

MARCH 27, 1919



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PUBLISHED EVERY WEEK. \$1.50 PER YEAR.



\*AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE.\*

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LIV:

LONDON, ONTARIO, APRIL 3, 1919.

No. 1384

**You Buy Satisfaction**

**when you purchase**

**PURITY  
FLOUR**

(Government Standard)

CANADA FOOD BOARD LICENSE NOS. CEREAL 2-009 FLOUR 15, 16, 17, 18.

**"More Bread and Better Bread and Better Pastry"**

**For Better Porridge Use PURITY OATS**

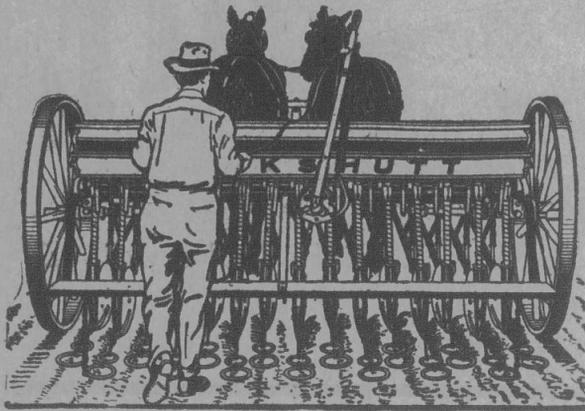
**Western Canada Flour Mills Co., Limited**

HEAD OFFICE: TORONTO, ONTARIO

# COCKSHUTT SEED DRILLS

To buy good, vigorous seed—to faithfully put the land in good tilth and then fail to see that the most important operation, Seeding, is correctly done would seem to be inexcusable yet many a poor crop is traceable to that very thing. The Drill you use may be hopelessly out of repair and out of date. Better scrap it and go in for a Cockshutt and you get

Accurate, uniform, reliable Seeding absolutely assured



Here's a light draft Drill built with superior Canadian workmanship and materials—has many years of practical field experience behind it.

It has the rugged strength that makes for hard steady repair-free service over a long life time. Its immensely strong I-beam and frame mean absolute rigidity, with lightness. Wide, strong wheels with self-aligning axles, give splendid traction—no sliding on rolling ground. The feed is absolutely positive, harmless to seed, and can be quickly regulated to sow any desired quantity. Discs, in two sections, cultivate ground as well as giving an even channel for seed. Each disc is independent and will rise at an obstruction; when disc sections are raised feed is cut off.

The Cockshutt Drill doesn't need ideal soil conditions—it's built to do good work in any field, clean or trashy, wet or stone hard.

We have a special Drill Folder you ought to read. It's a very important subject. Write our nearest Branch for a copy to-day.

**Cockshutt Plow Co.**  
LIMITED  
Brantford - Ont.

Sold in Eastern  
Ontario, Quebec and  
Maritime Provinces by

**The Frost & Wood Co.**  
LIMITED  
Montreal, SMITH FALLS, St. John

## FORD TIRES AT CUT PRICES

THIS is absolutely the greatest tire offer ever made in Canada.

100,000 of these tires have already sold at their regular price.

**13.45**

PLAIN TREAD

**15.45**

NON-SKID

Tubes fully guaranteed \$2.50

By taking advantage of this offer you will secure more mileage per dollar than from any other tire irrespective of price.

Every tire was made in 1918 from selected materials by expert workmen—in a Canadian factory.

ORDER BY MAIL

We will express the tires C.O.D. with permission to examine. Express charges prepaid to all points in Ontario, Quebec and Maritime Provinces. If tires are not exactly as represented, return them at our expense. Write for prices on other sizes.

**Security Tire Sales Co.**  
516 1/2 Yonge St., Toronto,  
210 Sherbrooke St. W.,  
Montreal.

When writing please mention "Advocate."

### The HYLO SILO

THE everlasting silo—yields 100% profit on the investment every season—sweet, fresh, ensilage down to the last forkful.

Exclusive patented features of great value—specially selected, important material of the highest quality, and careful workmanship, explain why the Hylo is the choice of the most progressive and prosperous farmers in each community.

Write for free silo book today.

**GILSON MFG. CO. LTD.**  
339 York St. Guelph Can.

"Goes Like Sixty"

### This Engine Will Cost You Nothing

You need an engine—get a Gilson on our new easy payment plan, and it will pay for itself. You have the work for it to do this fall and winter, help is scarce and high-priced—save yourself a lot of worry, and enjoy that "Feeling of Security" which is such a definite part of the staunch, reliable Gilson Engine.

Gilson Engines have long enjoyed an indisputable reputation for dependability, power, simplicity and economy. This year finds us with an even more attractive proposition for the discriminating buyer. Prices of everything you have been buying have been soaring, but by careful management we are able to furnish Gilson Engines at remarkably low prices. Write to-day for catalogue, price, and easy payment plan, stating what size you are interested in.

**Gilson Mfg. Co. Ltd., 259 York St., Guelph, Ont.**

### INFORM YOURSELF

There is no question on which it is so essential to obtain reliable and unbiased information as concerning Life Insurance.

Such information may be freely obtained, at first hand, by corresponding with the Great-West Life Assurance Company—a Company that has earned a reputation in every part of Canada for the value and liberality of its policies.

State your age. Rates on suitable Policies will then be given—none the less freely though you have no immediate intention of insuring.

**THE GREAT-WEST LIFE ASSURANCE COMPANY**  
DEPT. "2"  
HEAD OFFICE WINNIPEG  
Buy War Savings Stamps

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**Build From Free Plans**  
Save \$75.00 to \$150.00 architect's fees. Get complete Plans, Blue Prints, Detailed Drawings, Working Specifications and Bill of Material, absolutely free of charge—our Catalogue tells how.

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Get your Building Materials direct from the source of supply. We are Factory Distributors of dependable Builders' Supplies, Tools, Hardware, etc. If you are planning any new buildings or if you have old buildings that need repairs or alteration, be sure to get our catalogue before going on with the work.

**CATALOGUE FREE**  
Ask for "Catalogue of House Plans and Building Materials." It's free to any interested person. Address—  
**THE HALLIDAY COMPANY, Limited**  
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### Tractors and Threshers

**WATERLOO BOY**  
The Simplest, most Accessible, most Powerful 3-Plow Tractor on the market.  
Suitable for hauling 3 Plows, Threshing, Silo Filling and General Farm Work.

Individual Farmers' Threshers, suitable size to be driven by small Tractors and Gasoline Engines. Do your own threshing—Keep your farm clean and save expense.  
Write for free catalogue, prices and any information wanted.

**THE ROBT. BELL ENGINE & THRESHER COMPANY, LIMITED**  
Seaforth, Ont.  
Also Steam Tractors, and large sized Threshers.

### The Kline Mill

Sold at Auction after Inventor died, when new ones could be got at Twice the Price of new one to-day. The Public thought they would not get any more Kline Mills, in the vicinity of Beeton and near towns. It is the only mill that weighs and grades grain. In separating wild oats has no comparison. Capacity One Hundred bushels an hour; also power attachment. Easiest mill to turn made. Write for particulars.

**Kline Fanning Mill Co., Beeton, Ontario.**

### FISH NETS

**WE SELL NETS AND NETTING OF ALL KINDS**  
WRITE FOR PRICES

**GUNS TRAPS SPORTING GOODS**  
**JOHN HALLAM, Limited**  
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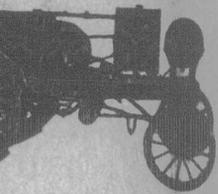
From Free Plans to \$150.00 architect's fees. Plans, Blue Prints, Detailed Specifications and Bill of Materials absolutely free of charge—our specialty.

Best Building Material at Factory Prices. Building Materials direct from the manufacturer. We are Factory Dependable Builders' Supplies, etc. If you are planning new buildings or if you have old buildings in need of repairs or alterations, be sure to consult our catalogue before going on with your plans.

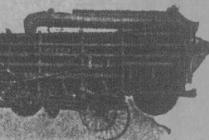
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WILLIAM BELL COMPANY, Limited  
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Tractors and Threshers



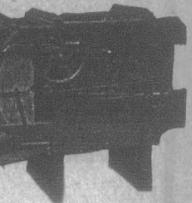
WATERLOO BOY  
Most Accessible, most Powerful  
in the market.  
Pulling 3 Plows, Threshing, Slicing  
and Farm Work.



Tractors, Threshers, suitable size to  
Tractors and Gasoline Engines.  
Threshing. Keep your farm clean  
and efficient.

Catalogue, prices and any information  
sent on request.

WILLIAM BELL ENGINE & COMPANY, LIMITED  
Toronto, Ont.  
Tractors, and large sized Threshers.



Kline Mill

After inventor died, when new  
at twice the price of new one  
thought they would not get  
it. In the vicinity of Beeton  
is the only mill that weighs  
in separating wild oats has no  
capacity One Hundred bushels an  
attachment. Easiest mill to  
operate.

WILLIAM BELL CO., Beeton, Ontario.

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NETS AND NETTING  
OF ALL KINDS  
FOR PRICES

SPORTING GOODS  
WILLIAM BELL, Limited  
Building - TORONTO



*"My new floor covering—  
designed by an artist"*

Highly-paid artists are responsible for the attractive designs which we have included in our range of Feltol Floor Coverings. The great variety of beautiful decorative designs ensures a selection in harmony with your interior decorations—color tones that blend with walls and furniture. So pleasing are the patterns that once you see them you will immediately become a convert to the use of

# Feltol

*The moderate priced*  
**FLOOR COVERING**

This is the type of floor covering you have wished for—with many of the advantages of a good linoleum, yet infinitely lower in price. Feltol is neither Linoleum nor Oilcloth—although it resembles Linoleum in appearance.

Instead of trying to make a soft wood floor presentable, by painting or varnishing it—cover the floor with Feltol. Try it in one room—you will like it so well that eventually you will adopt it for every room in the house.

Then you will have floors that combine charm with practical utility. For Feltol, like Linoleum, is easily cleaned and may be waxed to a high polish if desired. Quiet to the tread and splendidly resilient, this new floor covering is durable, sanitary and attractive.

**You will find Feltol on sale at all the better stores where floor coverings are sold.**

FELTOL IS MADE IN CANADA



# Abraham Lincoln

who was raised on a farm and had a deep sympathy with farmers, declared a tariff producing sufficient revenue for the support of the general Government and adjusted to protect American industry was "indispensably necessary to the prosperity of the American people."

"I believe if we could have a moderate, carefully adjusted protective tariff, so far acquiesced in as not to be a perpetual subject of political strife, squabbles, changes and uncertainties, it would be better for us."

"The abandonment of the protective policy by the American Government must result in the increase of both useless labor and idleness and so in proportion must produce want and ruin among our people."

Under a national tariff, the United States has prospered and become great. A national tariff is essential to the development of the Dominion. Canada cannot exist if legislation for one section is stretched to a point where it ruins another. A tariff is necessary to our industrial development. Industrial development is necessary to agricultural and general prosperity.

Under Free Trade—Where will the Revenue come from?

## Canadian Reconstruction Association

**EXECUTIVE**  
 Rt. Hon. Lord Shaughnessy, K.C., V.O., Honorary President  
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**WESTERN OFFICE**  
 510-11 Electric Railway Chambers, Winnipeg

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### Milk is 87% Water

Your cows must have water regularly, and plenty of it—cannot produce milk without it—need four gallons of water for every five gallons of milk—cannot drink enough ice cold water to guarantee full milk yield.

#### THE LOGICAL WAY TO WATER YOUR MILK

is with Louden SIMPLEX water bowls—will increase your milk production 25 per cent.—will pay for themselves in six months' use. Made for wood or steel stalls—in one piece only—no valves, springs, washers or any other contraptions to get out of order—simple self regulating galvanized tank keeps water at proper level—water always there—at proper temperature—cows drink more—bowls cannot overflow—nothing to get out of order—easy to install—no plumber needed—do it yourself—pipe wrench only needed—extremely simple.

Cost Surprisingly Low. Save You Time—Work—Worry—Money.

Fill in Coupon below and send us your Stall Measurements.

Get Interested. Write To-day.

If you expect to build or remodel write for our Barn Plan Book, also our catalogues—will save you worry—time—money.

Louden Machinery Co of Canada, Limited

Head Office & Factory 473 CRIMEA ST., GUELPH, ONT.

Branches at  
 Martin Ave., Winnipeg, Man.;  
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 Alberta Inquirers write Alberta Dairy  
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Tear off this coupon now and mail it to-day

Louden Machinery Co. of Canada, Ltd.  
 473 Crimea St., Guelph, Ontario

Please send me, free—postpaid—your large illustrated books checked below.

- Barn Plan Book.
- Hay Tools.
- Feed & Litter Carriers.
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I expect to build new barns about.....

I expect to equip present barns about.....

I keep ..... Cows, ..... Horses,

..... Calves .....

I prefer to deal through.....

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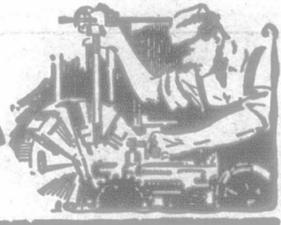
My Name .....

P.O. .... Prov. ....

Creation  
 Ship yours to  
 supply our  
 good quality  
 prepared to  
 price paid  
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 Mutual  
 743  
 Toronto



# War to Peace



## Building a NEW Canada

CANADA's farmers can look with pride on their share in the nation's war effort.

But there is still important work for every farmer to do. Canada must be brought forward to a peace basis with all speed. Here are ways in which the farmer can help:

Canada's first need to-day is to create more wealth. The farmer should therefore, in the nation's interests no less than in his own, continue to bend every effort to increase production.

To-day the farmer will quickly secure the help he needs for getting out bigger crops. The Public Employment Offices now being established in cities of 10,000 population, will put him in touch with just the help he needs.

Every farmer can try to give employment to a returned man, or perhaps, in addition, give him practical training and knowledge of farming, so that he will be able to take advantage of the Government's Land Settlement and Loan provisions.

To-day is the time when every farmer can do great public service by creating work—clearing land, building new barns and outhouses, and doing what is necessary for greater production.

The Farmers' Clubs should make a point of giving a royal welcome to every soldier returning to their community.

Farmers' Co-operative Organizations, too, should do their utmost to employ returned soldiers—especially those who have had experience in handling commodities in the Army Service Corps.

A new Canada is being built up—a Canada that must be still bigger in spirit, still more enterprising. This thriving, prosperous Canada can only arise through the vigorous help and intelligent co-operation of every citizen.



### The Repatriation Committee

OTTAWA

#### Cream Wanted

Ship yours to us, as we must have it to supply our well-established trade with good quality butter. Therefore, we are prepared to pay you highest market price paid. We furnish cans and pay express charges. References any bank.

**Mutual Dairy & Creamery**  
743 King Street West  
Toronto Ontario

#### Let Us Know Your Brick Requirements Now

Once the building season really opens up it is hard to meet the demand for a quality product like—  
**MILTON BRICK**

We can ship NOW, from full stocks of Red and Buff Pressed, or the famous Milton "Rug" in varied shades. Let us know your needs.  
**MILTON PRESSED BRICK CO., LIMITED**  
Head Office: Milton, Ont. Toronto Office: 50 Adelaide St. W.

#### Cream Wanted

Ship your cream to us. We pay all express charges. We supply cans. We remit daily. We guarantee highest market price.

**Ontario Creameries**  
LIMITED  
LONDON ONTARIO



#### is 87% Water

... must have water re... and plenty of it—cannot milk without it—need four water for every five gal... cannot drink enough water to guarantee full

#### LOGICAL WAY TO WATER YOUR MILK

... SIMPLEX water... increase your milk pro... per cent.—will pay for in six months' use. ... wood or steel stalls—in only—no valves, springs, any other contraptions of order—simple self galvanized tank keeps proper level—water al—st proper temperature... k more—bowls cannot... othing to get out of... to install—no plumber... it yourself—pipe... ly needed—extremely

#### Surprisingly Low. Time—Work—Worry—Money.

... on below and send us all Measurements.

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... ct to build or remodel ur Barn Plan Book, catalogues—will save time—money.

... Machinery Co of ada, Limited

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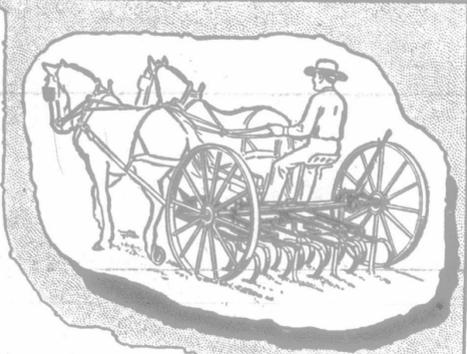
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... Cows, ... Horses.

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Help  
Your  
Seed  
Make  
a Big Crop



LARGER crops and a better grade of grain are bound to follow careful cultivation of the seed-bed. Seed in properly cultivated soil always has the advantage under all weather conditions. Give the crop a right start and prepare the seed-bed properly with a

**Peter Hamilton  
Spring Tooth Cultivator**

Each tooth in the three rows can be set to cultivate exactly to the same depth and stay there under the severest conditions of work. This is only possible with the Peter Hamilton Cultivator and is because the front rows and back rows of teeth are attached to independent sections.

The sections and frame are extraordinarily strong and rigid and the hardest kind of ground is worked up with ease.

The exceedingly strong construction of the Peter Hamilton Spring Tooth Cultivator and the many adjustments that can be made gives a most reliable implement for use on the average farm. It works up the soil quickly to a smooth, mellow seed-bed just in the right condition for good seeding.

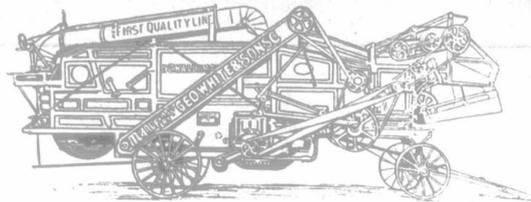
For exterminating weeds this cultivator is essential, and for this purpose extra wide steels can be provided to be used in place of the reversible points.

The High wheels, wide tires and perfect balance help to make this cultivator a pleasure to operate.

Write now for further information.

**The Peter Hamilton Co., Ltd.**  
Peterboro,

Ontario 45



**Special Thresher  
for Gas Tractors**

Any man who has a tractor will not be slow to see the advantages of owning his own Threshing machine. The White Challenge No. 1 is designed specially for that purpose, and it is well worth a place in "The First Quality Line" of Threshing Machinery on which the reputation of this house has been built.

than ordinary machinery, that every vital part must be greatly over-strength. We have learned where the greatest wear comes, and have found the proper grade of material to meet it. We have studied every feature, every new idea, every improvement, and embodied those of proven merit in White machinery.

Making Threshers and Tractors has been our special study and practically our only business for two generations. We have learned from long experience that threshing machinery must be built much stronger

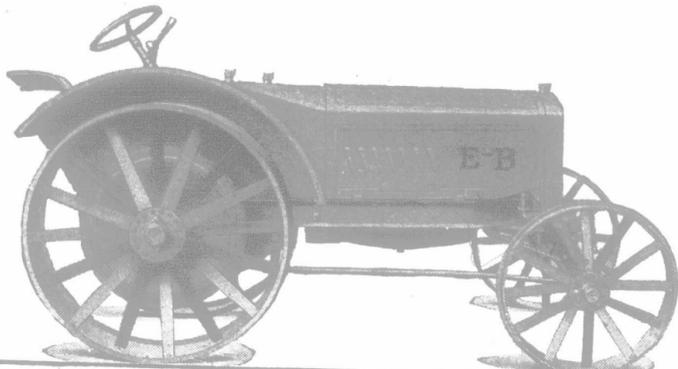
Not only do we aim to produce the best machines, but we look after our machines after they are sold. Every man who deals with us gets the best service our big organization is capable of giving.

