts water,  $\frac{1}{2}$  lb. brown sugar, 1 oz. saltpetre, and 2 lbs. salt. Skim well and set aside until cold, then pour over the fresh ham. Let stand for two weeks in a cool place, then drain and wash well. Without wiping, roll it in bran until thickly coated. Smoke for a week, then brush off the bran, wrap in brown paper and hang up until wanted. A very large ham should be smoked from 10 days to 2 weeks.

(2) Mix 1 pint salt with 1 pint coffee sugar, and rub every part of the hams. Lay the hams in a vessel, and repeat the process three days in succession, dipping the moisture which has oozed out of the meat over the hams as you rub on the salt and sugar. In three weeks smoke the hams, rub pepper on the surface, put in cloth bags and whitewash the bags.

Possibly one of the above methods may be satisfactory. Probably corn meal may be used instead of bran at times. Shoulders and bacon may be given the same treatment, reducing time of smoking according to size and thickness of the pieces of meat.

#### FINDING AREA OF FIELD—MANGEL SEED NOT GERMINATING

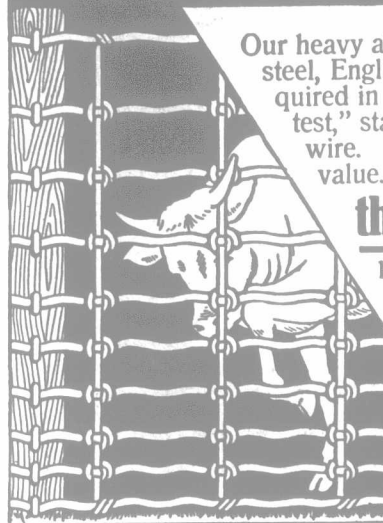
1. How should one measure a field to find how many acres it contains?

2. I have had some trouble with mangel seed not coming up evenly; sometimes there would be quite a space where none came up at all. Do you think soaking the seed over night, and opening the machine a little wider when sowing would do any good, or what would you advise?

Ans.—1. Assuming that the field is rectangular or square (that is, that corners are square), find the length and width in rods, multiply these two dimensions together and divide the product by 160. The answer will be the number of acres in the field. For instance, a field is 40 rods long by 16 rods in width. Sixteen multiplied by 40=640. That divided by 160=4. The field contains four acres.

2. In regard to soaking mangel seed, Prof. Zavitz found, in experiment, that seed which was soaked 12 hours gave a better yield than what was sown dry, or what was soaked for a longer time. Rolling the drills with a not too heavy field roller the day after seed has been sown firms the earth about the seed and keeps it from drying out, and thus helps very materially to ensure good germination. That is what we would advise. It would be all the better if the surface could be afterwards loosened above the seed to form a mulch, but this is, perhaps, not necessary or advisable in most cases.

## "Peerless" The fence that stands up against every strain



Our heavy all No. 9 PEERLESS Fence, made from hard steel, English Wire, has double the strength ever required in a wire fence. The galvanizing, by the "acid test," stands twice as much as that on some fence wire. This means many years longer life—greater value. Do you want the best?

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because it needs no repairs and lasts a lifetime. It is rust that destroys wire fences. English Wire Manufacturers know how to prevent this. To this English wire add the PEERLESS method of construction and the PEERLESS lock and you have a fence without a rival. We are manufacturers of high grade farm, poultry, ornamental fencing and gates. Write for book.

THE BANWELL HOXIE WIRE FENCE CO., Ltd.  
Dept. B, Hamilton, Ont.; Winnipeg, Man.

## DON'T SHEAR SHEEP WITH HAND SHEARS

It is slow—you don't get all the wool—you cut the sheep—and you make hard work of it for yourself. Do your shearing with this **STEWART No. 8 SHEARING MACHINE**. It must please and satisfy you or you can return it and we will refund all you paid.

Chicago Flexible Shaft Co. 110 LaSalle Ave. Chicago

## Fairview Herd

offers for sale a son of Rag Apple Korndyke. His dam is a daughter of Pontiac Korndyke, with an A. R. O. record of 13.08 lbs. butter in 7 days at two years. Price, \$150.00.

E. H. Dollar, Heuvelton, N. Y.

NEAR PRESQUOTT.

**EVERGREEN STOCK FARM** offers choice young Holstein Bulls, from 10 to 11 months, sired by Sir Mercena Favorite, whose dam and gr. dam averaged 80 lbs. milk per day, and 24.60 lbs. butter per week. Their dams also in A. R. Also choice females for sale. F. E. Pettit, Burgessville, Ont.

**CALVES** Raise Them Without Milk. Booklet free. The Steel, Briggs Seed Co., Toronto, Ont.

## CENTRE AND HILLVIEW Holsteins

140 head, 45 females in R. O. M. Herd headed by Brookbank Butter Baron, Bonheur Statesman and Sir Sadie Cornucopia Clothilde. The average of dam, sire's dam and granddam is: milk in 7 days, 62.85 lbs.; butter in 7 days, 30.58 lbs. We have bulls born Mar., '09, to two weeks old for sale, from Record-of-Merit dams. Long-distance telephone, P.D. Ede, Oxford Centre, Ont. Woodstock Sta.