Write for information and descriptive catalogue, showing our Special Thresher for gas Tractors—the White Challenge No. 1.

**The Geo. White & Sons Co., Limited**  
Moose Jaw, Sask. LONDON, ONT. Brandon, Man.

"THE FIRST QUALITY LINE"

Makers of Steam, Gas and Kerosene Tractors  
and Threshers



**CANADA Demands this  
TRACTOR**

because it meets the needs and difficulties of Canadian farming.  
**EXTRAORDINARY POWER**—Rated at 12-20 h. p., Society of Automotive Engineers' basis, the E-B Model AA develops 15-25 h. p. The E-B 4-cylinder, kerosene-burning motor pulls three plows in ordinary soils.

**DEPENDABILITY**—E-B construction insures durability. All high-grade equipment: Hyatt Roller Bearings, producer type Carburetor, K-W High Tension Magneto, etc. 67 years of E-B implement manufacture—12 years of E-B

tractor building stand behind this E-B 12-20, S. A. E. Rating, Model AA.  
**ECONOMY**—E-B Patented Transmission on Hyatt Roller Bearings carries maximum power from motor to drive wheels. Motor burns kerosene.

**EASE OF HANDLING**—Women and boys operate it easily.

See your E-B dealer or write us at once

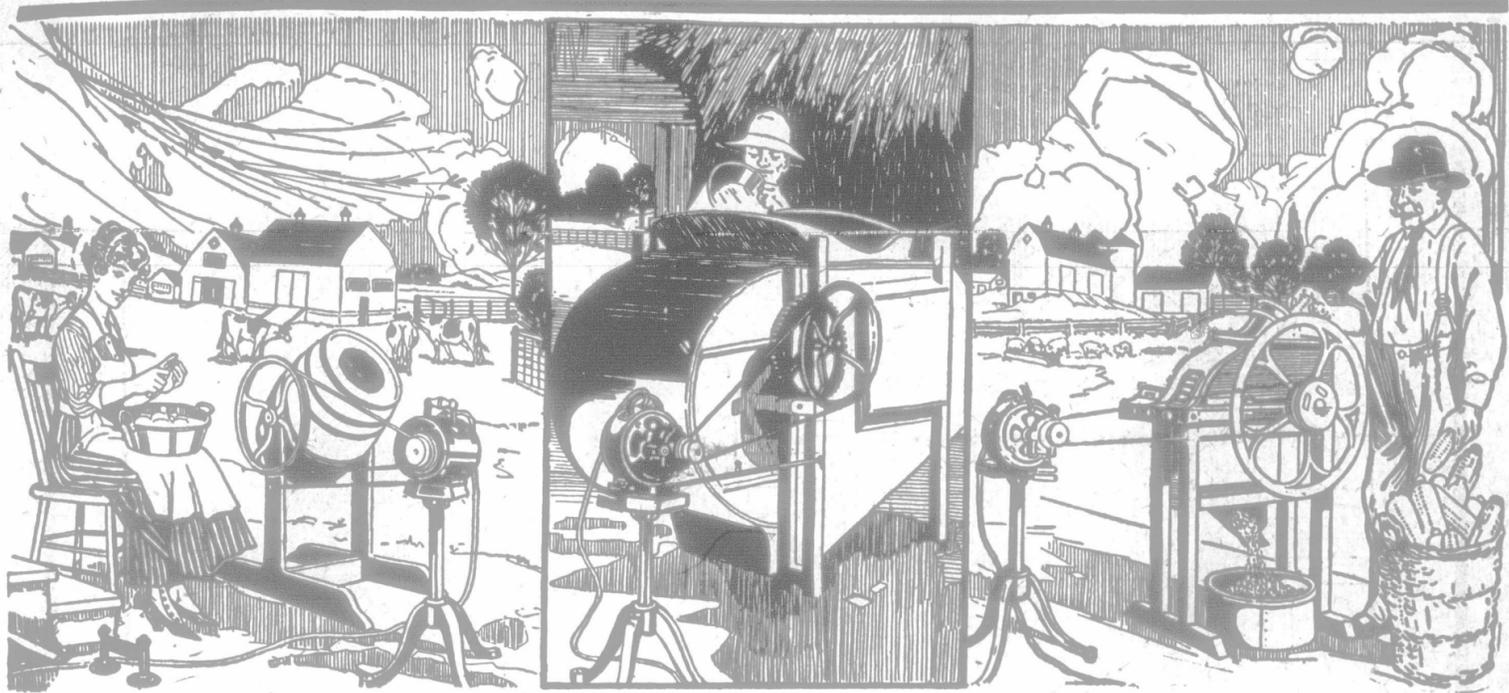
Emerson-Brantingham Implement Co., Inc., Regina, Sask.  
The John Goodison Thresher Co., Sarnia, Ontario

**E-B 12-20**

S. A. E. Rating Model AA

Masterpieces of  
Strength  
HAND  
MADE

**PARTRIDGE  
TIRES**  
Made by The F.E. Partridge Rubber Company, Limited, Guelph, Ont.



# Earns Money For Farmers

**D**ELCO-LIGHT is a business proposition for business-minded farmers. Here is something that will enable you to produce more on your farm.

It will cut down your working hours.

It will better your living conditions.

It will attract labor to your farm.

You need this farm improvement.

Over 60,000 delighted users enjoy the advantages of Delco-Light electricity—clean, handy, light and efficient economical power. Many chores formerly done by hand are on these farms done with Delco-Light electricity. Better light speeds up indoor work. The farm produces more.

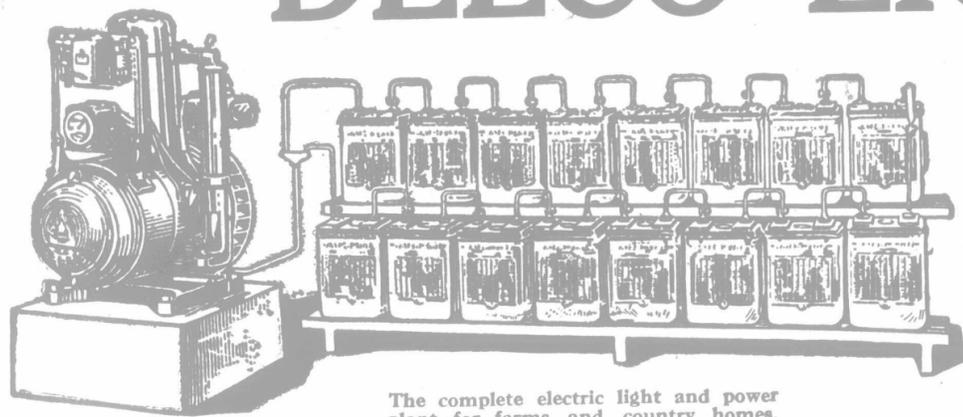
Delco-Light is the result of years of intensive study by famous engineers. It is built for only one purpose—to supply electricity for farm homes. Delco-Light is doing this—and doing it well.

Delco-Light is so simple a child can operate it. Long-lasting and economical, too.

Get complete information about Delco-Light from your nearest distributor. Write for the illustrated Delco-Light booklets that show what Delco-Light is and what it does. Literature will be sent free.

The Domestic Engineering Co., Dayton, Ohio

# DELCO-LIGHT



The complete electric light and power plant for farms and country homes.

Electrical Systems, Ltd.  
Toronto, Ont.

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any machinery, vital part must be of great strength. We know where the best comes, and we get the proper grade to meet it. We have every feature, and every idea, every improvement embodied in our machines. Every machine has proven merit in every detail.

Our aim is to produce the best machines, but our machines are sold. Every farmer who gets with us gets the best of our big or small machines. We are capable of giving you the best of our machinery.

Showing our new engine No. 1.

Limited  
London, Man.  
"NE"

tractors

pieces of strength

HAND MADE

EO



## How Mrs. Smith Solved the Mystery

"I'VE followed the recipe most carefully in every particular," declared the bride. "I mixed and kneaded the dough properly. Why in the world does my bread not come out well like other folks'? It's a mystery to me!"

"It's simple," said her neighbor, "it's the flour. If you want your bread to come out always right you must have flour that is always the same *unchanging* good quality."

"Do flours vary in quality?"

"Naturally they must," explained Mrs. Smith, "for wheats vary in strength in different localities. Some wheats contain more gluten than others. And plenty of gluten is necessary in the flour because that is the elastic substance which helps the yeast to make the bread to rise properly. It is highly nutritious."

"If you want your bread always to come out right, take my advice, follow the recipe exactly, but use

## Cream of the West Flour

(Milled according to Government Standard)

"But why this particular flour?" asked the bride. "Because it is a good, strong, high gluten flour for bread, and its quality is always uniform; it never varies."

"How can one know it never varies?"

"Because Campbells test samples of all the wheat they get to find out just what it contains. So it is easy for them to keep it uniformly good. I'll show you my own bread," offered Mrs. Smith. She

went across the way to her home and returned with a splendid swelling loaf.

The bride tasted it and was delighted. "Oh, if I could only make bread like that!" she exclaimed.

"Certainly you can," said her neighbour, "Cream of the West is a dandy flour for bread. I ought to know for I have used it for years, I'm sure you'll be just as satisfied as I am with it. Try it, my dear."

The Campbell Flour Mills Company, Limited  
West Toronto, Ontario

Canada Food Board License 6, 7 & 8

154

LIV

Plan the  
under way.

One-quart  
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and living con

# The Farmer's Advocate and Home Magazine

PERSEVERE  
AND  
SUCCEED

ESTABLISHED  
1866

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## EDITORIAL.

Plan the cropping system before seeding is too far under way.

One-quarter of the value of good seed is lost on a poor seed-bed—put it in right.

Save plenty of small fields near the buildings for calf and hog pastures as well as soiling crops.

Potato diseases carried in the seed decrease the crop very materially. Look well to the quality of the seed used this spring.

The wealthy classes will be the last to endorse any changes toward direct taxation, and one does not have to seek for the reason.

Do you read the Young Farmer's Department? The junior farmers are an important factor in modern agriculture, and they will make their influence felt.

The manufacturers ask where revenue is to come from if the tariff is reduced. The answer can be found in other countries where saner methods of raising revenue are in vogue.

Are we going to have a great live-stock and agricultural expansion movement or are we going to drift? Surely, the splendid opportunities now presented will not be ignored.

One cannot expect a good harvest from a poor seeding. Good luck is due to about one per cent. of chance and 99 per cent. of foresight, intelligence, proper methods and hard work.

Where San Jose or other scale insects are prevalent don't neglect to make the first application of lime-sulphur. It cleans up the orchard and increases the effectiveness of the later sprays.

A report of Parliament, prepared by one of our own editors, residing in Ottawa for the purpose, appears weekly in "The Farmer's Advocate." We have no political axe to grind and can, therefore, furnish unbiased reports of the proceedings.

The summer excursions to the Ontario Agricultural College might well be revived and take the form of an auto party such as was suggested by the Brant County Board of Agriculture. Farmers should use their automobiles freely this summer in excursions to neighboring counties and districts.

Many farmers on hundred-acre farms have learned that they can get along in a kind of a way without extra help, and are now loath to pay high wages to hired men. They feel that the increased production resulting from the labors of an extra man will no more than pay wages. Agriculture will never make rapid advances under such conditions. The problem still calls for solution.

The world shook for more than four years with a battle between autocracy and democracy; the latter conquered but now an inverted autocracy, emanating from Russia and gathering strength in Hungary, threatens the earth with something really worse than we have ever known. This new evil spreads more rapidly among people with empty stomachs, and the Peace Conference begin to realize that a settlement must soon be reached so food embargoes can be lifted and living conditions become more normal.

### A Moderate Request.

The Maritime Provinces make a very modest and reasonable request when they urge upon the Dominion Government the necessity of abattoir and cold-storage facilities at Halifax. One has to live and farm in one of the three provinces down by the sea to appreciate the obstacles confronting any development of the live-stock industry. The market for live stock is not there, and last fall when the seriousness of the feed shortage was realized S. O. S. calls were sent to Montreal with the result that cattle on hoof were dispatched westward over a long expanse of rail. The situation was relieved on that occasion, but the natural flow of live stock or live-stock products is not westward, especially over such a distance as lies between the eastern counties of Nova Scotia and Montreal. The records of the branch Experimental Farms in the East substantiate the statement that cattle sell for at least two cents per pound less in Nova Scotia than on the Toronto market, and in the case of hogs world markets cannot exert their full influence because there is no adequate channel outward to those markets. The situation was well pictured in a resolution endorsed by a recent meeting of the Maritime Live Stock Breeders' Association and forwarded to the Federal Government. This should receive more than serious consideration; it merits immediate action.

During the last two or three decades ridiculously large amounts of money have been expended for political purposes on wharves, breakwaters, bridges and what not in the Maritime Provinces, and now something substantial, something needed, is being asked for. Surely half a million dollars spent on cold storage and marketing facilities at Halifax would appear insignificant as compared with the 25 or 30 million already allocated for the improvement of that harbor. A fast ocean service places the east coast of Canada very close to the shores of Britain, and adequate cold-storage facilities at an Atlantic port, open the year round, would help all Eastern Canada besides giving to the Maritime Provinces an opportunity to expand. It was expected that the Minister of Agriculture would give the Maritime Province project more favorable mention when he announced the Government's program concerning cold-storage additions. However, the million dollars spent at Montreal will not help the East; and it is to be hoped that more than a passive attitude will soon be assumed in regard to the Maritime Provinces.

### A Frank Admission.

In an effort to hold back the tide of public opinion which is constantly swelling and making tariff reduction, sometime during the present session of Parliament, a certainty, the Canadian Manufacturers' Association have been fathoming some amusing advertisements in certain publications. An attempt is being made to discredit the farmer and show him up as a citizen desirous of evading all obligations to the State, and one who would shift the burden of taxation completely to the shoulders of others. These advertisements could be taken clause by clause and answered to the satisfaction of all fair-minded people, but one which is, in fact, particularly destructive to the cause of the high protectionist is reproduced in the following paragraph:

"Furthermore, to raise the Dominion Government revenue they would substitute for the tariff, which collected last year about sixty per cent. of that revenue, an increase of income taxes, inheritance taxes, corporation taxes, and taxes on unimproved land values. As it is quite obvious that such taxes would affect the farmer but little, this is the inducement they are using to get you to forsake us and follow the free trade prophets no one knows where."

This frank admission by the manufacturers that farmers as a class would be taxed more lightly if some

form of equitable and just taxation were imposed is enough to nullify the whole argument in defense of high tariffs. Certainly, agriculturists are not holding unimproved lands. Corporation taxes would not touch them, and inheritance taxes would have to apply to insignificantly small fortunes before they would derive anything from the estates of out-and-out farmers. The income tax is the only form of taxation mentioned that could be depended on to yield a fraction of revenue. Farmers would rejoice if only they could derive an income from their farms sufficient to place them in the prosperous class of contributors under this form of direct taxation. The manufacturers know full well that as we get away from indirect taxation and make wealth and capital pay its rightful share the farmer's burden is transferred to the shoulders of others better able to bear it.

### Consolidation of Rural Schools.

We are moving toward consolidation in all lines. Individual effort has handicapped farmers to such an extent in the past that they are at last beginning to realize the tremendous advantages which accrue from co-operation and a work-together system when applied in the community or to the agricultural industry in general. The cheese factory and creamery have almost abolished the small, individual equipment maintained on the farm with which to manufacture cheese and butter. A large proportion of the wool now produced is graded and sold at a central collecting station, instead of being carded at a nearby mill and spun into yarn on the spindle of a single spinning-wheel. One by one the old-fashioned spinning-wheels have been relegated to the garret, and the busy spindles of the large factory convert the country's wool crop into yarn. Centralization and consolidation now feature practically every department of the farming industry, but the rural school stands out in bold relief as one phase of rural life and rural activity where the wheels of progress have been almost motionless. There have been changes in the curriculum, that is true, but, considering the advancement made in urban centres, and what modern agriculture demands in the way of leadership, executive ability and citizenship, the rural school may be likened to the spinning-wheel as something which was serviceable and indispensable in a past age but altogether unsuited for the present.

Some form of consolidation is necessary, but in the development of a consolidated rural school system the problem of buildings and transportation are not the most vital factors. These have been solved elsewhere and can be solved here. The school itself, what it teaches and how, these are the features of the coming consolidated school which will make it a happy success or a glaring failure.

When we say that the transportation problem has been solved elsewhere we have in mind that the State of Idaho transports over five thousand children; Oklahoma over eight thousand; Kansas over nine thousand, and Minnesota more than sixteen thousand. In our own Prairie Provinces the transportation question has been met and conquered, so why should we not be able to do as well in Eastern Canada where the country is more thickly settled?

It was announced recently that the Ontario Government would assist in the erection of community halls. Any action taken in accordance with this movement should be influenced by the probable location of consolidated or community schools. A hall or meeting place would certainly be a very valuable adjunct to the equipment of the community, but these should be a part of the future community schools, and such halls should not be built regardless of where a number of school sections might naturally find a convenient centre. One drawback to consolidated schools at present is the number of small schoolhouses which the sections do not

## The Farmer's Advocate and Home Magazine.

THE LEADING AGRICULTURAL JOURNAL IN THE  
DOMINION.

Published weekly by  
THE WILLIAM WELD COMPANY, (Limited).

JOHN WELD, Manager.  
Agents for "The Farmer's Advocate and Home Journal",  
Winnipeg, Man.

1. THE FARMER'S ADVOCATE AND HOME MAGAZINE is published every Thursday. It is impartial and independent of all cliques and parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers of any publication in Canada.
  2. TERMS OF SUBSCRIPTION.—In Canada, England, Ireland, Scotland, Newfoundland and New Zealand, \$1.50 per year, in advance; \$2.00 per year when not paid in advance. United States, \$2.50 per year; all other countries, 12s. in advance.
  3. ADVERTISING RATES.—25 cents per line, agate, flat. Live stock advertising rates given on application.
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London, Canada.

care to abandon until they are unfit for habitation. The community hall and the community school should be combined, and for this reason these two lines of rural upbuilding should be co-ordinated into one scheme.

### The Live Stock Expansion Movement.

It cannot be estimated what it would mean to Canada if we were able to supply Britain with a large proportion of her bacon requirements, and be in a position to contribute liberally of beef, dairy products and eggs. There is a wonderful market there, and our possibilities for production are limited only by the number of producers. Western Canada is getting into the live-stock business quickly, and when the vast resources west of the Great Lakes are developed we shall depend almost as much on foreign markets to take care of our live-stock products as we have in regard to wheat. The Maritime Provinces are only waiting adequate abattoir and cold-storage facilities before they will be in a position to forge ahead and enlarge upon their productive enterprises.

The destinies of many countries are being mapped out at the present time, and it behooves us to be up and doing with an eye fixed to the future of Canada and the prosperity of the agricultural industry. Canada's war debt may be paid out of the top six inches of Canadian soil, as the Food Controller has said, but our crops will not represent the best form of collateral until they are converted into live stock or live-stock products. Producers are awaiting information concerning the future program of this country, and the return of the Live Stock Commissioner should be the prelude to a clear-cut, comprehensive statement regarding European requirements and what is expected of us. One thing is certain, quality as well as quantity will be demanded by the British consumer, and to meet this stipulation we shall have to set our house in order, improve our cattle stocks and supply what the market demands. With this in view we are offering a few suggestions in the live-stock department of this issue as to how we might go about it to awaken interest in better live stock and the great expansion movement.

### Getting Past the Labor Problem.

BY ALLAN MCDIARMID.

It has been said that for every good thing there is something evil and for every evil thing we can find some compensation coming with it. It seems to be a sort of Universal Law that helps to make this a tolerable place to live in. And at the same time it is the means of giving to each of us a little of the discipline that seems necessary to prevent our getting out of the "straight and narrow way;" that is, after all, the easiest road through life.

What brought these thoughts to our mind was something we have just read in the last copy of our "Farmer's Advocate" on the subject of providing employment for our returned soldiers, and other men out of a job, in the way of Government works and this housing scheme and other things of a similar nature, which, although not absolutely necessary, are looked on as being the best solution of the "unemployed labor" problem.

But the other side of the case seems to have been overlooked. The bad that comes with the good. If the great majority of our laboring men are employed on house-building and different public works, the condition of the farmer will remain as bad as it was at any time during the war. He will still be short of help and unable to run his farm to advantage, or to produce the food that the world seems to be in as much need of as ever. So the result would seem to be that by providing this emergency work the Government is reducing the production of our country and creating at least as great an evil as it is trying to cure. No doubt the Government's intentions are of the best but the outcome may not be just as favorable as they expect.

But there's always a way out of every difficulty and although the solution of the problem may have its good and bad features, still they are generally of minor importance. And the solution in this case would seem to be for us to find something or someone to take the place of our soldiers and other men that we thought were coming back from France and the munition factories, to take up their old work on the farm. If the Government job proves a better drawing card than milking cows and hoeing corn then we'll have to get our help from some other source; or do what we can without help. Which would mean that the leading industry of this country was going back instead of progressing. And when agriculture starts going down hill it won't be long before the other industries are following in her wake. The better plan will be to get help from some quarter and see that Canada's resources are developed and her production kept on the increase from year to year.

Over across the line in the U. S. they seem to have been up against the same thing that confronts us here. But they have a plan whereby they expect to get past it. In the spring of 1918 they organized what they called the Woman's Land Army. Its plan was to organize and place in groups, girls and young women who were willing to work on the farms, and to have them where they would be available at once for those farmers who asked for their services. During the summer of 1918 there were units in twenty different states with a total enrolment of 15,000 farmerettes altogether.

The scheme worked, as also did the farmerettes. They were employed at picking and packing fruit, dairy work, hoeing, truck gardening, grain harvesting and hay-making, silo work, handling tractors, threshing and care of live-stock. And on the whole, they seem to have given satisfaction. So much so that they are going to try it again this year, in spite of the fact that the war is over and the necessity wouldn't seem to be so great. What is more, the United States Employment Service has taken this organization into partnership with it, which makes it practically a Government institution. And its usefulness will also be increased.

There is a Camp Management Committee that will take up such questions as recreation, diet, health, sanitation, hours of work and contracts with employers. The Land Army has always stood for a stated number of hours work daily, with any emergency overtime, as in the case of saving the crops, to be paid for by the hour. Wages will be adjusted according to service given and the generally ruling price in the district. Ability and experience will be the main factor, however, in fixing the wage. The Land Army has no intention of competing with or trying to cut down the price of the labor of the "hired man" on the farm. They have no thought of taking any man's job away from him. Their idea is to do the work that without their help would be left undone; to increase the efficiency of the farms and consequently of the nation.

Now it seems to me that there is the opportunity in this country for an organization along similar lines to that of which we have been speaking. And it is hard to see how it could be productive of anything but good. Perhaps the law of compensation would make no exception here either, but a good many advantages would apparently come with this hitherto undeveloped supply of labor from our towns and cities.

It would promote better feeling between town and country, for one thing. It would open up a chance for many women who might be in a position to take up land in some part of the country and manage it on their own account. Or permanent positions might be secured in different branches of farm work by those who had unusual ability along that line.

It is said that wherever a camp or unit was established last year in the United States, that it became a sort of community centre and a community spirit was developed, the worth of which to both the workers themselves and the rural district in which they were located, was beyond calculation.

Above all, the foregoing scheme is practical. It has been tried out and it works. And if it worked on one side of the Line it should work on the other. Conditions in the two countries are very much the same. What we need is a few Yankee organizers. Or have we some, just as good, on this side, that are only awaiting their opportunity?

### Nature's Diary.

A. B. KLUGH, M. A.

Nature in Poetry.—No. 4.

It is but natural that the poets should have written a good deal about Spring, for the season of re-awakening is potent enough to put a song in the heart of the average human being. So much is this the case that the "spring poet"—who bombards the editors with more or less doggerel rhymes in which "Spring," "Birds on the wing" and "sing" figure prominently,—has become a joke. But let us see what the poets have given the nature-lover in the way of spring songs. In many of the passages dealing with Spring particular birds and flowers are treated, and in these cases I shall consider them when we come to discuss these topics as found in poetry.

Leland in "Spring" has given us a beautiful verse describing the approach of this season:—

"And softly came the fair young queen  
O'er mountain, dale and dell,  
And where her golden light was seen  
An emerald shadow fell."

Longfellow in "Hiawatha," that delightful poem in which the nature-lover finds so many gems of accurate description, says:—

"Came the Spring with all its splendor  
All its birds and all its blossoms  
All its flowers, and leaves, and grasses."

In "Spring Goeth all in White," Robert Bridges has given us a very true bit of observation—the predominance of white flowers in Spring, which is equally true in Canada, with our Trilliums, White-hearts, Bishop's-cap, White Violets, Star-flowers, Wild Lily-of-the-Valley, Bane-berry, Dwarf Cornel, Aralia, Blood-roots, Viburnums, Dog-woods, Shad-bush, Hawthorns, and Wild Cherries, as it is in England.

"Spring goeth all in white  
Crowded with milk-white may  
In flocks of light  
O'er heaven the white clouds stray."

White butterflies in the air,  
White daisies prank the ground,  
The cherry and the hoary pear  
Scatter their snow around."

Whittier in "The Singer" describes the season when:—

"Again the blackbirds sing; the streams  
Wake, laughing, from their winter dreams  
And tremble in the April showers  
The tassels of the maple flowers."

Alan Sullivan in "The White Canoe" has given us a verse which rings very true to the ears of those who love the north country:—

"There's a whisper of life in the gray dead trees,  
And a murmuring wash on the shore  
And a breath of the south in the loitering breeze,  
To tell that the winter is o'er.  
While free at last from its fetters of ice  
The river is clear and blue  
And cries with a tremulous quivering voice  
For the launch of the White Canoe."

Another Canadian, Archibald Lapman, in his "April in the Hills" treats the birds of spring very accurately:—

"The crows go by, a noisy throng;  
About the meadows all day long,  
The shore-lark drops his brittle song;  
And up the leafless tree  
The nut-hatch runs, and nods, and cflings;  
The bluebird dips with flashing wings,  
The robin flutes, the sparrow sings  
And the swallows float and flee."

The description of the song of the Prairie Horned Lark, or Shore-lark as it is often termed, as "brittle"; and the line "The bluebird dips with flashings wings"; are particularly good. Anyone who has watched a Bluebird feeding in the spring, dipping to the ground to secure some insect which it has seen from its perch on a fence-post, will appreciate the accuracy of the description.

The same poet in "April Night" has given us a wonderfully descriptive line:—"The moist smell of the unimprisoned earth."

Bliss Carman in "Spring's Saraband" sings:—

"With color and with music  
With perfumes and with pomp,  
By meadowland and upland  
Through pasture, wood and swamp,  
With promise and enchantment  
Leading her mystic mime,  
She comes to lure the world anew  
With joy as old as time."

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# THE HORSE.

## Foaling Time.

### Article No. 1.

As the general foaling time is approaching, pregnant mares should receive special attention. It should not be forgotten that a mare in the advanced stages of gestation has, in addition to sustaining herself, a nearly mature foetus to sustain, and as this calls largely upon her resources she should be fed and cared for accordingly. Her feed should be plentiful, of first-class quality, and of an easily-digested nature. She should be fed liberally on bran with a reasonable percentage of rolled oats, in addition to hay, a cupful of linseed meal, and a couple of carrots or a mangel or turnip daily tend to aid digestion and prevent constipation. The too-common practice of feeding solely on dry hay and oats, while giving fair results in working horses, is not suitable for breeding mares. The bran and succulent feed mentioned tend to keep the digestive organs normal, and also stimulate the lacteal apparatus to the desired activity.

While pregnant mares should receive some special care they should not be pampered and kept in idleness. There is a too-common opinion that self maintenance and sustaining the foetus is sufficient labor. Ordinary driving or regular light work is much better than idleness. They should be given regular but gentle exercise or work. They should not be asked to perform labor that necessitates excessive muscular or respiratory exertion, but the mare that is kept in fair condition and regularly exercised or worked during the whole period of gestation will, with few exceptions, produce a stronger foal than the one that has been pampered and kept in idleness during the greater part of that period. This applies particularly to the last few months of pregnancy. If it be not practicable to exercise her in harness she should be turned out in a yard or paddock for at least a few hours every day when the weather is not too rough or the ground too slippery. Care should be taken to not let her out with strange or vicious horses that might worry or kick her, but some safe means of forcing regular exercise should be observed and continued until she shows symptoms of approaching parturition.

As the period of gestation varies in different animals, and often in the same animal in different years, we cannot tell with reasonable certainty when parturition will take place. In round numbers we say that 11 months is the average period, but observation and experience teach us that this is by no means constant, and that the period varies from 10 to 13 months, and in rare cases we notice even a greater variance. Hence it is well to be prepared for the event any time after the ninth month. After this period she should be kept in a large, comfortable box stall, or if during the season when on grass, a comfortable paddock where she can be closely watched. The box stall should have no mangers or feed boxes into which the foal may drop in case the act be performed while the mare is standing, as is sometimes the case. It is unsafe to allow a mare to foal while tied in a stall, as she is unable to give the foal the necessary attention and it may perish from this cause, or, if it be strong and able to rise and walk around without attention from either dam or man, it is as likely to walk into the stall of another horse as that of its dam, and, in its endeavor to obtain nourishment, is liable to be injured or killed. The stall in which the mare is kept should be well cleaned daily, and it is good practice to sprinkle slacked lime on the floor each time before fresh bedding is supplied. It is a mistake to allow manure, either solid, liquid or mixed, to accumulate, as it heats and vitiates the air as well as favors the multiplication of germs. In support of this practice it is claimed that the presence of manure upon the floor prevents it becoming slippery thereby avoiding accidents to mare or foal that might otherwise occur, but if the stall be well cleaned out daily, and especially if lime be used as stated, it will not become dangerous in this respect. The lime performs a two-fold function—it keeps the floor dry, destroys and prevents odors and destroys microbes, which if present are very liable to cause trouble in the foal. Probably the most dangerous of these microbes is that form which gains entrance to the circulation through the umbilical opening of the foal, and causes that serious and often fatal disease known as "joint-ill or navel-ill." In addition to this it is wise to give the whole stall a thorough sweeping, and scrubbing with a hot 5 per cent. solution of carbolic acid or one of the coal-tar antiseptics, or a thorough coat of hot lime wash with 5 per cent. crude carbolic acid.

When the usual symptoms of approaching parturition appear the mare should be carefully watched. These symptoms usually are a more pendulous condition of the abdomen, an apparent shrinking or dropping of the muscles of the croup, a fullness of the mammae and teats, at the points of which, in many cases, a small lump of inspissated colostrum, which is commonly called "wax" appears. There is usually also an enlargement of the lips of the vulva, and often a parting of the same with a discharge of a small quantity of a viscid substance. It must, however, be remembered that in some cases the symptoms are not well marked, and that in some cases a mare foals without having shown any well-marked symptoms indicating that parturition is about to take place, and in such cases we are often surprised to find that birth has taken place in a normal manner, or else parturition is difficult, and may have reached that stage in which the saving of the foal is out of the question, and the dam's life may also be in danger.

The immediate symptoms are, of course, the appearance of "labor pains." These are exhibited by an uneasiness, a nervous, excited state, especially noticed in a mare about to produce her first young. The mare walks around the stall or paddock, stamps, lies down and usually strains. This is usually followed by a period of ease, which is succeeded by another attack. The attacks become more pronounced, more severe and longer continued, and the periods of ease shorter until the pain becomes almost or quite continuous. If in a field the patient usually seeks solitude by wandering away from other horses, while in rare cases the mare is more contented when her owner or groom is present and in sight. In some cases we notice what are called "false labor pains" in which the symptoms are reasonably well marked for a time and then pass off to reappear in a variable time. In some cases parturition is completed in a few minutes after the first appearance of pain, while in others, even when conditions are normal, they continue for hours. The man who is about to watch a mare at this period should be provided with a knife, a bottle containing a five-per-cent. solution of carbolic acid in water, in which is soaking a rather soft, strong cord; an 8-oz. bottle of water with 15 grain corrosive sublimate in it, and a pail or basin containing a quantity of an antiseptic fluid, as a 5-per-cent. solution of one of the coal-tar antiseptics or carbolic acid. There are many reasons why a mare about to bring forth young should be carefully watched. We hope to discuss these in the near future. WHIP.



Montrave Mac.

A photograph of this noted Clydesdale horse when 27 years old.

## Shire Notes

According to our English representative, the cult of the Suffolk horse is spreading wide over that country. A Derbyshire man, J. Preston Jones, has just paid W. D. Parker of Suffolk, £1,200 for a four-year-old stallion, Freston Khedive a son of Sudbourne Arabi one of the most prepotent sires in the Suffolk Stud Book. Young stallions (22) offered at a sale in Ipswich made up to 440 guineas and averaged £216 apiece. Young mares and fillies (23) averaged £190 8s., and made up to 300 guineas; and a dozen geldings sold at £140 apiece, albeit 255 guineas had to be given for one—a real weight shifter and a terror in his collar.

## LIVE STOCK.

### Oats and Vetch for Pasture.

EDITOR "THE FARMER'S ADVOCATE":

As the season is now drawing near for putting the seed in the ground, it is well to look ahead and provide for emergencies. Seasons are variable, hardly any two are alike. Men in the stock business should plan on sowing a crop to cut for the stock when pastures are short. As a rule pastures are at their best during June and the stock does well, but during July and August hot weather usually sets in and the pastures become dry and parched. Over thirty years ago I read in a farmers' paper that it was a good plan to sow oats and vetches to supplement the pasture. I tried it and find it to be an excellent plan. I was able to cut three crops in one season. I think it advisable to divide the acreage for soiling crops into three parts, sow one part as early as possible in the spring and the other two at intervals of fifteen days. This will prolong the feeding period considerably. I would advise sowing at least one acre of this mixture for every twenty cows you have to feed, and to sow at the rate of one bushel of vetches to two of oats. Vetches will start to grow after they have been cut better than will clover. If it so happens that you do not need to use all the crop for pasture, it can be ensiled or cured for hay. If in the dairy line, do not allow the cows to shrink in their milk before you commence to feed them the green fodder. Once the milk flow slackens off it is almost impossible to bring it back to normal. The prospects appear to be for high prices for butter and cheese, and it is essential that an effort be made to have the cows produce the maximum amount.

Oats and vetch also make a good pasture for hogs, although it is advisable to add red clover to the mixture. In about six weeks after the crop is sown the hogs may be turned on it. A good dry sleeping place must be

provided, as the pigs will not do well if they have to lie in the open. I well remember seeing, on the farm of the late D. N. McPherson, of Lancaster, a herd of eighty pigs pasturing on a little over an acre of ground. They were getting whey and about two pounds of shorts per day and were making good gains. He had a great crop of clover on a piece of ground where the hogs were pastured the previous year. By using the by-product from the cheese factory or creamery along with pasture and a light grain ration there is a fair amount of money in feeding pigs. If one wishes to make pork cheaply it is necessary to have the hogs on pasture during the summer.

Nova Scotia.

PETER MCFARLANE.

## Robert Bakewell.

EDITOR "THE FARMER'S ADVOCATE":

We are inclined in Canada to look down on the farmer who does not own the land he cultivates. From time to time we may hear such expressions used as, he "rents his farm" or he farms "on shares" to explain deficiencies in certain persons. In England it is otherwise. To own a bit of land is always desirable, but not always attainable, and many men live and do good work on rented farms. Such a one was Robert Bakewell of Dishley Grange, Leicestershire. So far as we know he never owned an acre of his native county, yet his name will ever be associated with it as one of the most important of its many honored sons.

The system of land tenure in the old land is not by any means such as patriotic men and women would wish to see it, still it has on the whole served us well. Abuses there have been on both the part of the landlord and the tenant. Landlords have at times been barely honest, certainly not considerate, in raising rents for instance, when farms, owing solely to the enterprise of his tenants have been rendered more valuable. Every one could mention such cases, and others, too, where tenants were sharp enough to impose on the ignorance and good nature of their landlords to a degree that was hardly honorable. So far as we have been able to judge the laws are imperfect as the men who made them were imperfect, but frequently we find people superior to both their laws and their religion.

In 1725, nearly 200 years ago Robert Bakewell was born at Dishley Grange and exactly 70 years later he died in his old home. Until he was 30 years old he worked with his father evidently doing just as he was told, but at this time his father, being an old man retired from business, and then we can imagine changes more rapid than any one had looked for began at Dishley Grange. It was not only in the improvement of his stock that Robert Bakewell made experiments. He introduced a system of irrigation which had so great an effect on one portion of his farm as to enable him to have four crops of hay in the year. He also invented some kind of water chute by which he conveyed his turnips from field to farmyard. He said he threw them in and bade them "meet him at the barn door." These labor saving arrangements were certainly a novelty in the leisurely eighteenth century. We who have the greatest century of industrial advancement the world has ever seen separating us from its conditions can hardly imagine what life in those times could be like.

One book which so far as agriculture and animal husbandry goes tells us much is Arthur Young's Tour. He kept journals and mentioned all he saw, and his books are now more valuable than ever as a reliable account of the country life of that bygone time.

Robert Bakewell comes in for honorable mention on account of the enterprise he was showing in improving the horses, cattle and sheep of the country. Of the last Arthur Young says, Mr. Bakewell has succeeded in raising 2 lbs. of mutton where one was raised before. In the way of cattle he produced what he called the "New Leicester Longhorn" which are described as "small clean boned, round, short carcassed and kindly looking cattle inclined to be fat." According to Youatt a contemporary authority on cattle "the grazier could not too highly value these cattle but their qualities as milkers were greatly lessened." This last is not an unusual experience when men take a hand in "improving" breeds. The Angus, the Galloway, the Shorthorn have a similar tale to tell. As for the "New Leicester Longhorn" we may say peace to their memory for as a breed it has ceased to exist. Fortunately their pictures have been preserved.

Leicester has always been famous for its horses. It is in the best hunting district in England and there a good horse always commands a high price. Towards the end of Mr. Bakewell's career horses were unfortunately in demand for purposes more cruel than fox hunting and he had much to do in making a large supply of suitable horses for the war available. He imported strong mares from Flanders and the result was seen in the fine, black horses he exhibited in London during the later years of his activities. As a special breed these horses have passed away also, but not without leaving their mark on the fine animals still to be seen in the English Midlands.