## STILL GREATER!

Grace Fayne 2nd Girl just completed a test of over 30 lbs. butter in 7 days, dam Grace Fayne 2nd is also dam of Grace Fayne 2nd Homestead, world's record, 35.55 lbs., and Grace Fayne 2nd Sir Colantha, who heads the Homestead herd; sire's dam, Colantha 4th Johanna, 35.22 lbs. Young stock for sale. M. L. & M. H. Haley, Springford, Ont.

## CALDWELL'S MEAL

A SHORT-CUT TO RESULTS.

If you want early maturity, fat and healthy stock, more and better milk, or if you are getting animals ready for the show-ring, try a ton of CALDWELL'S MEAL.

Aside from its own enormous feeding value, its palatability and unique digestive action make it indispensable to the thrifty feeder.

It costs nothing extra to use, as it is substituted for part of the ordinary feed, and not added.

Shipped to any railway station in Ontario, freight prepaid, at \$34 per ton.

MANUFACTURED BY

A. C. CALDWELL,

East Toronto, Ont.

## THE MAPLES HOLSTEIN HERD

of Record-of-Merit cows, headed by King Posh De Kol. Only two sons of our old Record-of-Merit stock bull, Lord Wayne Mechthilde Calamity, left for sale, from cows with good official backing; also a few bull and heifer calves sired by King Posh De Kol and from Record-of-Merit dams.

WALBURN RIVERS, FOLDEN'S, ONTARIO.

## Maple Glen HOLSTEINS

Would like to dispose of from 10 to 15 head of females inside of 30 days, before going to Alberta. Females range from heifers coming one year old to 26 $\frac{3}{4}$ -lb. tested cows. A business proposition to the right man for entire herd. First come best served. G. A. GILROY, Glen Bueli, Ont. Brockville Sta., G. T. or C. P. R. Long-distance phone.

## Lakeview Holsteins.

One service bull and several bull calves for sale, sired by Count Hengerveld Fayne De Kol, whose sire has five daughters averaging over 30 lbs. of butter in 7 days, and 120 lbs. for 30 days, and whose dam, the dam of Grace Fayne 2nd's Homestead, with 35.55 lbs. in 7 days, testing over 5% fat. These young bulls are from A. R. O. cows, an extra smooth and well marked lot. E. F. OSLER, BRONTE, ONT.

## High-class Holsteins

—Head of herd, Pietje Korndyke Lad. Two nearest dams average 26.09 lbs. butter in 7 days. His sire's dam, Pietje 22nd, has a record of 31.62 lbs. butter in 7 days. Present offering: now booking orders for bull calves sired by above sire and out of A. R. O. dams.

WM. C. STEVENS, PHILLIPSVILLE, ONT.

## IMPERIAL HOLSTEINS

Head your herd with a son of the champion Canadian butter-bred bull, Tidy Abbecker Mercena Posh. Dam and sire's dam average 28 lbs. butter in 7 days, 110 lbs. in 30 days; 4.90 fat.

W. H. Simmons, New Durham, Ont.

## Silver Creek Holsteins

—Official records range from 13 lbs. for 2-year-olds to 22 lbs. for mature cows. Stock bull, King stock of both sexes, sired by bull with high official backing and out of Record cows.

A. H. TEEPLE, Currie's P.O., Ont., Woodstock, Sta. Phone connection.



QUESTIONS AND ANSWERS. Miscellaneous.

MATERIAL FOR CONCRETE WALL.

1. How much gravel and cement would be required for wall under barn 30x45 ft., 8 ft. high?
2. How much gravel would it take for cement floor 60x36 ft., 4 inches thick?
3. How high should barn be from sill to floor for cattle stable? J. B. Simcoe Co., Ont.

Ans.—1. For wall one foot thick and of dimensions given, not counting in underground foundation, concrete mixed one of cement to eight of gravel, about 10 cords of gravel and 40 barrels of cement would be required.

2. About 6 cords gravel and 30 barrels of cement for the floor mentioned.

3. There should be at least 8 feet clear from floor to sill of basement.

CLOVER FOR GREEN MANURE.

I sometimes sow a bushel of red clover in the spring on a field that I intend to plow again in the fall, in the hope that when the grain crop is removed, there will be a sufficient growth of clover to furnish a fresh pasture for the stock for a short time, as well as an addition of humus to the soil when plowed in. Sometimes I have been repaid for the seed, but some seasons have been so dry after harvest that very little clover appeared. Would the chances be better with Mammoth, or with Crimson clover, than with the common Red clover? D. P.

Ans.—There is probably, under the circumstances, a better chance of success with common Red than with any other variety of clover. Much, of course, will depend on the character of the season after the grain is cut, but it must be remembered that, other things being equal, it is the soil containing an abundance of humus material that will bring its crop through best in seasons of drought. For this reason, if for no other, an application of manure to the soil about to be sown with clover, will prove advantageous. Clover is a moisture-loving plant, and failure to obtain a good catch is more frequently due to lack of moisture than to deficiency in plant food. In districts subject to spells of dry weather, during those weeks when the clover plants are still young and tender, no effort should be spared to increase the absorptive capacity of the soil, by the incorporation of manure, by drainage, and by skillful cultivation of the land.

FRANK T. SHUTT, Chemist. Experimental Farms, Ottawa.

PLANTING AND GRAFTING.

I have had considerable experience in fruit culture, pruning, grafting, etc., in England, but wish to learn the best Canadian methods. There we select grafts in late autumn; here, I am told, spring will do.