Robert Bakewell's fame as a breeder does not rest on his work either among horses or cattle. When a Countess of Oxford was introduced to a namesake of his she said: "Are you the Mr. Bakewell who invented sheep?" The gentleman's reply to this question is not recorded, but though he was by profession a geologist he might have answered: "No, but he had written a book about wool."

Mr. Bakewell made no secret about how he improved his horses, but he never yet told how he "invented" the Leicester sheep. It was undoubtedly largely by selection, but it is also probable that some judicious

crossing was done. The improvement was so rapid that it is difficult to see how it could have achieved otherwise. Already in 1760 he was renting rams of his improved breed to his neighbors. A few shillings for the season was all he got at first. As time went on his terms became higher and he charged twenty-five guineas, \$130, for a season's use of one of his rams. In the end one of his famous rams, "Two pounder" brought his owner twelve hundred guineas in one season. The object Mr. Bakewell placed before himself was in both sheep, and cattle to have the "meat laid on in the roasting parts not on the boiling parts." So far as his sheep were concerned he seems not to have troubled himself so much about wool which is easily accounted for. In Great Britain there was no shortage of wool. We always had enough and to spare and there still remains on our statute book laws to enforce the use of woollen goods of English manufacture on occasions which need not be specified.

Perhaps the reason he made a secret of his processes in breeding his Leicester sheep was because a little mystery always adds interest. He was unmarried unlike his contemporary, John Ellman, which perhaps accounts for his secrets being kept. The fact of his being a bachelor may explain something else. He was successful in all his undertakings and yet he made no money. After twenty-one years work he was bankrupt. Hard lines it was for a clever man to work with head and hands all these years and to find himself bankrupt at 51. Well he set to again and we hope he succeeded in getting all he required and spent his later years in comfortable financial circumstances. In that beautiful English landscape amid the scenes in which his life had been spent he would not need to be very rich to be quite happy for "Nature never did deceive the heart that loved her." Mr. Bakewell's fame had spread abroad and he had numerous friends and admirers who brought their friends to see the scene of the Dishley Grange experiments and others, neither friends nor admirers, came too. All were hospitably entertained. This must in itself have been a drain on his resources. At all events he was never a millionaire, never to the end a man who would be considered rich even by the graziers among whom his lot was cast. It is many years since the Scottish farmer recognized in the Leicester sheep a useful ally. These rams are largely used in

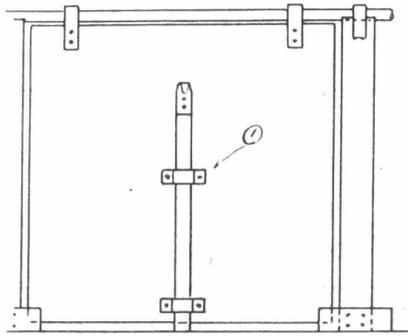


Fig. 1—Front view of the door.

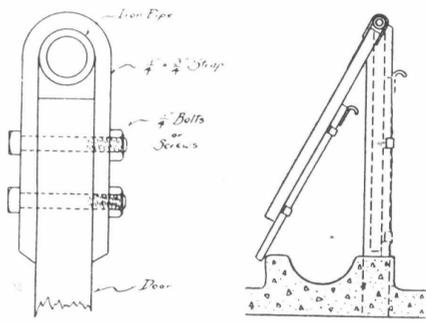


Fig. 2—End view door showing attachment to iron pipe.

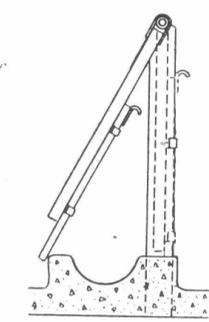


Fig. 3—End view showing door pushed back ready for feeding.

crossing the mountain ewes whose period of usefulness on the hills has ceased. In certain seasons it must take a high order of intelligence and a very considerable amount of pedestrian exercise to obtain sufficient grass and herbs to keep alive on some mountain pastures we have known. The ewes therefore, after having had three or four lambs are retired to better quarters and at least have not to work as hard for their living as in former years. It is under these circumstances that they become acquainted with their south country kindred the Leicesters among others. Robert Bakewell was a pioneer in one other respect. He insisted on absolute cleanliness, so much so that it was said that he "kept his sheep as clean as race horses." He insisted also that kindness should be the rule and if any roughness or cruelty was used towards his stock by any of his servants that person was at once dismissed.

Middlesex County, Ont.

MARGARET RAIN.

### Swing Door Over Feed Trough.

On some farms the hogs are fed over a high partition for lack of a proper swing door over the trough. Lifting the heavy pails of feed over a four-foot partition is hard work, and more or less of the feed is slopped on the attendant as well as on the hogs. It is difficult to keep the hogs from upsetting the pail. The accompanying illustrations, submitted by S. G. Collier, of the O. A. C., Guelph, indicates one method of hanging a swing door. Figure 1 shows a side view of the door swung back so that the pigs cannot interfere with the feeding. Figure 2 shows the doors swung into position. It will be noticed that this door is hung to an iron pipe by means of a couple of two-inch iron bands. This swings quite easily and it is not difficult to install the swing fronts to each pen in the piggery. Figure 3 shows the method of bolting the iron strap to the door. This method is more satisfactory than using hinges. The bar which holds the door open or closed, as desired, slides up and down in an iron guide which any blacksmith can readily make.

## Suggestions for the Improvement of Canada's Live Stock.

CANADA now has the opportunity to get into long trousers as a live-stock producing and exporting country. The decreases in Europe amount to ten times Canada's total live-stock population. Denmark, which, prior to the war, dominated the British market with her bacon and to some extent with dairy produce and eggs, finds herself with only 500,000 hogs, whereas before the war she had over two and a half millions. More than that, the Central Powers forced Denmark to divert her product into the hands of Britain's enemies and Germany may now hold out the Mark in place of the mailed fist to the industrious and systematic Dane. Ireland formerly sent Britain the product of 15,000 hogs weekly; this has been reduced to almost one-quarter of the original amount. Russia has defaulted and Canada is left with one of the greatest opportunities we ever had to expand and establish ourselves as caterers to the British Isle. Europe is short of beef, dairy produce and eggs. The market is there for the one who will bid highest in quality, volume and service. Surely Canada will not sit idly by and see this business captured by other peoples more remote from the English consumer, both in terms of distance and blood relationship, than we of this Dominion. The obstacle which must be faced and overcome is the inferior quality of our cattle stocks as compared with those of prospective competitors. We are below the standard, so we may as well admit it and in an energetic, business-like way set about to remedy the situation. This article is being written with the hope that it may throw a ray of light across the pathway of those upon whom the great responsibility rests and help to guide their faltering foot-steps out into the clearing.

While the Federal Government may pat themselves on the back and say that everything possible has been done, the fact remains that since the signing of the Armistice a period of about five months has elapsed and nothing has been announced to inspire the producer of live stock, or show him what the future demands. If the Department of Agriculture is in earnest about this thing someone with the Government imprimatur upon him should carry the heavy cross up and down the side roads and concessions of every province of this Dominion, exhorting producers to enlarge and improve their live-stock holdings. If the Department is not in earnest then it would be better for all concerned if we knew it. The return of the Live Stock Commissioner from Europe should be the prelude to a clear and comprehensive statement concerning the "facts" what our prospects are and what is required of us. This should be followed by a conference with representatives from all the provinces. The Department of Agriculture must be competent to plan and direct, and we are in a fortunate position so to do. However, the Department should be given a general idea of the situation with a suggestion by the Eastern and Western Canada Live Stock Unions to be called together for a consultation. With that body should be associated other representative men and the heads of the provincial land and agriculture departments of all our agricultural colleges. The provinces should be

adequately represented. When the Department's message is heard and their plans endorsed then every province should be stirred and made to appreciate their duties in regard to the great live-stock expansion movement. This is only a beginning and we shall proceed to enumerate a few suggestions for the improvement of our live stock.

### The First Step.

Undoubtedly the first item on this expansion program should be a heart-to-heart talk between Government and producers. The curtain should be drawn so the people can get a clear view of the situation and they should be told (if it be true) that our best Christmas-bird is not as good as the general run of Argentine beef exported to Britain. We ought to know what the bacon trade demands and what will be required of the producers in numbers and quality of cattle, sheep and swine. It must be impressed on farmers generally what the whole thing means, why this expansion movement, and all should be rehearsed in their parts so the play can begin.

Quality is the big factor, but what is the standard? What class, weight or grade of bullock will kill out a good export carcass? The proper type of steer should be exhibited at all exhibitions and fairs in Canada. We have long had classes for export steers where the best ones get the red ribbon, but that only signifies that they are the best there—not that they are the ideal type and what the market really demands. We repeat: Steers of the type and finish suitable to meet export requirements should be exhibited, under the auspices of the Live Stock Branch, at all fairs and exhibitions.

Export requirements can be met only through proper breeding and good feeding. The next step is to demonstrate the character of a herd needed to produce steers of suitable quality. On every experimental and branch farm there should be a grade herd made up of breeding females qualified, when mated to the right kind of bull, to produce the kind of steer we need. The herd need not exceed half a dozen cows and they should not be the best that can be found, but representative of what the average farmer can and should have. The bull with which they are mated ought not to be a high-priced sire but just good enough for the job. There are plenty of so-called plainly bred bulls in all the best breeds that are fairly good individuals and capable of siring good steers. The farmer should be shown, not the ideal but what he can and ought to maintain in the way of a herd. We have idealized too long. It is time to come down out of the air, meet the farmer on his own financial level and work along together toward the common goal. This "farmer's herd" should be an addition to the live-stock activities conducted on the Experimental Farms, and should not replace the pure-bred stock.

The steers of the parentage just suggested should be reared in a manner consistent with good husbandry

and when properly fitted for the block (not the show-ring) they could be used for demonstration purposes as outlined heretofore.

The country would then be interested in how the "farmer's herd" was handled, how the steers were fed, the cost of production and in full information concerning the beef-raising operations as conducted by the Experimental Farms. Reports on this work would be exceedingly valuable and would not have to be translated before the average live-stock man could assimilate them and apply the teachings.

The herds themselves could be exhibited at provincial exhibitions, and, combined with the steer exhibits would be one of the most instructive features of the live-stock department of the show. Good breeding condition, rather than show fit, should be the aim so the progressive breeder could get the proper conception of what constituted the kind of herd he could profitably maintain and the quality required to meet trade demands. The provinces can co-operate in this work but their duties will be discussed later under the heading of Provincial Activities.

### Government Pure-bred Herds.

Just as it is important that the producer be shown what constitutes a reasonably good breeding herd for the average farm, so should the Government pure-bred herds be examples and sources of breeding stock to the constructive breeders of this country. The herds should be made up of AI females of the breed they represent and they should be topped with the best bulls obtainable on this or the other side of the water. Argentine willingly pays from \$15,000 to \$20,000 for good bulls, while we pay from \$1,500 to \$2,000. So long as we are penny wise and pound foolish in this matter our chance of gaining recognition in the world markets are comparable to those of the proverbial snowball. We would not recommend that extremely high-priced bulls be put at the head of indifferent herds; that would not give us the desired results. At the Ontario Agriculture College is maintained a good herd of Shorthorn females, largely of Augusta breeding, and with them could profitably be mated one of the best bulls Scotland can produce. If the banner live-stock province of this Dominion cannot afford it, what can we expect of the other provinces? The head of the Animal Husbandry Department would, no doubt, gladly endorse this suggestion; the Minister of Agriculture for Ontario would probably be willing to accept the proposal if the Cabinet, of which he is a part, would sanction such an expenditure; the Ontario Government as a unit would, perhaps, make the appropriation in a minute if they felt sure the people would ratify the move, and there we are. We in Canada, people and Government alike, are thinking in terms of cents so far as agriculture is concerned, while other countries are thinking in terms of dollars.

Our Experimental Farms' herds, and those maintained at the agricultural colleges, should be of the very best and then nothing ought to prevent heading them with the best bulls in Canada, United States, or Great Britain. However, we do not consider the Govern-

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MARGARET RAIN.

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ment herds (Provincial and Dominion) good enough at present to warrant the importation of exceedingly high-priced Hereford, Angus and Shorthorn bulls to mate with them. There are many good herds among them, but some culling, selecting and improving is first necessary, but when this is accomplished the only thing to do is to procure suitable sires.

Importers ought to be encouraged to bring in more high-grade bulls but the way to encourage them is to create a demand, and to do this we must work from the bottom up. The farmer must want a better bull to mate with his grade herd for steer and heifer production. Then the breeder of pure-bred cattle will need a better sire in order to produce better bulls, and to supply him the constructive pure-bred breeder must get the very best because the demand will force him to. The importer will be influenced via the route just outlined and when the country requires better bulls he will bring them.

### The Premium Policy.

The Live-Stock Branch at Ottawa will shortly announce its Premium Policy which in its operations will be similar to the federal assistance to horse breeding. We understand the idea is to assist in the purchase of high-class certified bulls and thus help to keep the good ones in Canada. If it is possible to go far enough with this work it will no doubt make for improvement. If we thought, however, that the Provincial Governments could work in harmony with the Dominion, we would suggest that the scheme be augmented by provincial grants, and that the plan be still further recognized by county councils so as to awaken local interest and a wholesome rivalry.

There is nothing like getting a community spirit awakened, and to do this the municipality should in some way or other endorse the undertaking. In any event, the work carried on in accordance with the Premium Policy should create a demand for better bulls and keep the best at home. Then more and better bulls will be bred.

The scrub and grade bulls must be brought into greater disrepute. We have been too lenient with this menace to the live-stock industry. With the ordinary scrub and grade must go the scrub pure-bred. He, too, is hindering progress as much as, and perhaps more than, the nondescript product of chance matings.

### More Federal Obligations.

One great necessity is a thorough grading system established at all public stock yards, and so operated that a producer can sell according to grade and receive a corresponding price. For more than fifteen years the farmers of this country have been plead with and exhorted to produce the bacon hog. The majority have done so, but there has been no recognition and no extra compensation for the good over the bad. We can never get anywhere when the industrious, careful farmer is penalized for his efforts and the indifferent one is encouraged in his slothful ways. All the premium any farmer can rightfully ask is to be paid to the full value of his product, but this can never be done so long as inferior quality is pooled with the best and appraised the same. When the Canadian producer can feel that he is getting what his product is worth, he will be satisfied and that is all the bonus, premium, or subsidy he will ask.

Both producer and consumer are interested in the retail meat business and any branding that will distinguish cuts so the hungry public will not be obliged to pay as much for a roast from an old cow as from a two-year-old bullock would be welcomed gladly. The Western Canada Live-Stock Union are looking into this matter and the Government should assume a sympathetic attitude. It would not be a bad plan either to have specified brands for Canadian product which would follow as a natural sequence to the grading system at the stock yards. This is the only way which presents itself at present when by we may still have some control of the product after it leaves our hands. The producer must have some guarantee that the fruits of his labors are honestly and properly handled.

Until a Bureau of Markets is organized the Markets, Intelligence Division of the Live-Stock Branch should extend its usefulness. It would be in its field to sound the world markets, gather information concerning what other countries are doing in the live stock line, where their producer is doing a market, how much it is realizing, and keep the count a fully informed concerning the live stock line, both in regard to live animals and animal products. When producers know they are getting value for value they will work with greater zest and put more energy, foresight and capital into the business.

The proposal of a cold-storage plant at Montreal is evidence that the Government endorses a fundamental principle. We must ship chilled meat, instead of frozen meat, and we must ship animal products rather than

live animals. Our live stock must be finished in this country and our industries should be advanced by the business afforded them through the slaughtering and processing of our animals. At one time we exported live cattle, but that practice is now antiquated and not recognized as suitable or expedient. There has been some agitation to have the British embargo on our live cattle removed, but the desire is more to have the stigma removed from Canadian cattle than to export on the hoof. The Maritime Provinces stand in need of abattoir and cold-storage facilities, and one of the first steps in our expansion movement should be to provide these facilities for the Maritime Provinces where development is standing still on account of the lack of them. Western Canada, too, will have the same requirements in proportion to her progress. The acquisition of plenty of refrigerator cars must synchronize with the erection of cold-storage plants, and then we must have a fast ocean service providing plenty of air-controlled space so as to place us right at the back door of the British market.

Then there is the matter of credits. The banking system must recognize the fact that turn-overs in the agricultural industry do not take place so frequently as in the business world. If our present banking system is not flexible enough to permit farmers to borrow money on feeder cattle, then some form of rural credit will have to be devised making it possible for the live-stock man with little capital to carry on.

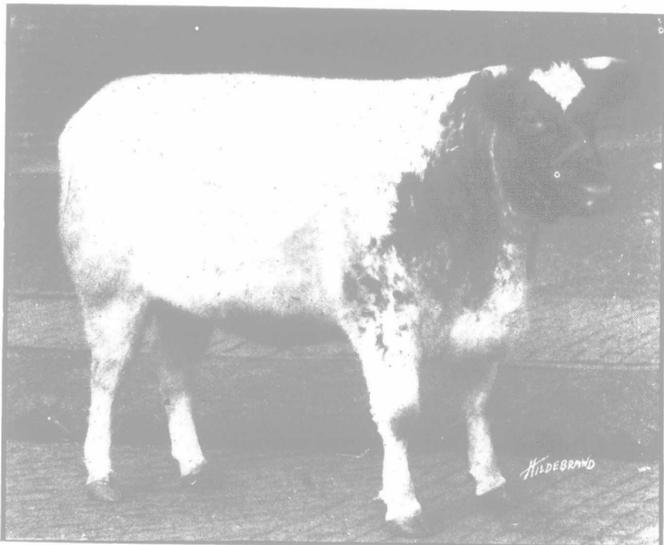
### Provincial Activities.

The provinces will have to co-operate with the Dominion Live-Stock Branch in all the endeavors and enterprises we have suggested. Provincial exhibits at all fairs should be featured and the object should be to impress upon producers the correct type of breeding herds and finished animals. The Agricultural Representatives in their short courses should demonstrate the different grades of steers, and emphasize market requirements. A splendid opportunity is afforded here to impress the standard on the minds of producers and to tell them why certain grades must be produced in order to meet competition.

The export type of steer should be made a class in all student judging competitions. When the junior farmers once grasp the significance of this movement and the requirements of the foreign demand progress will be rapid.

Colleges and agricultural schools should carry on the same breeding and demonstration work as conducted by the Dominion Experimental Farms and their branches.

The Provincial Governments might find it feasible to co-operate with county councils who will take an



**Hercules Topsy.**

Sold for \$2,000 at Shorthorn Congress at Chicago.

interest in, and set aside a reasonable appropriation to supplement the Premium Policy so as to arouse local interest. The Province of Alberta is determined to make very great advances during the next five years in the realm of live stock. The Federal Live Stock Branch can lead and show the way, but if the provincial authorities do not arouse themselves and co-operate the results will be disappointing.

### What Farmers Should Do.

After all is said and done, the success of this expansion movement depends almost altogether on the support and sympathy it receives from the actual producer of live stock. In the first place, we must standardize our types and to do this we could well make use of, and follow up, some well-laid scheme of community breeding. Co-operative shipping will be the next step. This has been commenced in many provinces under auspicious circumstances and if we support it the move cannot help but be beneficial to producers generally. The breeders of pure-bred stock must castrate more of their inferior bulls. They are doing the cause irreparable harm by allowing scrub pure-breds to reproduce themselves. It is better business for the individual to sell only good stuff, and it will be far better for the industry when only

good pure-breds can be purchased. If the breed associations would take an interest in this phase of the business and instruct their members, the breed represented and the live-stock industry would be the better for it.

The trouble with many at the present time is to find a bull cheap enough. We should change this and make producers feel that their great difficulty is to find a bull good enough. This means education, illustration and demonstration. The breed associations can lend valuable aid and there should be a get-together movement launched which would embrace the Dominion and Provincial Governments, the agricultural colleges, the breed associations and, last but not most important of all, the Canadian producer.

## February A Memorable Month in the British Live-Stock World.

BY SCOTLAND YET.

February, 1919, has gone out, and with it has passed a month of the most extraordinary prices ever realized in the history of British stock. Week after week during the short month we have had a succession of sales of pure-bred cattle, chiefly young bulls, at which individual prices and averages have been realized unparalleled in the history of Great Britain. All records for all breeds have been eclipsed. The superiority of Scottish-bred Shorthorns and Aberdeen-Angus cattle has been established beyond possibility of cavil. Whereunto these things will grow it would be hard to determine. There is an abundance of unrest in labor circles, and among employees on the land there has been exhibited the same determination as among town workers to share in the higher range of prices, and to secure a larger proportion of leisure than has hitherto been the rule in rural occupations. For our own part we have no sympathy with the notion that men should work as little as possible and get as much money as possible. Our view is that men everywhere should work as much as possible, and that the laborer, under all circumstances, is worthy of his hire. A good workman can never be over-paid, but it is grossly unfair to the good, efficient workman that he should only be paid the same as the inefficient slacker. All men are not equal, and never while time lasts will the man of superior gifts and greater industry be justly dealt with when the duffer and he are put upon the same level. But this has little to do with the high prices ruling for pure-bred cattle. It is suggested by the fact that the attendants on such stock are largely enthusiasts. Their duties are constant and laborious, and seldom are they rewarded as they ought to be. On the other hand, it has to be acknowledged that many owners of pure-bred herds make their head men, in a manner, partners with themselves in unusual success. Payment of bonus is not unusual in such cases—and in our judgment a good herdsman or shepherd or stud groom can never be over-paid.

That reminds me to offer a brief comment on the passing of one of the best-known men among herdsmen—the late Robbie Wilson, who for between 30 and 40 years was chief herdsman at the Royal Farms, Windsor; first under the late Henry Tait, the land steward or bailiff, then under his son, the late William Tait, and finally under the present land steward, W. S. McWilliam, a son of that noted breeder, James McWilliam, Garbithy, Fochabers, Morayshire. Robbie Wilson was a native of the Aberlour region in Banffshire, a famous breeding ground for expert cattlemen. He was a very prominent figure at all the great shows, and combined devotion to duty with great skill and characteristic Scottish reticence. Whatever his views might be as to showyard decisions affecting representatives of the Royal herds, Robbie Wilson kept his own counsel. If he was dissatisfied none knew it; if he was satisfied, his countenance never betrayed undue exultation. A faithful and loyal servant, liked by the present King George V, his father and his grandmother, the typical Scot from Banffshire was held in honor. Such men are invaluable, their services can never be required in gold, but they ought always to be paid much more than a living wage.

### Aberdeen-Angus Sales.

The sales began in the first week of February with the Aberdeen-Angus gatherings at Perth, Aberdeen and Inverness. Extraordinary trade was experienced at all three centres. Averages were nearly all on an ascending scale, and the top prices were exactly double those made in 1918. Twice the sum of 2,800 guineas (£2,940) was paid, first for the reserve champion, Emblem of Harviestoun, for exportation to the Argentine, and again for the first-prize bull calf in the March class. Euripus of Ballindalloch, which was secured by J. Ernest Kerr. The champion bull was the leader in the February class, Erodeas, bred by I. F. Cumming, of Kinerinony, Aberlour, which made 2,100 guineas (£2,205) his buyer being A. Cochrane, Parkhead, Alyth, a Perthshire breeder. The highest herd averages were these: Kinerinony (3), £822 10s.; Ballindalloch (6), £757 15s.; Harviestoun (7), £699; Aberlour Mains (2), £599 11s. The highest price made for an Aberlour Mains bull was 1,100 guineas (£1,155), paid by P. D. Robertson, of Ross-shire, for Proud Eric of Aberlour, the second prize winner in the January class. The champion group of three came from Harviestoun. The average price of three was £1,065 10s. The reserve group was from Ballindalloch, and their average price was £1,274. Two general observations may be made on the sale of these black cattle. The best bulls in the champion lots were of the famous Erica race on the dam's side. The reason why the champion bull did not make the highest price was doubtless the fact that

he had an almost white underline. He is an exceptionally well-furnished and smooth specimen, but on the whole perhaps the majority of breeders would prefer Emblem of Harviestoun as the fleshiest and most like a breeding bull. A white underline is anathema to breeders of the highest class of bulls. A heifer is not vetoed even if she have a white udder—indeed, some rather prefer that, believing that it is an indication of milk.

**Shorthorn Sales.**

Shorthorn sales at Perth and Aberdeen took place in the second week of the month. Breeders of the red, white and roan have experienced abundance of sensations, and prices reached limits unheard of since the days of the Bates boom in the seventies of last century. The

Kerr, of Harviestoun, paid 1,050 guineas for the two-year-old Donne Augustus; Polmaise Trophy of nearly the same age made 1,300 guineas, to John Drysdale, for South Africa. A Boquhan young bull made 1,800 guineas to the same buyer. One of the grandest bulls shown was Lord Rosebery's Lothian Marksman, winner in the February class. He was started at 1,500 guineas and went to A. J. Marshall at 3,000 guineas (£3,150). The winner in the March class was Aldie Armistice, bred by Captain McGillivray, one of our farmer soldiers. This magnificent bull went at 2,600 guineas (£2,730), also to the Argentine. The second-prize winner in the March class was G. B. Shields D. S. O. from Dolphingstone. This noted specimen was secured by Captain McGillivray at 3,300 guineas (£3,465). Regarding the

in the north a year ago the well-bred bull Gartly Lancer. His breeder was A. MacG. Mennie, Brawlandknowes, Gartly, who has bred many choice Clydesdales. The sire of Gartly Lancer was Cluny Royal Star, a son of President of the Mint. Gartly Lancer was shown by John Barnes at the Penrith sale, when he won champion honors and was sold to A. J. Marshall, Stramaer, for 4,750 guineas (£4,987 10s.). This breaks the record hitherto held by the Fourth Duke of Connaught, which was sold at the Dunmore sale in Scotland in 1878 for 4,500 guineas to Lord Fitzhardinge, Gloucester. The reserve champion at Penrith was another Scots-bred bull, Star of Millhills, shown by Joseph Barnes, which made 1,250 guineas (£1,312 10s.), his buyer being Emilio Casares, also for the Argentine. At Penrith 228 Shorthorn bulls made an average of £145 5s. 6d.

**Other Cattle Sales.**

Ayrshires, Highlanders and Galloways have all been sharing in the upward trend of prices. At the Newnanis sale of Ayrshire cows at Castle Douglas, 73 made an average of £59 17s. At the James Howie's sale of Ayrshire bull stirks at Hillhouse, Kilmarnoch, a stirk bred by Thomas Logan. High Milton, Maybole, and got by Howie's Blockade, made 1,700 guineas (£1,785), the buyer being Mrs. Howson-Crawford, of Dunlop. On the same day 22 Ayrshire bull stirks sold for an average of £180 17s. 8d. A few days later was held the Auchenbrain sale of bull stirks. No Ayrshire herd has a larger or better record than that of Messrs. D. & W. Wallace at Auchenbrain. They sold 21 stirks all of their own breeding at an average of £125 15s. The top price was £420, paid by Sir Thomas Clement and his brother Andrew Clement, for Royal Blood 17544. Other stirks made 370 guineas, 340 guineas, 300 guineas, and 190 guineas, as well as lower figures. It was a first-rate genuine sale. At the Highland bull sale, held at Oban, a young bull made £200, and 48 made an average of £60 8s. 6d. At the Galloway bull sale, held at Castle Douglas, on the last day of the month, the top price was 210 guineas (£220 10s.), paid for the champion bull Tarbreoch Borderer III by Sir R. Buchanan, Jardine, Bart., of Castlemilk, Locherbie. The highest priced Highland bull came from the Ensay fold of D. A. Stewart, and the highest-priced Galloway bull was from the herd of John Cunningham, Tarbreoch, Dalbeattie.

**The Shire Horse Show.**

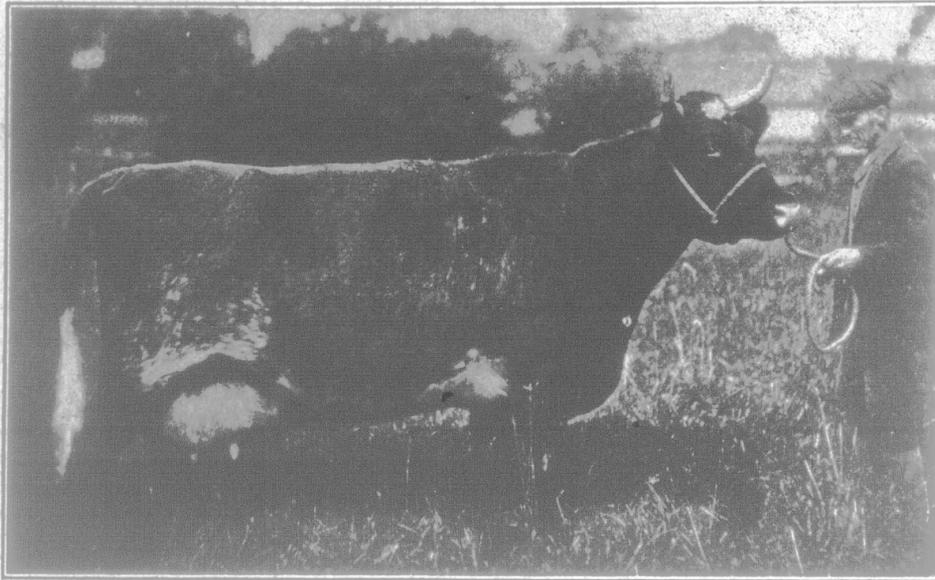
The Shire Horse show has just been held at Newmarket. The championship went to John Measure's Lincoln John, which at the sale made 2,500 guineas. Twenty-five stallions were sold at an average of £500 5s. At the Banks dispersion of 25 Clydesdale stallions exactly a year ago, the average price was £557 19s. 6d., and at the Dunure Mains dispersion a month ago 13 Clydesdale stallions made £1,676 7s. 4d. of an average. At this date 167 Clydesdale stallions are reported hired for 1919, 44 for 1920, and 5 for 1921. The horse trade continues to be extremely brisk.

**The Minor Shorthorn Sale.**

The Shorthorn sale conducted by Ira Minor & Sons, at Lowbanks, Ontario, on Thursday, March 20, proved a splendid success. Many of the calves were sold separately, which brought the average lower than it would have been had they been sold by the side of their dams. Thirty-four animals sold totalled \$4,490, and averaged \$132 each. Following is a list of the animals sold for \$100 and over, with the names and addresses of their purchasers:

Roan Gloster, John Senn & Son, Caledonia.....	\$140
Sunbeam, J. F. Martindale, South Cayuga.....	165
Queen Bella 6th, B. F. Sutherland, Wellandport.....	120
Queen Bella 7th, Frank Niece, Lowbanks.....	105
Lady Jane, Geo. Aikens, Marshville.....	175
Snowball, Wm. Bird, Lowbanks.....	120
Maria, J. F. Martindale.....	110
Miss Sophia, John Senn & Son.....	120
Queen Bella 4th, A. B. Misner, Humberstone.....	125
Lady Jane 3rd, Harry Smith, Forks Road.....	155
Queen Bella 9th, V. Nigh, South Cayuga.....	120
White Nora, Henry Bates, Dunnville.....	125
White Gem, J. Leidy, Humberstone.....	105
Sittytton's Gloster 9th, F. W. Ramsey, Dunnville.....	300
Red Bessie, V. Sider, Humberstone.....	105
Proud Girl, J. E. Farr, Lowbanks.....	145
Red Girl, Peart Bros., Caledonia.....	165
Primrose, W. H. Crowther, Welland.....	115
Queen Bella 5th, Jos. H. Martindale, York.....	150
Nora, R. Heremer, Ridgeway.....	110
Queen Bella 8th, E. F. Southerland, Wellandport.....	100
Queen Bella 3rd, J. E. Farr.....	145
Lady Jane 2nd, Allen Anderson, Caledonia.....	100
Winning Lass, John Weir & Son, Paris.....	105
Red Rose, Chas. Bitner, Ridgeway.....	120
Dilly Bella, V. Nigh.....	100
Roan Beauty, H. A. Scott, Caledonia.....	170
Sunrise Lass, Allen Anderson.....	105
Lady Jane 5th, Henry Bates.....	110
Sunshade, Ernest Robson, Denfield.....	150
Buster Bruce, H. King, Lowbanks.....	135
General Bruce, Geo. Aikens.....	160
Roan Bruce, Jas. Snell, Clinton.....	100
Rising Hope, Clarence Neff, Marshville.....	115

To get a large flow of milk during the lactation period it is necessary to have the cows in good condition before freshening. One cannot build up a thin run-down cow after she has freshened and get as good results as though she had been prepared for the job while carrying the calf.



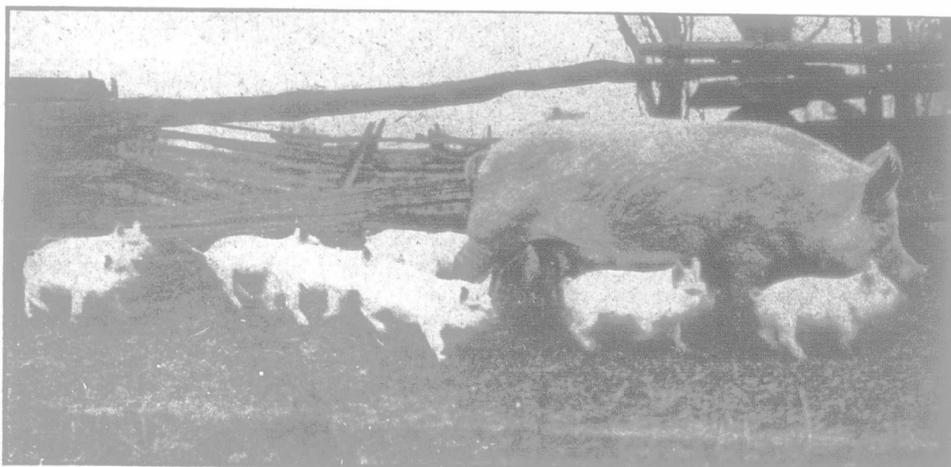
**Melody 13th**

Bred by R. W. Hobbs & Sons, Kelmscott, Lechdale, England. She gave over 1,400 gallons of milk in one year, was second at the London Dairy Show in 1915 and sold in October, 1918, for £509

leading honors and the highest prices at both Perth and Aberdeen went to Lady Cathcart, Cluny Castle, Monymusk, Aberdeen. Her ladyship was the widow of John Gordon of Cluny, a breeder of Bates Shorthorns, who died about the year 1879. After some years his widow became the wife of Sir Reginald Cathcart, Bart, the proprietor of the islands of Southwest and Barra in the Hebrides. The Shorthorn herd was carried on at Cluny Castle with varying success for decades, but during the past ten or twelve years it has rapidly pulled to the front, providing stock bulls for both Collynie and Dalmeny herds, not to mention others. At the Perth sale Lady Cathcart won the championship for the best single bull, and the special for the best group of three bulls bred by exhibitor. Her champion bull was the April calf Cluny Proud Augustus, got by Hindley Crown, from a cow by the great sire President of the Mint. Cluny Proud Augustus was bought for Wm. Duthie at 4,000 guineas (£4,200). Another of the group, Cluny Mintmaster, by President of the Mint, made 2,400 guineas (£2,520), the buyer being R. Cornelius from Shropshire. The third made 510 guineas (£530 10s.), and the average for the three was £2,418 10s. Cluny Proud Victor, which made 510 guineas, won in the January class, and the second in that class was a beautiful white bull from Lord Rosebery's herd at Dalmeny. He is named Lothian Let, was got by Let of Cluny, and made 1,100 guineas (£1,155), to A. J. Marshall, Stranraer, the Argentine exporter. This is not a record price for a white bull, but it is a very unusual price for one of that color, especially for the Argentine. Many extraordinary prices were paid. Mr. J. Ernest

herd averages at Perth, the tops were these: Cluny Castle (5), £1,652 14s. 0d.; Dalmeny (4), £1,428; Dolphingstone (6), £902 2s. 6d.; Gordon Castle (2), £858 7s. 6d.; Aldie (5), £827 8s.; Millhills (14), £609 4s. 6d.; Redgorton (6), £570 10s.; Polmaise (5), £569 2s.; Doune Lodge (5), £508 4s.; altogether 424 shorthorn bulls made an average of £243 8s. 6d. The sale on the following day (Thursday) was held at Aberdeen, when the champion bull offered by H. MacLennan Duncan, Lethenty, Kintore, made 2,600 guineas (£2,730), his buyer being Lady Cathcart, of Cluny Castle. A heifer from the same herd (Lethenty) made 1,000 guineas, and 303 bulls sold that day made £124 16s. 6d. of an average. The best herd averages were: Lethenty (7), £889 10s.; Cluny Castle (5), £262 10s.; Saphock (16), £222 17s. 6d.; Uppermill (4), £320 15s. 6d.

At the Birmingham sale both the champion and the reserve champion made the unprecedented figure at that centre of 4,200 guineas (£4,410). The champion was Windsor Knight, from H. M. the King's herd at Windsor. He was bought by J. Shepherd for the Argentine. The reserve was Earl Manvers. Pierrepoint Golden Prince, from Nottingham, which was bought by Sir Walpole Grenwell, Bart, Warden Park, Surrey, a great patron of the Shire horse. The highest price of all was made at the Penrith sale in Cumberland, held on Thursday and Friday, February 20 and 21. This sale has rapidly risen in popularity. Cumberland is a fine grazing country, and many farmers there are expert stockmen. This is true of the brothers John W. Barnes, Aikbank, Uryton, and Joseph Barnes, Barughsyke, Uryton. The former bought at a moderate price



On the Move.

The again were During the but toward This, how large crowd spring's sale it proved a consignment always had this spring prices received priced animals consigned and went to is a thick, quality. C three-year-old signed by brought \$5 got a severe was consigned male was Bros., Ori averaged \$248.60. ing is a list and address

Rose Lee 4 Rosinda, C Village Ge Ramsden 1 Oaklands 1 Pansy Ros Fancy Cou Lancaster Vain Mina Woodburn Jessie Scot Royal Lad Zoe Buckin Agnes Buc Rosetta 10 Sunbeam 1 Miss Ram Lady Ram Ramsden 1 Rosette 12 Village Pri Nonpareil Prude, D. Cloris Sec Scottish Ju Duchess of Athelstane Josephine, Roan Lad Barbara, I Easter Co Duchess C Lily Princ Cherry Bl Golden No Nonpareil Mina Lad Mina 22nd Lady Mar Nonpareil Avene 21 Avene 25 Avene 24 Beauty of Kiblean E Cordelia Linda 3rd, Elizabeth Baroness V Orange Bl Victoria C Missie Vict Bertha Blo Scottish R Valeska, J.