1. I have work planting out a few thousand peach trees this spring. Which is the best and quickest way to mark land out to get trees square?
2. I am grafting some apple trees (Spies on Talman) 30 years old. Would you advise heading in all the limbs?
3. Would you cut cions now or later on?
4. Would you crown or cleft graft if diameter was up to five inches? Lincoln Co., Ont. J. H. F.

Ans.—1. Use sighting stakes and put a small stake or peg where every tree is to stand. Before digging hole for tree prepare a planting board. This is made of a light piece of board four or five feet long, with a hole bored through each end and a notch in the center at one edge. Place board so that stake fits into notch, and pass wooden pegs through holes in ends to be left in the ground while hole is being dug. Replace board on pegs and set tree in notch until firmly placed.

2. It is better not to cut off all limbs. Leave at least enough to allow for life and growth. Many good authorities recommend grafting only a portion of tree one season and finishing the next season.

3. The latter half of March is the proper time to cut cions.

4. Crown grafting would be best if limbs of 5 inches had to be used. It is advisable so to cut back head, however, as to allow of much smaller stubs.

We will pay **Very High Prices** for original collections. WRITE US NOW.

# MUSK RATS

Raw Furs

Of all kinds. Write for our Complete Price Lists and SHIP NOW.

Prompt Returns. **E. T. CARTER & CO., 84 Front St. E. TORONTO, ONT.** We Pay Express.



AYRSHIRES AND YORKSHIRES

Can fill orders for car lots of Ayrshires, or for good grade dairy cows. Young bulls, cows, heifers or calves of choice breeding. Orders taken for imported stock for 1910. A few young Yorkshires. Write us for anything you need in above lines.

Long-distance Phone **ALEX. HUME & CO., MENIE, ONT.**

Stonehouse Ayrshires 36 head to select from. All imported or out of imported sire and dam. For sale: females of all ages. Am now booking orders for bull calves.

Hector Gordon, Howick, Quebec.

Springbank Ayrshires! Canada's leading herd of Record-of-Performance Ayrshires. Big records, big cattle, big udders and big teats. Over 50 head to select from; 13 yearling heifers, 7 yearling calves. All in good condition. A. S. TURNER, RYCKMAN'S CORNERS, ONT. 3 Miles South of Hamilton.

Springhill Ayrshires Headed by two bulls whose dams have the highest official records in Scotland. Order a bull calf out of our best cows. We can please you in all ages and sexes.

Robt. Hunter & Sons, Maxville, Ont.

STOCKWOOD AYRSHIRES Are producers of milk testing high in butter-fat. In my herd I have a range of selection, either imp. or Canadian-bred, of either young bulls or females, unexcelled in Canada. Price and terms to suit purchaser. D. M. WATT, ST. LOUIS STA., QUE.

**CATTLE FATTEN QUICKER**—take on weight faster—make better beef—when dehorned. Cows give more milk—and half the danger in shipping by rail or boat is eliminated.

**KEYSTONE DEHORNER** does the work in 2 minutes. Cuts from 4 sides at once. Write for free booklet. R. H. MCKENNA, 219 Robert St. Toronto, Ont. Late of Picton, Ont.

**CHERRY BANK AYRSHIRES!** Now is the time to order your bull calf, sired by Netherhall Milkman, the first-prize aged bull at Canadian National Exhibition, Toronto, and champion of the breed at Ottawa in 1909. Can fill orders for yearling bulls fit for service, or last fall calves. Females any age. Nothing but the best is our motto. Satisfaction guaranteed. Visitors welcome. P. D. McARTHUR, North Georgetown, Que. 3/4 mile from Howick station.

**Hillview Ayrshires!** For sale: Females of all ages, bred for dairy purposes, with large teats, deep milkers, and large in size. Also a few extra good young bulls on hand. Winchester station, C. P. R.

**A. Kennedy & Son, Vernon, Ont.** "HILLSVIEW FARM."

**Trout Run Ayrshires**—My present offering is several heifers and cows in milk, a number of heifer calves, 3 young bulls fit for service, one of them from imp. sire and dam; dam's record 45 lbs. a day. My herd are heavy producers and critically selected: Am also offering 20 Toulouse geese at \$4 and \$5 a pair.

**WM. THORN Lynedoch, Ont.**

**HILLCREST AYRSHIRES**—Bred for production and large teats. Record of Performance work a specialty. Fifty head to select from. Prices right.

**FRANK HARRIS, Mount Elgin, Ont.**

**Ayrshires**—Four young bulls, all bred on dairy lines, out of famous dams; fashionable in color, as well as in breeding. Will be sold worth the money. Females all ages.

**N. DYMENT, Clappison's Corners, Ont.**

# WEAK MEN, HAVE COURAGE



If you get up in the morning with a dull brain, tired nerves, an ache in your back, a dread of the toil and hardships of everyday life, these are signs that your vitality is at a low ebb—that some of the organs or functions of your body are in a weakened, morbid condition.

If you are a young man, and free rein for evil habits and passions has exhausted your vital energy, or if on the shady side of forty you have not the strength and stamina that should be possessed by a man of your years, you can regain your health, strength and energy with Electricity.

"None are so blind as those who will not see," but if you are open to conviction, and want to improve your condition, I can convince you that my Belt does all I claim for it, and even more.

You don't need to be taught that restless nights, sleeplessness, despondency, inability to concentrate your thoughts, loss of appetite, weak back, headache, pains here and there in various parts of your body, lack of energy and push, are all signs of nervous breakdown, physical debility, you know that, but what you want is a remedy that will restore the vitality that you have lost.

If you have doctored and drugged and got no benefit, that's no sign you ought to give up. Drugs can't restore your vitality. Electricity is for men like you. It's the greatest nerve builder and body builder in the world to-day. To those who are tired of paying without results, and to those who doubt if anything will help them, I make this offer. If you secure me my

## PAY WHEN YOU ARE CURED

I will let you have my Belt without paying me one cent in advance. **THE WORLD HATES A QUITTER.**—If you go into a fight, stay with it, no matter how poor your chances look. The other fellow probably wants to quit, and if you hold your head up he will quit first. The victory to the brave. It takes nerve and energy to win nowadays.

You don't want to be a failure. You are made for better things, but you can't win without courage and energy. That's the idea behind my Electric Belt, the body battery that pours electric vim into a man's body.

MR. A. ROBINSON, Jr., Guelph, Ont., says: "I am perfectly satisfied with the results obtained by using your Electric Belt."

am 24 pounds heavier than before I got your Belt.—H. G. SPARROW, Box 256, Brampton, Ont.

blessing to me and my family. I cannot recommend it too strongly, as I shall feel it my bounden duty as well as my greatest pleasure.—THOS. JORDISON, Chatsworth, Ont.

Dear Sir,—I purchased one of your Belts about a year ago, and I am thankful to say that I am a new man, and I cannot say enough for it. I am stronger than men half again as big as myself, and I

Dear Sir,—Your Belt has worked wonders with my back. It was very bad, but it seems quite strong now, and my general health is built up again in these few months far beyond my best expectations. In short, I count your Belt a heaven-sent

MR. ALEX. MARR, Russell, Ont., says: "Anyone who is skeptical about your Belt, tell them to write to me. I feel like a new man."

I cannot take up more space with these extracts. But if you will send me your address I will mail you free my beautifully illustrated book, along with testimonials from thousands of grateful people, who have been fully restored to health and strength.

This appliance has cures in almost every town and city in the country, and if you will write I will send you testimonials given to me by people that are probably well known to you. My Belt not only cures weakness, but Rheumatism, Sciatica, Lumbago, Backache, Kidney Trouble, Nervousness, Constipation, Indigestion and Stomach Trouble.

**FREE BOOK.**—I have a beautiful 80-page illustrated book, which I will mail, sealed, to any address FREE. This book is full of lots of good, interesting reading for men. Call to-day. If you can't call, send coupon for Free Book.

**DR. M. S. McLAUGHLIN,**  
112 Yonge St., Toronto, Can.

Gentlemen,—Please send me, prepaid, your Free Book.

NAME .....

ADDRESS .....

Office Hours—9 a.m. to 6 p.m. Wednesday and Saturday until 9 p.m.



## Was All Run Down. Weighed 125 Lbs. Now Weighs 185.

Mrs. M. McGann, Debec Junction, N.B., writes:—"I wish to tell you what Milburn's Heart and Nerve Pills have done for me. Three years ago I was so run down I could not do my own work. I went to a doctor, and he told me I had heart trouble and that my nerves were all unstrung. I took his medicine, as he ordered me to do, but it did me no good. I then started to take Milburn's Heart and Nerve Pills, and had only taken one box before I started to feel better, so I continued their use until I had taken several boxes, and I am now strong and well, and able to do my own work. When I commenced taking your pills I weighed 125 pounds, and now weigh 185 and have given birth to a lovely young daughter, which was a happy thing in the family. When I commenced taking Milburn's Heart and Nerve Pills, I could not go upstairs without resting before I got to the top. I can now go up without any trouble."

The price of Milburn's Heart and Nerve Pills is 50 cents per box, or 3 boxes for \$1.25 at all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.



### ELECTRIC BEANS

Sized supreme as a Blood and Nerve Tonic.

They are unequalled for Biliousness, Sick Headache, Constipation, Heart Palpitation, Indigestion and Anemia. Those who are in a position to know what is best use "ELECTRIC BEANS."

Write for Free Sample  
50c. a Box at all Dealers or upon receipt of price, from  
THE ELECTRIC BEAN CHEMICAL CO. Ltd.  
OTTAWA.

### SWISS MILITARY TRAINING.

Of sovereign states, Switzerland gives the best military training to its boys. Although the maintenance of a standing army is not sanctioned by the constitution, every able-bodied male citizen from twenty to fifty is liable for military service, and boys at school begin at the age of eight to be trained as soldiers.

## CURE WAS QUICK AND COMPLETE

### Dame Parent's Heart Disease Cured by Dodd's Kidney Pills.

She Suffered for Two Years, but Now Advises All Troubled as She Was to Give Dodd's Kidney Pills a Trial.

St. Robert, Richelieu, Co., Que., March 21.—(Special).—"I recommend Dodd's Kidney Pills to all my friends." These are the words of Dame Joseph Parent, of the place. And the good dame gives excellent reasons why she does so. "For two years," she says, "I suffered from Heart Disease, Headache, Backache, and a dragging sensation across the loins. Seven boxes of Dodd's Kidney Pills cured me. I hope all who are troubled as I was will give Dodd's Kidney Pills a trial."