Golden Ch Oaklands M Rosebud P Newton La Lavender V Browndale Browndale Rosebud S Excelsior, Matchless Elmdale, L Elmdale 3r Tasker Im Kinellar F Royal Star Royal Star Grenadier Lynden's 1 Silver Mar Autumn K Mina Vic Baron K Browndale Claret Kin

APRIL 3, 1919

FOUNDED 1866

**The London Sale Brings \$24,840.**

The Western Ontario Consignment Sale Company again were favored with fair weather for their sale. During the afternoon the sun shone brightly at times, but towards evening a light rain commenced to fall. This, however, did not dampen the enthusiasm of the large crowd present. In order to secure more room this spring's sale was held at the Exhibition grounds, and it proved an ideal place for the handling of such a large consignment of cattle. While the Company have always had a choice offering of stock, the consignment this spring surpassed that of previous sales, and the prices received were correspondingly high. The highest priced animal of the sale was a Cruickshank Victoria, consigned by Kyle Bros. She is a two-year-old heifer and went to the bid of F. Wood, of Blyth, at \$900. She is a thick, deep-bodied individual with a good deal of quality. Griswold Bros., of Wisconsin, secured a three-year-old Avenir heifer at \$650. She was consigned by R. & S. Nicholson. Quite a number of females brought \$500 and over. W. P. Fraser, of Meadowvale, got a seven-year-old Lancaster cow for \$760. She was consigned by W. J. Sinclair. The highest-priced male was Elmdale, which went to the bid of Lessiter Bros., Orion, Mich., for \$525. The fifty-five females averaged \$338.64, and the twenty-five males averaged \$248.60. The sale brought a total of \$24,840. Following is a list of the animals sold, together with the names and addresses of their purchasers:

**Females.**

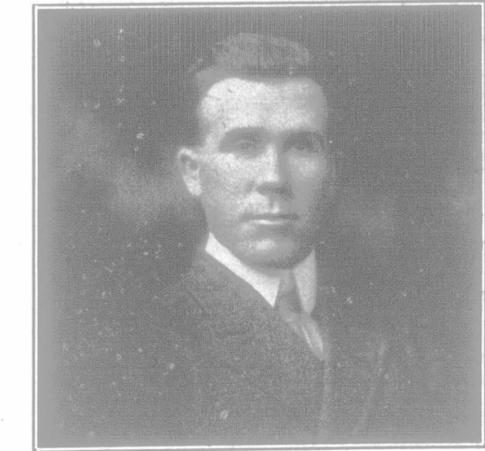
Rose Lee 4th, J. Pollard, Bridgen.....	\$655
Rosinda, Griswold Bros., Livingston, Wis.....	285
Village Gem 3rd, Griswold Bros.....	405
Ramsden Bride 3rd, Griswold Bros.....	300
Oaklands Daisy, A. B. McCoig, Chatham.....	220
Pansy Rose, Griswold Bros.....	430
Fancy Countess, Thos. Brooks, Thamesville.....	170
Lancaster Beauty, W. P. Fraser, Meadowville.....	760
Vain Mina, Griswold Bros.....	235
Woodburn Matchless, B. Gosnell, Highgate.....	250
Jessie Scott 7th, Robt. McKinley, Ridgetown.....	310
Royal Lady, Griswold Bros.....	255
Zoe Buckingham, Hass Bros., Paris.....	205
Agnes Buckingham, R. Amos, Moffatt.....	500
Rosetta 10th, Griswold Bros.....	185
Unbeam Beauty, Hass Bros.....	410
Miss Ramsden 16th, Griswold Bros.....	380
Lady Ramsden 9th, Griswold Bros.....	275
Ramsden Primrose 2nd, Hass Bros.....	525
Rosette 12th, E. Robson, Denfield.....	280
Village Princess, E. Robson.....	405
Nonpareil Lily, J. B. Galbraith, Iona Station.....	150
Prude, D. J. Brady, Glanworth.....	410
Cloris Secret, D. Ferguson, St. Thomas.....	545
Scottish Julia 5th, A. G. Hiser, Comber.....	325
Duchess of Gloster, A. B. Clark, Newmarket.....	260
Athelstane Rosalind, R. & S. Nicholson, Parkhill.....	300
Josephine, Jas. McConachie, Hagersville.....	350
Roan Lady, Jas. McConachie.....	200
Barbara, R. J. Thomas, Mt. Brydges.....	155
Easter Corsican, A. Pears, Muncey.....	190
Duchess Corsican, A. B. McCoig.....	295
Lily Princess, Griswold Bros.....	365
Cherry Bloom 5th, R. G. McLellan, Belwood.....	405
Golden Nonpareil, Mt. Elgin Institute, Muncey.....	315
Nonpareil Lady, F. J. Hammond, Milbank.....	205
Mina Lady, E. Robson.....	210
Mina 22nd, E. Robson.....	160
Lady Marlboro 6th, D. R. McDairmid, Ridgetown.....	180
Nonpareil Girl, A. B. Douglas, Stratroy.....	650
Avenir 21st, Griswold Bros.....	330
Avenir 25th, F. Wood, Blyth.....	360
Beauty of Hillside, S. J. Hamon, Milbank.....	500
Kilbean Beauty 26th, Griswold Bros.....	325
Cordelia, J. Buchanan, Thamesville.....	330
Linda 3rd, J. Stephens, Bornholm.....	375
Elizabeth Linda, J. Buchanan.....	335
Baroness Wimple 20th, Griswold Bros.....	330
Orange Blossom 10th, J. McGillawee, Stratford.....	305
Victoria C 74th, F. Wood.....	900
Missie Victoria 3rd, Griswold Bros.....	220
Bertha Blossom, E. Robson.....	375
Scottish Rose 4th, Jas. Laird, Thedford.....	165
Valeska, J. A. Campbell, St. Thomas.....	280

**Males.**

Golden Chief, Lessiter Bros., Orion, Mich.....	450
Oaklands Mayflower, Geo. O'Neil, Denfield.....	135
Rosebud Prince, C. Heath, Tupperville.....	140
Newton Lad, Jas. Baskeville, Thorndale.....	155
Lavender Victor, J. Anderson, Wilton Grove.....	100
Browndale Standard, Murray Bros., Listowel.....	480
Browndale Sim, J. O. McEachern, Appin.....	280
Rosebud Sultan, Jas. Willey, Watford.....	400
Excelsior, I. Nair & Sons, Thorndale.....	240
Matchless Victor, R. Coates, Centralia.....	225
Elmdale, Lessiter Bros.....	525
Elmdale 3rd, Jos. Scott, Melbourne.....	285
Tasker Imp., Hastings Bros., Guelph.....	300
Kinellar Emigrant Imp., J. B. Clarke, Ravenshoe.....	355
Royal Stamp, A. McPherson, Ilderton.....	170
Royal Standard, H. A. Urquhart, Chatham.....	235
Grenadier, C. Bothwick, Thedford.....	195
Lynden's Pride, Geo. Laird.....	155
Silver Marquis, Robt. McKinley.....	180
Autumn King, Jas. Snell.....	155
Mina Victor, Geo. McGuire, Edy's Mills.....	155
Baron Raphael, A. D. McKillop, Wallacetown.....	200
Brownie Premier, J. B. Jautzy, Tavistock.....	300
Claret King, W. B. Annett, Alvinston.....	330

**Dual-Purpose Shorthorns Average \$443.**

The dispersion sale of the Burnfoot herd, the property of the late S. A. Moore, Caledonia, was a decided success. The thirty-two head, including aged cows and December and January calves, averaged \$443. The twenty-two females, including calves, averaged \$520. A beautiful day and exceptionally high-quality cattle brought out in the pink of condition, combined to make the sale a success. The late S. A. Moore had laid well the foundation for a dual-purpose herd. It was only twelve years ago that he disposed of his grades, and, realizing a future for the dual-purpose shorthorn, invested in such foundation cows as Dairymaid and Burnfoot Lady, cows which have transmitted their quality to their offspring. There was not a cull in the herd. Every individual had great substance and excellent Shorthorn type and conformation. The mature cows carried large, well-balanced udders, and the records which they had made in the R. O. P. testified to their milking qualities. It was one of the best dual-purpose herds in the Dominion, and it was gratifying to Mrs. Moore, and to the dual-purpose Shorthorn breeders as a class, to see the public set the value which they did on the various individuals in the herd. Burnfoot Chieftain, the herd sire, only five years old, went away below his value. His dam is Dairymaid, with a record of 13,535 lbs. milk, and 540 lbs. butter-fat. He is a particularly good individual and should have brought \$1,000, at least. That he did not is due to the fact that many dual-purpose Shorthorn breeders in Ontario have sons and daughters of this choice sire in their herds, and could not make use of him without a certain amount of inbreeding. He went to the \$440 bid of James Dunnett, of Hagersville. The highest priced animal of the sale was Alexandra, a five-year-old cow out of Burnfoot Lady, and sired by Lorne, the sire of Burnfoot Chieftain. G. W. Carter, of Ilderton, secured her for \$1,000. Hugh Scott, of Caledonia, purchased Burnfoot Jean for \$715, and paid the same figure for Irene, both daughters of Burnfoot Chieftain. John Walker, of Nanticoke, secured Burnfoot Rosamond, a three-year-old heifer, for \$750. Ross Martindale bought Glenna at \$690. She has given over 6,000 lbs. milk as a two-year-old. Alegria, a seven-months-old calf, went to the bid of A. Thompson, of Glanford Station, for \$500. Capt. T. E. Robson, of London, was the auctioneer. Following is a list of the animals sold, together with the names and addresses of the purchasers:



D. R. Nicholson.

Newly elected President of the Nova Scotia Farmers Association.

Burnfoot Grace, A. W. Wallace, Toronto.....	\$445
Glenna, Ross Martindale, Caledonia.....	690
Fortuna 21st, A. W. Wallace.....	310
Gipsy Lady 8th, H. Scott, Caledonia.....	600
Jean Lassie 2nd, G. W. Carter, Ilderton.....	550
Burnfoot Lady 2nd, H. B. Webster, St. Marys.....	560
Vivian, Wm. Lembke, Warton.....	335
Alexandra, G. W. Carter.....	1,000
Burnfoot Lady, D. A. Dempsey, Stratford.....	550
Rowena, H. Daw, Glanford.....	255
Rosalie, F. Sheppard, Orono.....	285
Jean's Lassie 3rd, Weldwood Farm, London.....	550
Irene, H. Scott.....	715
Beauty Joy, A. W. Wallace.....	500
Leila, A. C. Phipps, Caledonia.....	305
Burnfoot Rosamond, J. Walker, Nanticoke.....	750
Burnfoot Jean, H. Scott.....	715
Ruth, L. McDonald, Branchton.....	440
Maebell, E. Johnston, Binbrook.....	525
Jean Maisie, A. W. Wallace.....	510
Alegria, A. Thompson, Glanford Station.....	500
Dairymaid, A. McPherson, Silverdale.....	350

**Males.**

Viscount, H. A. Smith, Marshville.....	145
Victor, J. Hanson, Caledonia.....	305
Maisie's Chieftain, G. S. Smith, Meadowvale.....	175
Commodore, R. Martindale.....	340
Admiral, S. W. Jackson, Woodstock.....	275
Lloyd George, E. Niegh, Nanticoke.....	225
Sir Wilfrid, J. Ball, Alliston.....	305
Burnfoot Chieftain, Jas. Dunnett & Son, Hagersville.....	440
Sultan Cecil, H. Daw.....	310
Ronald, H. B. Webster.....	175

**THE FARM.**

**A Grower's Experience With Sweet Clover.**

EDITOR "THE FARMER'S ADVOCATE":

As this is the season when most farmers are purchasing their supply of clover and grass seed, and as prices for red clover and timothy are abnormally high, we take this opportunity of writing a few lines giving our experience on that much discussed and somewhat despised variety—sweet clover.

Our farm, situated in almost the extreme southwest corner of Simcoe Co., was first settled about the year 1827; and in subsequent years the clearings gradually increased as the efforts of the pioneer kept pace with the needs of his family, so that the greater portion of this farm was cleared some seventy years ago. During the early period of its history the land was called upon to grow both spring and fall wheat, a task quite easy for the virgin soil, but with the continued practice of grain growing and very little stock raising the land began to show the evil effects of this method. Especially as the soil is a sandy loam with gravelly subsoil, the latter coming dangerously near the surface on the tops of the knolls. However, about twenty-five years ago the system of crop rotation underwent a decided change, when spring wheat was dropped for coarse grains, and red clover was sown in fairly large quantities, with the result that the tired soil took new hope and encouragement from the presence of humus and nitrogen supplied from the clover plant.

However valuable red clover was to this farm it still had its disadvantages, owing to the fact that many promising stands were killed during the winter or early spring, completely upsetting the rotation at the last moment, and causing a re-arrangement of crops sometimes in the midst of spring seeding. This coupled with the ever increasing cost of good seed led us to look for something more dependable and less costly. Consequently in the spring of 1915 we experimented with sweet clover, sowing two acres. This proved to be the yellow-blossom variety, and was cut for hay. I have found this clover rather coarse in the stem and somewhat lacking in leaf, but when cured made fairly good hay. Being inexperienced in dealing with it we cut the crop too low, with the result that in two weeks after mowing not a plant was living, and if we had been so disposed we could easily have worked up a first-class seed-bed for fall wheat, with no other implement than a spring-tooth cultivator, the soil being literally filled with decayed clover roots.

The following year about three acres were sown on a high ridge, the remaining seventeen acres in the field being seeded with common red and timothy. The season being dry a rather indifferent catch was secured from the latter, while the sweet clover grew and flourished amid adverse conditions. This field when pastured the following year proved to us the possibilities bound up in the much despised sweet clover.

Our next venture was on a somewhat larger scale; fifteen acres of the white blossom variety being seeded and during the same season after the nurse crop had been harvested, a splendid supply of pasture was available for fall feeding. The following spring the stand came out in first-class condition, when just across the lane an excellent crop of red clover was wiped out completely, an object lesson constantly demanding our attention. This fifteen acres of sweet clover we saved for hay; the knolls producing a nice crop, and the hollows giving plants from four to five feet high, the latter being rather hard to cure, but with a little extra care we were able to save the entire crop and had the satisfaction of seeing more hay in our barn than had been there for years, and grown during a most adverse year, viz. 1918.

In actual feeding practice we find that horses, cattle, sheep and lambs are fond of it, the latter although fed on the ground, never leave a stalk. In feeding this hay to the horses we prefer to sprinkle it with water a few hours previous to feeding, making it more palatable and certainly very fragrant.

When sowing sweet clover we allow about 15 lbs. per acre sown behind the drill, harrowed lightly and rolled. I have found no evil results from fall pasturing the new stand, providing the plants are not eaten down too close, but have found that in mowing, the lower circle of leaves should remain on the stubble, and if not the plant dies almost immediately. After the hay is taken off a splendid growth comes on which is ready for pasturing in about three weeks, keeping green and growing well during the heat of August when pastures are usually burnt up. This, to our minds, is one of the strongest points in favor of sweet clover as the supply of forage on the average farm is usually very scarce at this season of the year.

In conclusion we may say that our faith in it is such that we intend seeding twenty-three acres this spring, and have no fears as to getting rid of it, owing to its being a biennial, and for this reason it fits in very well in a short rotation—the only really correct rotation in mixed farming.

As a soil renovator it has no equal for this section of the province, and we know that there are hundreds, yes thousands of acres in this locality, simply hungering, as it were, for a crop of sweet clover and no other plant will correct in such a high degree the soil robbing practice of growing grain for sale.

Simcoe Co., Ont. JNO. E. JACKSON.

well-bred bull Garty Lancer. Mennie, Brawlandknowes, choice Clydesdales. The Cluny Royal Star, a son of Garty Lancer was shown by a sale, when he won champion. A. J. Marshall, Stramaer, s.). This breaks the record Duke of Connaught, which sale in Scotland in 1878 for hardinge, Gloucester. The was another Scots-bred bull, Joseph Barnes, which made his buyer being Emilio line. At Penrith 228 Short- of £145 5s. 6d.

attle Sales. and Galloways have all been d of prices. At the New- at Castle Douglas, 73 made the James Howie's sale of house, Kilmarnoch, a stirk igh Milton, Maybole, and ade 1,700 guineas (£1,785), on-Crawford, of Dunlop. ire bull stirks sold for an A few days later was held stirks. No Ayrshire herd than that of Messrs. D. & They sold 21 stirks all of average of £125 15s. The Sir Thomas Clement and t, for Royal Blood 17544. s, 340 guineas, 300 guineas, s lower figures. It was a e Highland bull sale, held e £200, and 48 made an e Galloway bull sale, held t day of the month, the top 0s.), paid for the champion y Sir R. Buchanan, Jardine, erbie. The highest priced ensay fold of D. A. Stewart, ay bull was from the herd och, Dalbeattie.

orse Show. as just been held at New- went to John Measure's e sale made 2,500 guineas. old at an average of £500 of 25 Clydesdale stallions age price was £557 19s. 5d., dispersion a month ago 13 1,676 7s. 4d. of an average. stallions are reported hired for 1921. The horse trade risk.

orthorn Sale. ucted by Ira Minor & Sons, hursday, March 20, proved of the calves were sold the average lower than it e sold by the side of their sold totalled \$4,490, and iving is a list of the animals the names and addresses of

on, Caledonia.....\$140  
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outh Cayuga.....120  
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erstone.....105  
Ramsey, Dunnville.....300  
rstone.....105  
nks.....145  
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Welland.....115  
tindale, York.....150  
110  
erland, Wellandport.....100  
145  
on, Caledonia.....100  
on, Paris.....105  
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aledonia.....105  
110  
nfield.....150  
nks.....135  
nks.....160  
on.....100  
Marshville.....115

milk during the lactation the cows in good condition not build up a thin runshened and get as good been prepared for the job

### Spring Cultivation.

The past winter has been a particularly mild one, especially in the Western section of Ontario. There has been little or no snow and the temperature has not dropped very low at any time. It is seldom that a winter will pass with as little cold and stormy weather and with so much bright sunshine. Spring is now at hand and it is only a matter of a few days when it will be necessary to think about getting the spring grain in the ground. Previous to the opening of spring a good deal of work can be done in preparation for the rush of seeding. If the implements are not already in repair, and the horses given a little work to harden them in readiness for the long, hard pull of seeding, it is well to make preparation without delay. Some farmers put a good deal more time and work on their fields than do others, and taking one year with another, the better the preparation of the seed-bed the more remunerative the crop. In the average season sufficient moisture at the right time is the influencing factor in the crop yield. In districts where there is little rainfall a good deal of stress is laid on conserving what moisture does fall. It would be better for Ontario farmers if more attention were paid to the matter. It is a fact that a dust mulch checks the rapid evaporation of moisture from the soil but yet comparatively few strive to prevent the loss of moisture which occurs on bright, windy days of spring and summer. Harrowing the field as soon as the horses can be put on it is a good practice. This not only forms a dust mulch which checks the loss of moisture but it so breaks the surface that the cultivator or disk will make a better seed-bed than if the harrows had not been first used. It is generally recognized as good practice to go over all the plowed land with the harrows as early in the spring as possible. It will prevent the top soil from crusting, improve the physical condition of the soil, and tend to hasten growth when the seed is sown. As to what cultivation is necessary to put

amount of seed to sow per acre depends on the fertility of the soil, the stooling qualities of the grain and also on the size of the kernels. From two to two and a half bushels of oats per acre is a very good rate of seeding. Seven pecks of barley gives a good stand, and good crops of spring wheat are grown by sowing two bushels per acre. Provided you put the soil in good tilth and get the seed in well, you need not be alarmed if your neighbor does finish a few days ahead. However, it is advisable to get the grain in the ground as soon as the soil is fit to work in the spring. A few days may make a considerable difference in the crop. Spring wheat wants to be in early with oats following closely.