Some people may ask how Dodd's Kidney Pills, which are purely a Kidney remedy, can cure Heart Disease. And the answer is simple. Diseased Kidneys fail to drain the impurities out of the blood. If these impurities are left in the blood they not only increase the work of the heart in propelling the blood through the body, but act on the valves causing disease. Pure blood removes the cause of the disease. Dodd's Kidney Pills make pure blood by putting the Kidneys in condition to strain all the impurities out of it.

### QUESTIONS AND ANSWERS. Miscellaneous.

#### ROOT-HOUSE TIMBERS ROTTING—FOWL HOUSE.

1. I have a root-house in my barn basement, and I notice the timbers on the ceiling are commencing to rot. What can I do to prevent the ceiling rotting?

2. Also plan and the material that would be required for a henhouse to hold 75 hens.

SUBSCRIBER.

Bruce Co., Ont.

Ans.—1. Soaking with oil might have done good at first in preventing rot of timber over roots, but it is doubtful if anything can be done now, except to keep the building reasonably dry by ventilation.

2. At Macdonald College, Que., colony houses are used for fowls in preference to larger buildings. The dimensions of these are 8x12 feet, accommodating 25 fowls each, and they are single boarded, with straw loft for warmth and ventilation, and built on runners so that they can be hauled where desired. Each has a window 3½x5 feet, made to slide. In summer they are placed away from each other where convenient, but in winter are hauled up and set close together. It is claimed that they are dry and comfortable, and hens healthy. Large houses for fowls on the farm are now discontinued. The cost of colony houses is said not to exceed \$1.00 per hen housed.

#### A GAS HEATING COMPANY.

A few men propose drilling a gas well in our village, and drew up agreement for shareholders to sign, 60 or over having signed to take a share in said gas well. Well is drilled, and a moderate supply of gas is the result, enough to supply six or eight stoves, was the decision of the person who tested the well. A meeting was then called for shareholders to determine what they would do with the well. A Chairman and Secretary were elected, by motion, for the meeting. The shareholders elected, by motion, nine Directors (the Directors later selecting four out of their number to act as President, Vice-President, Secretary and Treasurer). A motion was lost which was to allow Directors to run the well as they saw fit. The next motion carried, which was as follows: The Directors to borrow sufficient money to pipe the gas to as many houses as the well would supply satisfactorily, the dividends of the well to pay for itself, and, in case of any failure of the well, each shareholder to share alike in the responsibility of said failure.

1. What I want to know is this: Could those Directors legally take the matter in their own hands, and lay pipe to more houses than the well will supply? This they have done. Every cold snap that comes, there is not enough gas, and the people have to go to the inconvenience of burning wood, after the expense of putting in their gas fixtures. Instead of six or eight stoves (the well was supposed to supply), they have about twice that many drawing on it; also they allow a man to install a grain-chopper and other machinery to be run by gas, and in a short time this will be drawing on the well. The way the business has been carried on, has not had the unanimous sanction of the Directors.

2. It is about time for the annual meeting of the shareholders. Isn't it proper to have minutes of previous annual meeting read?

3. Should the Secretary of Board of Directors read the minutes of each meeting held by Directors during the year?

4. Should the Secretary read annual report of business for the year?

5. Should the Treasurer read annual report, and itemize each item of receipts and expenditure?

6. Are the Directors responsible in any way for incurring a greater debt on the shareholders by piping extensively before they knew what the well would do?

Ontario.

Ans.—1. No.

2. Yes.

3. No.

4. Yes.

5. Yes.

6. Yes; personally. The shareholders may hold them to a strict accounting, having regard especially to the resolution defining their powers.

## Amatite ROOFING

### Saves Labor and Money

A roofing that has to be painted every year or two is a constant care. Suppose you should neglect to paint yours in time. The chances are that when you did remember, (which would probably be when you discovered it leaking) it would be too late to paint or patch. You would need a new roof.

Now you can avoid all this bother and expense by buying Amatite, which needs no painting or coating of any kind.

We will send you a sample free. Write for it to-day and settle the question for yourself. It will only cost you a postal card and will save you many dollars in the end.

Amatite comes in convenient rolls ready to be laid on the roof. Anyone can do the job. Liquid cement to seal the laps and large headed nails are supplied free in center of each roll.

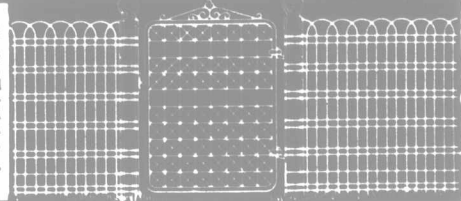
We wish you knew as much about Amatite as we do; you'd buy it every time. It's the kind of ready roofing that makes satisfied customers.

Send to-day for a free sample to nearest office. That tells the story.

THE PATERSON MFG. CO., LTD.  
Toronto, Montreal, Winnipeg, Vancouver.

### Peerless Lawn Fence

Is Strong and Attractive. All the wires are uniformly crimped, large gauge, steel spring wire, heavily galvanized and coated with white enamel paint. Never sags, never rusts. Improve your property with a Peerless Fence. Cheap as wood and more handsome and durable. Also full line of farm and poultry fence and gates. Write for information. THE SANWELL HOXIE WIRE FENCE CO., Ltd. Dept. B, Hamilton, Ont., Winnipeg, Man.



### Maple Villa Yorkshires and Oxford Downs

For immediate disposal: A number of choice young boars ready for use. Some splendid sows bred to farrow in May, and others of breeding age. An excellent lot of ewe lambs. Satisfaction assured. J. A. CERSWELL, BOND HEAD, ONT.. BEETON OR BRADFORD STATIONS.

### FARNHAM OXFORD DOWNS.

The Champion Flock, The Oldest Importers, The Largest Breeders in America.

See American Oxford Down Record. We are offering a number of first-class yearling ewes from imported sires, and bred to champion imported ram; also a number of ram and ewe lambs. Prices reasonable. HENRY ARKELL & SON, Arkell, Ont. Arkell, C. P. R.; Guelph G. T. R. and Telegraph.

When Writing Mention The Advocate

I HAVE GREAT, THICK, ROBUST SHROPSHIRE YEARLING AND TWO-YEAR-OLD RAMS and a lot of grand Shropshire and Cotswold ram lambs, ewes and ewe lambs of high class, both breeds, and all of the best breeding. Will sell them in large lots or singly at prices you can afford to pay. Short-horn bulls and heifers, two good registered Clydesdale mares, and a few beautiful Welsh ponies will also be priced at attractive figures.

MAPLE LEAF BERKSHIRES For sale: Young sows bred and ready to breed; boars fit for service; also young pigs farrowed in March and April. Imp. sires and dams. Pairs not akin. C.P.R. and G.T.R. Joshua Lawrence, Oxford Centre P. O. Ontario

Newcastle Tamworths and Shorthorns FOR SALE: Young sows due April and May, by imp. boar, dams by Colwill's Choice, Canada's Champion boar in 1901-2-3-5; also choice pigs, both sexes. Two yearling Shorthorn bulls, Syme and Lavender families, and six choice heifers and heifer calves. Prices right. Bel phone. A. A. Colwill, Box 9, Newcastle, Ont.

Willowdale Berkshires! Young sows ready to breed, boars ready for service, young pigs just weaned, all choice stock and bred in the purple. Everything guaranteed as represented. Long-distance phone. J. J. WILSON, Importer and Breeder Milton P. O. and Station. C. P. R. & G. T. R.

MONKLAND YORKSHIRES With very nearly 100 sows in breeding, of modern type and high-class quality, our herd will stand comparison with any in Canada. We are always in a position to fill large or small orders with despatch. Long-distance phone. JAMES WILSON & SONS, FERUS, ONT.

SUNNYSIDE CHESTER WHITE HOGS. I am now offering some very choice young things of both sexes, of breeding age. A few Shropshire sheep of both sexes. A number of Bronze turkeys and toms, and Red Cap cockerels and pullets. W. E. WRIGHT, Glenworth P. O. Ont.

OHIO IMPROVED CHESTER WHITES.—Large strains. Oldest-established registered herd in Canada. Young sows in farrow. Choice pigs 4 weeks to 6 months old. Pairs furnished not also Express charges prepaid. Pedigrees and safe delivery guaranteed. E. D. GEORGE, Putnam, Ont.

### LABELS Metal Ear Labels for Cattle, Sheep and Hogs.

The old standby for all who have stock liable to stray, or to dispute as to identification or ownership; for herd or flock records, or for general convenience. Do not be without them. Send your name and address for free circular and sample. It is no trouble, and may save you much. Write to-day.

F. G. JAMES, BOWMANVILLE, ONTARIO.

### MAPLE GROVE YORKSHIRES.

To make room for the natural increase in our herd, we now offer for immediate disposal: A FEW CHOICE YOUNG BOARS (big type) ready for use, 10 sows, bred and ready to breed. 75 Sept. pigs, pairs not related. Mostly all sired by M. G. Champion—20102—, champion and silver-medal boar at Toronto in 1907, and first as a three-year-old in the aged class in 1908, a grand stock getter. Many of our sows are prizewinners, and are of the best Yorkshire blood in England and Canada. A fair and square deal to everybody is our motto. We are putting prices low, because we must sell. Satisfaction guaranteed.

H. S. McDIARMID, Fingal, Ont. Shedden Station. Long-distance phone in house.

Hillcrest Tamworths are second to none in America for type and quality. For sale are both sexes and all ages, from sows bred and boars fit for service down to youngsters. Herbert German, St. George, Ont.

Tamworths A grand lot of young boars from 2 to 4 months, also young sows (dandies). Some just bred. Some in farrow to first-class boars from best herd in England. Prices reasonable. Chas. Currie, Morriston Ont.

DUROC - JERSEY SWINE Imported and home-bred. Sows ready to breed. Boars fit for service, and younger ones either sex. Also Embden geese. MAC CAMPBELL & SONS, HARWICH, ONT.



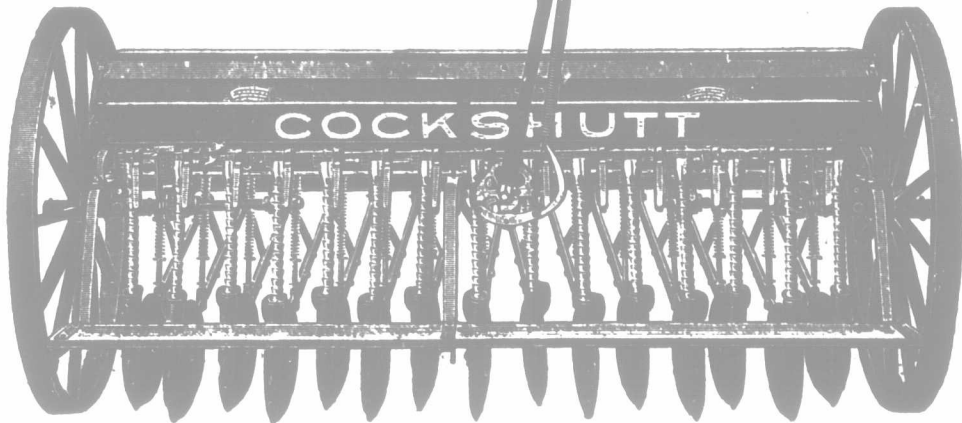
# BIGGER CROPS — BETTER GRAIN MORE MONEY