### Plowman's Association for Eastern Ontario and Western Quebec.

At a meeting of farmers, Agricultural Representatives and representative men from Eastern Ontario and Western Quebec, called on Tuesday, March 18, by the 1918 Ottawa Committee of the Ontario Plowman's Association at Ottawa, it was unanimously decided to form a plowman's association for Eastern Ontario and the Western counties of Quebec. The fact that plowing is such an essential part of agricultural practice and because of the fact that this part of Canada is such an important dairy section, necessitating the use of the very best tillage methods, it was felt that there should be a plowing match at Ottawa this year. Very few if any, plowmen could get to Chatham from the Ottawa Valley, especially from Quebec and many had planned to compete in the 1918 match which was unfortunately called off on account of the epidemic of Spanish Influenza. It was pointed out that it was not proposed to set up the new Association in opposition to the Ontario Plowman's association, but that it would be a local association to serve a special purpose.



Seeding is Soon Accomplished with Plenty of Horse Power and Wide Implements.

the soil in good tilth depends on the condition of the soil. Once over with the cultivator or disk will put some fields in as good tilth as will twice over. The amount of work to put on a field must be judged by each individual. No hard and fast rule can be laid down. If once over is enough, we then harrow the soil in the opposite direction to what we cultivate. It pays to give extra cultivation in order to have a fine seedbed. This is especially true if seeding down. The tiny seeds of clover and grasses have difficulty in taking root if the ground is at all lumpy. When sowing grass seed it is advisable to turn the spouts so that they will sow in front rather than behind the hoes or disks of the grain drill. By so doing the small seed is not covered so deeply. Harrowing after the seeder is good practice.

In some sections it is a common practice to roll all the spring crops soon after seeding is finished. It is obvious that this will crush the lumps, make the field look smoother, and possibly make it better for the binder in harvest time, but to leave a field rolled results in a great loss of moisture by evaporation. It will also be noticed that on fields with a smooth surface there is much more drifting of soil than where the roller has not been used. While drifting does not cause so much loss in this country, owing to the wind not having a very great sweep, it was very damaging on many farms in the Western Provinces last spring. If rolling is considered necessary it is advisable to follow it soon after with a light harrow. If there is a good seed-bed we doubt the necessity of rolling.

As a rule, the corn and root fields are not touched until the spring grains are sown. By that time there is usually considerable crust on the soil, and the cultivator breaks it up in chunks. If these fields were given a stroke with the harrows before seeding it would put them in better condition for working later on.

The shortage of labor has increased the use of large implements drawn by three, four and five-horse teams. One man with four horses hitched to the disk, cultivator or harrows can do the work which two formerly did with a single team and narrow implements. The harrows may be hitched behind the disk or cultivator. Last spring we saw a man driving one team on the seeder and leading a team behind on the harrows. A few years ago one would not think of doing this, but necessity is the mother of invention. It is well to have the implements sharp in order to do the best work. The grain should be cleaned before seeding opens, and formalin should be on hand to treat the seed before sowing. The

The officers elected are as follows: President, B. Rothwell, Ottawa; 1st Vice-President, W.F. Stephen, Huntingdon; 2nd Vice-President, O. D. Casselman, Chesterville; 3rd Vice-President, Wm. Hodgins, Shawville; Secretary, F. C. Nunnick, Ottawa; Treasurer, J. W. Nelson, Ottawa. Dr. J. H. Gisdale, Acting Deputy Minister of Agriculture for the Dominion is Honorary President and J. H. Grenier, Deputy Minister of Agriculture for Quebec, is Honorary Vice-President. The directors are not yet elected, but will be selected as follows, before the first meeting of the new board which will be held in a few weeks: two farmers from Ontario and two farmers from Quebec; two Agricultural Representatives from Ontario and two from Quebec; and four directors from the city of Ottawa.

### Destroy the Grain Thief.

The annual loss from smut reaches many hundreds of thousands of dollars in a year. While many of the farmers are applying methods to prevent this loss, there are others who continue to neglect treating their seed for smut before sowing it. Lack of time during seeding and the belief that the coming season will not be favorable for smut, is the cause of much neglect. It is not uncommon to see ten or even twenty per cent. of the wheat and oat heads smutted, or reduced to a complete loss. The smuts are fungus diseases and are caused by minute colorless plants which have not the power of manufacturing their own food. Consequently, they become parasites and live on the cultivated plants. These spores usually form in the heads of the grain and the spores are scattered by the wind or at the time of threshing. These tiny, minute spores cling to the kernels of grain and if not destroyed will commence to grow along with the grain when it is planted in the spring. The fine fungus threads of the smut plant grow up through the grain plants and attack the flowers when they commence to develop. They exhaust the food stored in the kernels of the newly-formed head of grain, leaving in their place a mass of black smut spores. A few diseased heads may infect the seed of an entire field. The loose smut of oats and the bunt of wheat are two of the most common smuts and cause the greatest loss. It is believed that infection takes place only through the seed. If there are no smut spores on the grain when it is sown there will be no smut develop in the ripening crop. Formalin has been used

very effectively in the control of the above mentioned varieties of smut. There is a diversity of opinion as to how best to apply this treatment, and in what proportions to use it. Using a pint of formalin to forty gallons of water and soaking the seed for twenty minutes has been the method long employed with exceptionally good results. However, this is rather a laborious task and requires a good deal of time. Sprinkling the seed with a solution of one pint to thirty gallons has also proven effective and is much easier done than the former method. The grain is placed in a heap on a clean canvas or floor, and the formalin solution sprinkled over it and the grain turned with the shovel until every kernel is moistened. The pile is then covered with canvas or sacking and left for two hours, after which the grain is spread out to dry. It is important that the seed be dried quickly and thoroughly and not bagged up until ready to sow. Another used with good results and and less work was to have the solution much stronger, use less of it and bag the grain up immediately, depending on the formaldehyde fumes to destroy the smut spores. In our issue of March 13, Prof. J. E. Howitt, of the O. A. C., outlined what is called the dry formaldehyde treatment. One part formalin, forty per cent. formaldehyde, and one part water is the solution which is sprayed over the seed at the rate of one pint to twenty-five bushels of seed. The solution is sprayed on to the grain by one man, while another uses the shovel. The grain is placed in a pile and covered with blankets or canvas for five hours, after which the seed may be uncovered, bagged and sown at once. Care must be taken that the solution is of the exact strength recommended. This latter method eliminates the necessity of spending time raking and shovelling the grain over to dry it.

The formalin may be secured at any drug store for a very small sum. Consequently the cost of treating the seed is neither here nor there, but the results may mean an increase of possibly ten or fifteen bushels per acre, besides having it much cleaner in the barn at threshing time. Why take the risk when insurance against smut may be had for a few cents per acre? It does not take long to sprinkle the seed with formalin solution, or to use the dry method above mentioned. When next in town, secure your formalin so it will be ready when seeding operations begin. You cannot afford to neglect treating the oats in the spring and the wheat in the fall.

### Homesteading With Profit and Pleasure.

EDITOR "THE FARMER'S ADVOCATE":

Interested by a recent article in "The Farmer's Advocate," a returned soldier with a couple of boys and some other relatives writes to enquire concerning the prospects for location in Grande Prairie, and asks a little general advice. I have ventured to reply to him at some length and to offer the suggestions to "The Farmer's Advocate" with a view to helping others and at the same time contributing a thought to the live problem of assisting soldier settlers.

"If you like farming, have had experience and are not afraid to rough it for a while, I should say you would do very well indeed to come to the Peace Country and take up land, especially as there would be a party to associate and co-operate from the start. Such a bunch can share teams and implements for a while, live together for a time if necessary; and, looking to the future, would be in a position to invest in a power outfit to break the scrub and semi-scrub land that nearly everyone now coming into the country has to be satisfied to take a good percentage of, unless he chooses land otherwise objectionable. You see, settlers have been coming into Grande Prairie for the past ten years, and the first ones came 550 miles ahead of steel. It is, to my mind, a very good mixed-farming country indeed; but perhaps not over fifteen per cent. of it (mostly high land bordering lakes) is reasonably safe for the production of wheat on a commercial basis. Oats will ripen feed grain on most of the land in the average season. All kinds of live stock do well, though horses sustain many losses until acclimatized. They can be bought here.

"We are now agitating for railroad extension through to the western part of the Prairie, and have hopes of getting it this season. When this is accomplished and direct coast connection assured, this country will be in an enviable position indeed. Now is the time to get in on the ground floor. You might not find two whole sections to your liking, but if you had to spread out somewhat at first, you might later consolidate by sale and purchase.

"If you go at farming and particularly at pioneering, go slow in investing your capital. Put two-thirds of it where you cannot touch it for a year. You will then know better how to spend it wisely. Even then, keep about half of it in reserve for contingencies. Many of the veterans are being saddled with debt for expensive teams and things they do not need badly on the start. Interest will accumulate and pay day come, and leave perhaps a crop depended upon will freeze and leave the homesteader in the hole. I have been through the mill and speak from experience. I have made the mistake so many make of thinking they must have this, that and the other thing and straining resources to pay for them. First thing one knows, he is paying the bank nine to twelve per cent. interest, compounded every three months. I have learned the lesson. We are now making solid progress and are well satisfied with the country. We do without things, no matter how attractive they look, until able to pay for them. This keeps one's head always above water and enables him

to add one full when he tion in fee the ground homestead proving up it, then, in enough the on the land, be. Gain c neighbors, a is alert to fin avoids man maturing of  
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to add one facility after another and to enjoy it to the full when he has acquired it. There is a great satisfaction in feeling that one's progress is genuine and that the ground is solid under his feet. The profit from homesteading for the first three years comes from proving up the land, not from producing crops. Do it, then, in the easiest, simplest way possible. It is enough the first year merely to build a house and live on the land, hiring a few acres of breaking done if need be. Gain experience cheaply by working out for neighbors, as there is much opportunity of doing if one is alert to find jobs. This helps out the grubstake and avoids many costly mistakes, while tending to the maturing of wise plans.

"With prudent counsel, homesteading may be made an enjoyable experience, especially where a few congenial persons locate together. Too often it is a tragedy of privation and disappointment. Those who plunge generally collapse. Those who proceed cautiously, with 'thrift, thrift, thrift' as the watchword, usually make a success and develop into respected citizens. It is almost impossible to exaggerate this lesson. It should be blazoned across the page of every publication that soldiers or other settlers read. It should be emphasized in Government literature and offices; and, with all respect to those who have the difficult matter of soldier settlement in hand, I think it should be regarded more particularly in the advancing of loans to settlers. Assure them a grubstake by giving them a decent and richly deserved pension, and be careful about loading them up with debt."

Grande Prairie, Alta.

W. D. ALBRIGHT.

## The Wider Sleigh Question.

EDITOR "THE FARMER'S ADVOCATE":

I read with much interest the wider-sleigh question that was taken up recently by "Simcoe Farmer," who does not sign his name. Perhaps, after reading his article over carefully he thought just "Simcoe Farmer" would look better in print. Now, I cannot see where he has given any reasons for wider sleighs, except that the horses are too large for the present sleigh track, which I wouldn't consider as a reason, for we have always had heavy horses and are likely to have in the future, the average-sized horse of to-day will and can walk quite all right in the present sleigh track.

Wider sleighs and cutters should never be thought of whatever. Some say they could run their "autos" all winter if only the sleigh track were wider, but only such a winter as the one just past can a car be run. Supposing we get a winter (and we shall) like that of 1917-18 or some others in the past, when the snow is piled two to three feet deep with only the sleigh track and large banks on both sides; where would a car be then? An automobile is not made to run in deep snow.

Then again, what would become of all our newly-bought cutters and sleighs? Go to the scrap heap, I suppose! Someone may suggest having them made wider. What kind of a looking cutter would you have anyway with the runners much wider than the box and seat? What would the city or town or even country gentleman think of riding out in such a rig?

I surely think the United Farmers will know better than to take up this foolish question which has been ringing in our ears, off and on, so many years, and will put it down forever as there can be no real good accomplished by the act.

York Co., Ont.

ROSS E. RATCLIFF.

## Is the Average Public School Education Sufficient?

EDITOR "THE FARMER'S ADVOCATE":

This oft-debated subject is a truly difficult one to deal with, but it should, nevertheless, receive the most earnest attention of every wide-awake farmer.

So often, but less so, than in former years, we hear parents remark about their children. "Oh I'll send them to school until they pass the entrance. That's all the schoolin' we got, and we got along all right." Yes, perhaps they did, in so far as bank accounts, good buildings, clothing and plenty of food express the term "all right." But, can they not realize that their boys or girls may wish more than that?

Suppose they do not choose the same calling as their parents; surely they would not be deprived of the opportunity of developing whatever special talent they possess. But, aside from this fact, and assuming that the boy does choose farming, or the girl house-keeping, let us stop to consider the real meaning of education. Be it music, art, law, medicine, teaching, mechanics, farming, business, sailing, or anyone of the many vocations, do we not find men and women preparing themselves especially for the one work for which they seem most fitted? Why, then, belittle one more than another?

True, some of the places for acquiring this knowledge are termed colleges, but are they not all "apprentice shops," where someone who knows the subject thoroughly tries to pass on the knowledge, by words, and example to those desiring to make this their life-work? Thus, we see that the public school of to-day, touching as it does, almost every branch of study, is but a stepping-stone in the child's development. Then, by means of these other places of study, agricultural, domestic science, technical schools, etc., or through a correspondence course (should circumstances prevent his leaving home), he may become a fully-developed and efficient workman; a graduate in that profession for which he is best adapted.

Lambton Co., Ont.

E. J. J.

## J. A. Maharg Discusses Wheat Prices in Parliament.

As regards wheat prices, Mr. Maharg was the first member who referred to the matter on the floor of the House. The majority of members have not studied the situation, but are inclined to believe that if the Western farmers want free trade and no protection, they are hardly justified in asking for this kind of protection for themselves, especially when it may mean a drain upon the public treasury, now quite depleted, to the extent of possibly \$200,000,000. Mr. Maharg is the man who was sent to Europe by the Government to study the wheat situation, and having just returned a short time ago, his opinion should carry some weight. He feels that some stabilizing influence is necessary to prevent a glutting of the market next fall and a free for all chance for the speculator. After discussing the foreign situation and pointing to a probable demand for every bushel of wheat we can produce, Mr. Maharg said:

"Different suggestions have been made. There is a request from one of the Provinces that the price of wheat should be fixed. I will not say at this stage whether that is a proper thing to do or not; but one thing I will say, and that is, that if we are going to have a stabilized business industry in Canada during the next wheat season from August to September, something must be done. I have outlined to you the difficulty of disposing of our grain quickly. It is going to take us the entire crop year to dispose of it. We will not be able to rush it out. Storage facilities will not be available for it should we have a fair average crop. Something will have to be done to stabilize the price which will be paid for that grain. If it is thrown open to the world, and open to speculation, and an assurance of equal treatment is not guaranteed for the entire year, the market will simply be glutted early in the season, the price will be forced down to the lowest level and after all the storage has been occupied, and all the money of the country has been invested in wheat, the price will go up and neither the producer nor the consumer will get a square deal. The consumer will have to pay the high price and the producer will have to take the low price. This Government has got to do something; whether it be to fix the price or to absolutely prohibit speculation, it must be done. I think there is only one way to do it and that is by fixing the price. It is a very difficult matter to prevent speculation in the handling of grain. The only successful remedy we have found for it has been the fixing of the price."

## CANADA'S YOUNG FARMERS AND FUTURE LEADERS.



The Durham County Stock Judging Team.

G. A. Williams (sitting, left) and his winning team which won the Provincial trophy.

## Junior Farmers Might Organize Pig Clubs.

EDITOR "THE FARMER'S ADVOCATE":

At the present time there is no Junior Farmer's Improvement Association in my locality. I have taken active part in competitions such as acre-crop competition, hog-feeding competition, etc., which are a benefit to the individual, more so than to the community. It gives the boys an idea how to go at things and a two-weeks' course at the Ontario Agricultural College is a great advantage. Of course it is a benefit to the community as well but not so much as a pure-bred pig club or dairy club as I am about to mention. Have the Agricultural Representative organize such clubs, or the Junior Farmers may do so if they have some security. The banks will take the boys' notes, at the regular rate of interest. Buy registered pigs but first have some reliable member who understands bacon type and breed characteristics go with the boys and show them how to choose a good pig from the litter. The pigs should be fed throughout the season, and accurate account kept

of all the feed consumed. When the sows are nine months old have them bred to a prize boar in the community. Have discussions throughout the winter months on such subjects as "How to Winter Brood Sows," and notice should be taken to see which sows have the strongest and healthiest pigs. After the pigs are large enough for sale, the boys will be able to pay their notes at the bank and have money to deposit. I think this would create a desire in the boys to take the very best care of their registered stock and also have some pride as breeders of registered pigs. By all means stick to one breed and do not cross pure-breds. This I think is an injury to breeds and would retard the good work of the club.

Lennox Co., Ont.

H. L. PRINGLE.

## Young Farmers Should Get Education.

EDITOR "THE FARMER'S ADVOCATE":

As this is my first communication I think I had better tell you something of myself. I am a "Bluenose" (Nova Scotian), a farmer's son living in the Annapolis Valley. I am eighteen years of age and still going to school; am trying for my "B". Now am I not right in saying that when most farmers' boys reach grade VIII. or IX., that ends their schooling?

I think this a great mistake for I am sure one of the greatest drawbacks to farmers is lack of higher education. The majority know how to read, write and reckon, especially interest which is great fun when you have to pay it afterwards.

I saw a cartoon the other day, representing the farmer in Parliament. He was sitting back listening to his city brother speak, and it seemed to come so natural to the city chap that the farmer said to himself: "I guess it's a gift this speaking business." I dare say he had as much sound reasoning in his head as the city man if not more, and what he should have said was, "I guess I should have had more education along this line and kept in practice." Because the farmer generally has the ideas all right but lacks the power of speech when he comes to express them.

I heard a man say the other day that farmers were among the greatest thinkers and broad-minded men of this earth, where they had any education. He said a farmer works alone more than most men. When alone he is planning and thinking good sound thoughts, while a business man mixes with other men and is always talking and doing less real sound thinking. Practically all of the great philosophers, statesmen, etc., have been men who have lived rather lonesome or quiet lives.

There is an old saying: "You can't teach an old dog new tricks." So boys let's get the education while we are young. Don't let me give you the impression that I like being shut up in a school-house—far from it. There is nothing I like better than God's pure air. But I want an education and I hope in a few years to take an agriculture college course.

Some people say "what's the good of higher education to a farmer it does not help his crops to grow better" but I think it does, maybe in a round about way but it surely will help him in his work in every way. It produces a spirit of co-operation, which is just a step above the class spirit of union in school and co-operation is one of the greatest benefits to the farmer that there is.

Some men say when a boy gets to high school the lure of the city leads him from the farm. Well I would say to those men make the lure of farm and home greater than that of the city and we will not leave the farm. This "lure business" or keeping the boy on the farm is a pretty big thing and is a whole subject in itself; it consists of the little things as well as the big ones.