## IS THAT WHAT YOU WANT?

**L**IKE lots of other farmers at this time of the year, you are thinking of buying either a Disc or a Hoe Drill. Read this advertisement carefully before you decide—study the principle of

this Cockshutt Disc Drill—get our Drill booklet and go into this matter thoroughly, because here is a machine that will help you get better crops.

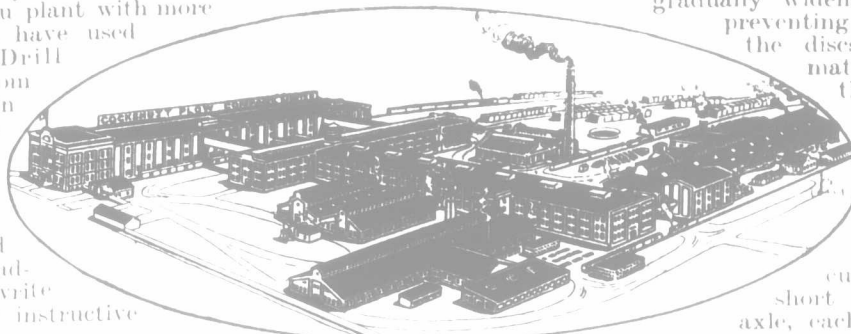
**Cockshutt**  
**New**  
**Model**



**15**  
**Disc**  
**Drill**

Also made with 13 Discs

**T**HE particular advantage which the Cockshutt Disc Drill possesses, is that it sows the grain 6 inches apart—not 7 inches as is the usual method. Close seeding gives the grain a better chance to germinate to sap all the nourishment of the soil. Thus the grain grows up closer and firmer—holds moisture better—resulting in a bigger yield and better grain. Close seeding does not mean that you have to sow more seed—you simply plant the same quantity of seed as you would with old style machines, but you plant with more discs. Farmers who have used this Cockshutt Disc Drill report an increase of from 2 to 5 bushels an acre, in other words this Cockshutt Disc Drill will easily pay for itself in one season and still leave you a nice profit over and above. Read all about the other advantages it has then write us and get our very instructive booklet about it.



The discs on this machine are 6 inches apart—not 7 inches like old style machines. Footboard runs the whole length of the machine, which makes it optional with the driver whether he walks or rides. Footboard can also be used for carrying seed bag to the field. The frame is built of high carbon steel, the corners being reinforced by heavy malleable castings and steel corner braces. The castings pressure bar and short self-aligning axles are rivetted to the strong I beam which runs the

whole length of the machine. One of the great advantages of this I beam is that it never allows the machine to sag in the centre. Axles are made of cold rolled shafting, always uniform in size and set at the right angle to give the wheels proper pitch. The self-oiling device keeps the disc bearings in good shape a whole season. The grain flows down the closed boot right into the bottom of the furrow and is always sown at uniform depth. The space between the grain boots and discs gradually widens from bottom to top, preventing mud and trash stopping the discs from revolving. No matter how wet or sticky the soil, these discs will always revolve and cut. Scrapers are provided so as to keep discs clean on each side. The feed on this Cockshutt Disc Drill is a positive force feed of great accuracy and is driven by a short steel chain from the axle, each half of the feed being driven separately. The seed box is made of choice seasoned lumber and the cover locks automatically.

We use metal bridges between feed cups to prevent grain from clogging, so that the last seed is sown out of the box at the same rate per acre as when the grain box is full. You can't realize all the advantages and improvements of this Drill until you read full explanations in our booklet. Don't buy a Drill of any kind until you read it.

## Read These Letters—Then Write for Booklet

Cockshutt Plow Co. Ltd.,  
Brantford, Ontario.

Dairy Farm, Fayville,  
May 31st, 1909

I purchased a Cockshutt 15 Single Disc Drill from your agent, Mr. J. H. Finlay of Collingwood, and I desire to state that I am more than pleased with the work done by it. After giving it a severe trial in lumpy ground, also in wet and sticky soil, I could not clog the drill. I would recommend this drill to all farmers intending to purchase.

(Signed) R. S. BAKER.

Thorndale, July 20th, 1909  
Cockshutt Plow Co. Ltd.,  
Brantford, Ontario

Gentlemen:—  
I have very much pleasure in recommending the 15 Single Disc Drill purchased from your agent, W. McMartin of Thorndale. After putting in seventy acres of spring seeding with two horses I think it the best drill I have ever seen, and the easiest to operate. I have not seen its equal, and think it has to be made yet. I cannot say too much for it.

(Signed) JOHN MORDEN.

**COCKSHUTT** PLOW CO. **BRANTFORD**  
LIMITED



## Save Yourself Much Kitchen Work

### Send now for this Aluminized Cabinet

Our special offer makes it easy for you to own the most compact, practical, work-saving Kitchen Cabinet ever built—the CHATHAM. One of our agents near you will gladly demonstrate to you that it will easily earn its cost in a few months in food saved alone. Has improvements years ahead of all others. Just examine it and you will see its superior merit.

**Your Home  
Needs One**

**Saves Time  
And Money**

**Whole table top heavily plated with beautiful  
aluminum**



**Priced very  
low indeed**

**Twelve fine  
canisters free**

Kitchen Cabinets all look much alike until you examine them carefully. Then you soon see why the CHATHAM is the investment for you—the one you can be always satisfied with.

### More Value For Your Money By Far

Built of select, golden yellow, richly finished chestnut, in the finest style of the cabinet maker's art. Whole table top and large, sturdy extension shelves covered with heavy, silky looking aluminum that will not rust nor show spots. This one detail—which no other kitchen cabinet has—adds fully five dollars' value.

#### Complete To The Last Degree

If you built it yourself, you would add nothing we have not put in the CHATHAM nor would you take away anything. Has amplest closet room, plenty of shelves (all snow white basswood); two big bins—one for 75 lbs. of flour, fitted with curved metal base. Cabinet is just 6 feet high, mounted on ball-bearing casters.

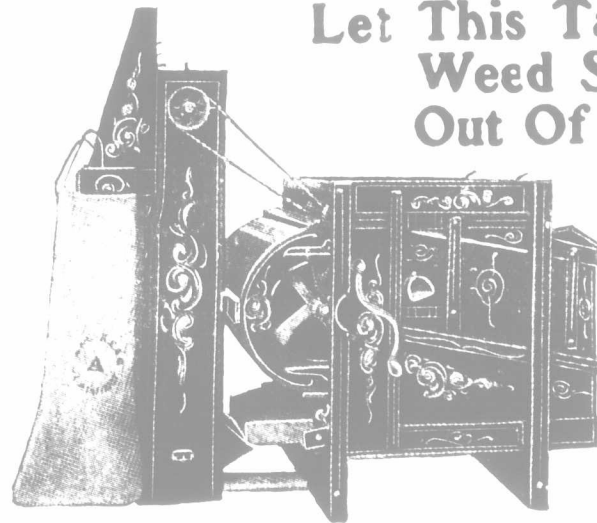
**Absolutely Mouse-Proof  
Double-Area Drop-Leaves  
Over-Lap Drawer-Fronts  
Dust-Proof and Fly-Proof  
No Seams Nor Crevices  
Handsomest Exterior**

#### Price Figured Down Low

Our nearest dealer will name you a favorable price for the CHATHAM, because we build so many, and thus buy materials in large quantities. Write us for special season offer and illustrated description.

## Quit Worrying About Weeds

### Let This Take The Weed Seed Out Of Your Seed



Rid yourself of nine tenths of the usual bother with weeds. Run any seed your plant through this easy-working, quick-running CHATHAM Mill, and you can be sure you are planting CLEAN seed—seed free from weeds—seed that will grow a BIGGER crop.

### Grade Up Your Clover Seed

The CHATHAM positively will add a dollar and more a bushel to the value of your clover seed. It will take out every trace of Buckhorn Plantain—the weeds that bother clover-growers so. You can be sure of a good catch of clover if you pass the seed through this combined Grader, Separator and Fanning Mill. And, if you have clover seed to sell in the Fall, you can get a much higher price for it if it has been cleaned by this Mill.

### Cleans Small Seeds Perfectly

This is the Combination Machine that handles the smallest seed efficiently. And it will handle large seed just as well—will grade the shrunken and immature or misshapen grains apart from the plump, healthy seed, and thus will raise the level of crop-quality on anything you sow.

### Cuts Your Cultivating in Two

Not only does the use of the CHATHAM at planting-time insure a BETTER CROP (because it selects the seed fittest for sowing), but it means a material reduction in the amount of cultivation you will need to give that crop. It rids your seed of weeds; it brings that seed up to the highest standard of the best seedsmen; and thus it makes it needless for you to hattle with weeds as you otherwise must do—the weeds won't be there to hattle



You cannot buy anything that will pay you better than my Mill. I guarantee it to do its work better and faster than anything else on the land ever built. There is forty years of experience back of that Guarantee.

MANSON CAMPBELL, President

With this Mill you can profitably employ a rainy day in cleaning up your barn floor. Probably there is enough timothy seed there to net you a good many dollars. The CHATHAM will recover it all for you, free from dirt, chaff and weed seeds, and ready to market.

You specially need this Mill, too, when you are ready to sell grain or seed in the autumn—clover seed and alfalfa especially. The seedsmen will not pay top prices for clover that contains more than ten weed seeds to the thousand. This Mill will bring your clover seed up to that requirement.

### Easy Terms . . . Closest Price

Make up your mind to plant clean, mature, healthy seed from now on. Then write for our Special Offer and Credit Terms on the Chatham Farming Mill, which is also a combined grader and separator, fitted with 12 twenty-five inch screens and riddles for every kind of seed, and today for our New Catalogue about Chatham Special Offer. The price will surprise you—it is so low, and the Mill will last years. It is the best for the spring planting. Write us about it today. You will get plenty of information, and you will hear what we can do for you.

**The Manson Campbell Co., Limited, Chatham, Ont.**

Quebec Agents: Cote & Co., 100 St. Peter Street, Montreal.