I have just one more thing to say and that is a little about the social side of life; its softer side and it is important that we do not neglect it. It is something we get in our homes. School rather tends to decrease, instead of increase it. Remember and cultivate your manners; also your tone of voice. It pays. And if you are a bit musical learn to play a piano, organ, violin or anything. It gives pleasure to others as well as yourself now, and in later years. It also keeps your fingers nimble which is a great thing when you are untying a rope or something.

I am very much pleased that you should see fit to give us a section of your valuable paper, and only hope we reach the goal set for us, namely, "Young Farmers and Future Leaders."

Annapolis Co., N. S.

A FARM BOY.

## AUTOMOBILES, FARM MOTORS AND FARM MACHINERY.

### Generating Electricity.

We have a 2½-h.-p. gasoline engine with which we intend to operate a lighting plant. We would need about 22 lights, but would only burn 4 lights from 4 to 5 hours per day.

1. Would it be satisfactory to use storage batteries and a generator?

2. Could we run the generator and at the same time run a water pump which consumes about ¾ h.-p.?

3. How long per day would it be necessary to run the generator to keep the batteries in charge?

A. W. Y.

Ans.—1. Yes.

2. Not likely, but you wouldn't need to use both at same time, at any rate not very often.

3. Five hours will charge an 80-ampere hour storage battery, and the battery will carry lights for ordinary house for at least 3 or 4 days.

R. R. G.

### Graphite in Boiler.

I saw an article in a power magazine recommending the use of graphite in steam boiler. The writer said that as the boiler expanded and contracted that the scale cracked and that the graphite kept working in farther all the time, till finally the scale peeled off altogether and the graphite formed a thin coating on the inside of the boiler so that no more scale could stick, and that it protected the tubes and plate from the effects of acids in the water. Anyone who has had graphite on their hands will know how it will stick.

1. Is this a theory or fact?
2. Where could a person get boiler graphite, what grade, and what is the price per pound?
3. Would it make the water glass so black that a person couldn't tell the height of the water?

J. I. C.

Ans.—1. It is both theory and fact, we understand, but some don't like it for various reasons.

2. It can be secured, we believe, from the United States Graphite Co., Saginaw, Mich. There is only one grade, and price is about 15 cents per pound.
3. It does not bother the water gauge.

R. R. G.

### Size of Pulleys for Grinder.

Gas engine with 12-inch pulley, running 400 r.p.m. My 8-inch grinder has 5-inch pulley. I wish to run grinder 2,500 r.p.m.

1. Would a 25-inch pulley on engine be the best way to do this?
2. Would this reduce the power of engine?
3. Would it be better to run from 12-inch pulley on engine to line shaft, and run grinder from pulley on line shaft?
4. If so, what size of pulleys should I have on line shaft?

R. M.

Ans.—1. Yes.

2. No, except that if the grinder runs faster the engine has to develop more power in proportion, but the 6 h.-p. is capable for this work at grinder speed of 2,000 r.p.m.
3. No, not unless you require a line shaft for transmitting power of engine to various stationary machines.
4. That depends on speed on line shaft. If it runs same speed as engine, say 400 r.p.m., then 12-inch and 25-inch pulleys would be required, the former connected to engine.

R. R. G.

### Water System.

I would like to get some information regarding a water system that I intend to install. I have a windmill for pumping water out of a well 129 feet deep; depth of water in well about 80 feet. The hill where the proposed tank is to be built is on a level with top of wheel of windmill and 140 yards distant from well. The house and barn are between the well and proposed tank, which is to be built of cement and buried in the ground. The barn is 80 yards from well and house is 100 yards distant from well. The wheel of windmill is 10 feet in diameter. Can I pump water with this windmill up this hill to the tank to furnish dwelling and also barn containing 50 head of cattle and 5 horses? If not, can I do so with a gasoline engine, and what size of an engine will I require? Can you give me an idea of the size of piping required and the cost of same?

C. D.

Ans.—Your windmill will pump the water to the proposed tank quite satisfactorily, or a 1-h.-p. gasoline engine would do it easily. The pipe should be 1½ inch. The cost of galvanized piping of this size is about \$22.50 per 100 feet at present.

R. R. G.

### Engine Pounding.

What is the cause of my 8 h.-p. engine pounding? I have examined all the bearings and found them all in good shape; it sounds as though the piston was hitting the back end of the cylinder. I have tried different spark plugs, and we also took the engine apart and cleaned it thoroughly without beneficial effect. I then wrote the company who made it, and they said it must be pre-ignition, caused by too high compression, and they said the engine would run with the switch off after the engine got hot, and I tried this but it never exploded once with the switch off, although it boils the water in a short time. I have the spark timed as their instruction book calls for. The company advised me to have the connecting shaft shortened one-quarter of an inch, do you think this advisable?

F. B.

Answer.—If it is found that the cooling system, mixture and timing are not at fault, it could be advisable to shorten the connecting rod ¼ inch as suggested by the company.

R. R. G.

### Capacity of Water Wheel.

How many horse-power water wheel will it take to run fifty electric lights and two three-h.-p. motors and a ten-h.-p. motor?

J. S.

Ans.—Fifty 20-Watt lights would consume power equivalent to 1.34 electrical h.-p., and if generator were driven by water wheel the wheel would need to develop twice that or rather better than 2½ h.-p.; the rule being that 1 electrical h.-p. is equivalent to 2 water wheel h.-p. A 3-h.-p. motor would require about 6 h.-p. water wheel to drive, a 10-h.-p. motor, about 20 h.-p. wheel.

R. R. G.

### Sparking at the Brushes of Generators.

EDITOR "THE FARMER'S ADVOCATE":

The following are causes of sparking at the brushes of generators:

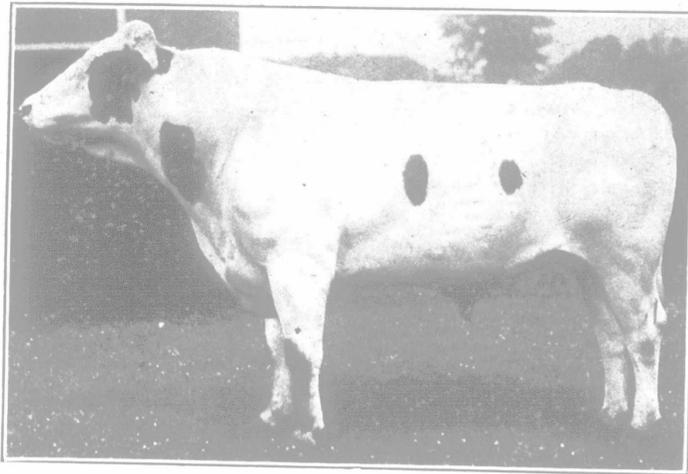
1. Brushes not set on neutral. Shift the brushes back and forth until sparking is reduced or eliminated.
2. Brushes not set diametrically opposite.
3. Brushes not in line. Adjust each brush until its bearing is on a line with the commutator bars.
4. Insufficient brush contact. Due to dirty commutator or poor tension, allowing the brushes to leave the commutator.
5. Commutator has high, low, or flat bars, projecting mica, or may be rough and worn. Grind with fine sandpaper and polish. If defect is serious it may be necessary to turn the commutator true in a lathe.
6. Open circuit in the armature. Sparking will occur only at one place on the commutator, thus locating the place of the break. Defective coil may be temporarily repaired by connecting to next coil across mica.
7. Short-circuited or reversed armature coils will cause the motor to draw excessive current, even without carrying a load. Reversing field coils can be located by a compass. Shortened coils will usually burn out under load, and should be removed, while reversed coils may be connected properly.

Commutators must be kept clean, as any oil or grease on the segments will collect carbon dust and produce short circuiting. In installing new brushes, always use replacements supplied by maker of generator, making sure the brush fits the surface of the commutator exactly over the whole area of the end of the brush. Never run the generator with the battery disconnected unless the generator is grounded or brush lifted off the commutator to prevent it generating.

R. L. T.

### Size of Pulleys.

I have a gasoline engine 4½ h.-p.; it runs from 350 to 550 revolutions per minute and has a 9-inch pulley, and I would like to get a rip saw. What size of a saw can I drive with this engine in soft wood, and what size in hard? I wouldn't want to rip more than 4 inches



A Well-kept Herd Sire.

This well-bred Holstein bull heads a milking herd in Oxford County, Ont. Herd improvement is thus accomplished.

thick in hard wood, and can I use my cord-wood saw mandrel? My cord-wood saw has a flywheel that weighs about 150 lbs. and has a pulley 5 inches. Will I have to put a larger pulley on the mandrel? What speed should this saw run at and what gauge?

W. L.

Ans.—You could not run a saw larger than 16 or 20 inches in hard wood with 4½ h.-p. engine; a 16-inch would be 14 gauge, and 20-inch a 13 gauge. A 9-inch pulley on engine and 5-inch on mandrel would not run saw much more than 800 r.p.m., whereas it ought to run 2,000 or 2,400 r.p.m. This speed could be secured by using 24-inch pulley on engine and 5-inch on saw.

R. R. G.

### Motors.

Which is the best balanced and most durable tractor motor, a four-cylinder running at one thousand revolutions per minute or a twin cylinder with both cranks on the same side of crankshaft and counter balanced, speed five hundred revolutions per minute? Both motors are four cycle, rated 20 h.-p.

A. M. C.

Ans.—The former is generally considered to be the better balanced and most durable motor.

R. R. G.

## THE DAIRY.

### Grading up the Dairy Herd.

It is rather astonishing sometimes that one still sees so many inferior, or so-called "common" cows throughout the country. It is surprising that in spite of the very great deal of good work carried on by Departments of Agriculture, both Provincial and Federal, and the years of effort devoted to the elimination of the scrub dairy sire, and the raising of the general average in milk production per cow in Canada, that such comparatively small progress should have been made. It is true that even considerable progress has been made and that through the encouragement of cow-testing and the use of milk scales, many useless and unprofitable cows have been eliminated from the herds of the country. Not only this but there have been notable improvements in feeding methods and some, though by no means phenomenal increases in the numbers of pure-bred stock. It would, of course, be a splendid thing in many ways if all our dairy cattle could be of pure breeding, because in the first place it is only natural to expect that the good qualities of a pure-bred animal are more likely to be transmitted to its progeny than the good qualities of an animal of less concentrated breeding. One would not go very far before realizing, however, the almost absolute impossibility of ever bringing this about for a very great number of years. Not only would it mean too large an expenditure of money to invest in pure-bred animals, but the number of dairymen is too large to ever hope to convince all of them that an investment in pure-bred females would pay, if it really would.

We must naturally conclude then—if pure-breds are more desirable and profitable on the whole than nondescript or even good grades, and if we dare not hope for a replacement of all our common cows with others of pure breeding and decided powers of milk production—that the pure-bred sire should be the obvious recourse of the dairyman who aims at increasing the average milk production of the members of his herd. One may say that just because an animal may be registered as a pure-bred sire he will not necessarily be a producer of high-testing progeny, and that there are many grade cows whose milk production is far in excess of that of many pure-bred cows. All this is very true, as will be proven later with regard to the sire and as has been demonstrated many times over as regards cows. But such instances are rather the exceptions which prove the rule, and there can be no possible sound argument as to the superiority in general of grades over pure-breds. In fact, it has been proven by investigation more times than can be enumerated that as a general and plain truth, the use of pure-bred sires of only average quality is more profitable by a very considerable margin than the use of grade sires. One has only to study in the most superficial manner the results of the recent farm survey in Oxford County, Ontario, to realize this fact. The profit per cow over feed was just tripled, due to the use of pure-bred instead of grade sires, over a period of less than 15 years.

For some years now experiments in the grading up of dairy cattle have been conducted on the Dominion Experimental Farms System, using ordinary common cows and pure-bred sires with tested dams, as foundation stock. These experiments were undertaken to prove the ease with which milk production can be increased merely by the use of a sire of recognized good breeding, good individuality and out of tested dams. The latter point, by the way, is probably the most important single point in the selection of a desirable herd sire, because it is only by this precaution that the farmer can be reasonably sure that the bull he buys will possess those milking qualities which it is hoped he will transmit to his daughters. This point should not be sacrificed even for conformation, although the latter is important, much more so than is generally realized. Only partial results are available from the experiments of the Dominion Experimental Farms, partly because the work is not yet completed and partly because the figures for the work done so far are not yet tabulated. We hope to present further evidence from these experiments as they progress.

Probably the most complete results are available from the experiment station at Nappan, Nova Scotia, where Ayrshires and Holsteins have been used since 1912 in the grading-up work. Speaking of the results to date, W. W. Baird, Superintendent of the experiment station says:

"At the Experimental Farm, Nappan, N.S., an interesting and valuable experiment has been conducted since 1912 in grading up a dairy herd by the use of pure-

"From to year so only from through the the handling to its maximum nevertheless

"Only out by has been f shire heifer ducers to t three-year- 33.3 per ce

"Comp dams as tv per cent. a year-olds.

"In co their dams, as two-year 25 per cent 1.A.2's, wh first cross

"In com dams, nam 66.6 per ce

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"The f reader, see they are ab on the sam general law look for 25 be superior inferior, an been worth figures are shown on t prove their selected from This wo

E. S. Archi whom a re discussed th New Brunsw a bunch of calves were grade Short Of these, on first lactati now starting in fact, beg half-sisters. yearlings, b foundation o animals, 36 fat, while t period follo pounds of r therefore, t duced six p their nonde equal to 5 at \$800, if hundred. I crease we s period will hundred po This means between he if we add 2 old grade H about 50 their dams. for."

At Ste. two-year-ol exactly the Ayrshires, 1 of those of Canadian c danger of a sire in this behind him, than their d In all the same si check may 1 and Kapush been secure "From the said Mr. A but we hav progeny of stock. Wi grand pro superior to shires and up we hav crosses with 21 and is s She gets 1 other grade and some g

**DAIRY.**

**Dairy Herd.**

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Nappan, N.S., an t has been conducted rd by the use of pure-

bred sires with the average dairy cow. This work has been carried on with two breeds, namely, Ayrshires and Holsteins.

"From this work there is being collected from year to year some valuable as well as interesting data; not only from the standpoint of greater production realized through the use of the pure-bred sires, but likewise from the handling of the improved dairy herd to bring it up to its maximum production by feeding judiciously, but nevertheless liberally, which is, after all, economical.

"Only a few of the essential facts, which are brought out by the data so far collected can be given here. It has been found that in the case of the first cross Ayrshire heifers 71.4 per cent. of them were superior producers to their dams as two-year-olds; 28.5 per cent. as three-year-olds; 14.2 per cent. as four-year-olds, and 33.3 per cent. as five-year-olds.

"Comparing the first cross Holsteins with their dams as two-year-olds 50 per cent. were superior; 16.6 per cent. as three-year-olds, and 16.6 per cent. as four-year-olds.

"In comparing the second cross Ayrshires with their dams, namely, first cross Ayrshires, it is found that as two-year-olds 25 per cent. are superior to their dams; 25 per cent. as three-year-olds; but that none of the 1.A.2's, which are the second crop of calves from the first cross Ayrshire, excel their dams as two-year-olds.

"In comparing the second cross Holsteins with their dams, namely, the first cross Holsteins, it is found that 66.6 per cent. are superior as two-year-old producers.

"In comparing the second cross Ayrshires with their grandams, namely, the foundation stock, it is found that none of them were superior as two-year-olds, but that as three-year-olds 33.3 per cent. were superior. Further that in the second cross Holsteins when compared with their grandams as two-year-olds 33.3 per cent. were superior.

"The foregoing percentages may, to the casual reader, seem to be low. Nevertheless, the fact remains they are above the average for most breeding work done on the same scale. Furthermore, they are above the general law of breeding. Generally speaking, one may look for 25 per cent. of the progeny of an individual to be superior, 50 per cent. equal to and 25 per cent. inferior, and at the same time feel that the work has been worth while. It must then be agreed that these figures are evidence that still greater energy should be shown on the part of all farmers in an endeavor to improve their dairy herd by the use of pure-bred sires, selected from high-producing dams."

This work is, of course, under the supervision of E. S. Archibald, Dominion Animal Husbandman, with whom a representative of "The Farmer's Advocate" discussed this matter a few days ago. "At Fredericton, New Brunswick," said Mr. Archibald, "we started with a bunch of twenty common heifers. The first crop of calves were grade Holsteins, the second crop were grade Shorthorns, and the third crop grade Ayrshires. Of these, only the grade Holsteins have completed their first lactation period. The grade Shorthorns are just now starting off on their first lactation period and are, in fact, beginning much better than did their Holstein half-sisters. The grade Ayrshires are, of course, just yearlings, but they are a promising lot. The eight foundation cows in this experiment produced, as mature animals, 36,766 pounds of milk and 1,484 pounds of fat, while the two-year-old grade Holsteins, during the period following their first calving, produced 38,710 pounds of milk and 1,406 pounds of fat. You can see therefore, that the daughters of a pure-bred sire produced six per cent. more milk as two-year-olds than did their nondescript dams when mature. This is, in fact, equal to 5 per cent. interest on a pure-bred sire valued at \$800, if we only figure the milk at two dollars per hundred. But to get the real significance of this increase we should remember that a heifer in her first period will produce only 75 pounds of milk for every hundred pounds she will produce as a mature cow. This means that she increases her milk flow 25 per cent. between her first lactation period and maturity and, if we add 25 per cent. to the record of these two-year-old grade Holsteins we may expect a record at maturity about 50 per cent. greater than the mature record of their dams. Results such as this are well worth working for."

At Ste. Anne de la Pocatiere we learned that nine two-year-old grade Ayrshire heifers, reared under exactly the same conditions as their dams, also grade Ayrshires, have built up records materially in excess of those of their mothers. At Cap Rouge, grade French-Canadian cows were used, and it was here that the danger of a poor pure-bred sire was brought out. The sire in this case was a good individual with no records behind him, and his progeny were poorer milk producers than their dams, whether these were pure-bred or grade. In all these experiments pure-bred cows are bred to the same sire used on the grade cows, so that a double check may be kept on the sire. At Spirit Lake, Quebec, and Kapuskasing, Ontario, only one crop of calves has been secured thus far, so that no results are available. "From the Central Experimental Farm here at Ottawa," said Mr. Archibald, "no figures have yet been compiled, but we have a number of grade heifers and cows, the progeny of rather common cows purchased as foundation stock. With only a few exceptions the progeny and grand progeny of these foundation cows are much superior to their dams; this is true both of grade Ayrshires and grade Holsteins. As an example of grading up we have one little cow that has at least five known crosses with pure-bred sires. She freshened on January 21 and is still milking 72 pounds per day in two milkings. She gets 13 pounds of grain. We have a number of other grades milking over 60 pounds in two milkings, and some grade two-year-olds milking 45 to 48 pounds

in two milkings. Grade Ayrshires are milking proportionately well."

At Lacombe, Alberta, the experiment was started with a herd of common cows and also with some grade Holstein heifers, having two or three crosses of Holstein sires. During the first year of production the 9 common cows produced an average of 5,203 pounds of milk in 322 days, while the 9 two-year-old grade Holstein heifers produced an average of 9,939 pounds of milk in 451 days. The daughters of these grade Holsteins, by a good pure-bred bull, continue to make increased records from generation to generation.

At Agassiz, British Columbia, the work was begun in 1912 with 20 grade Holstein heifers, having, probably, two or three crosses. The increases have, according to Mr. Archibald, been very marked with each generation until the grades are producing almost as much as pure-breds. In 1918 the five most profitable pure-bred cows at Agassiz produced an average of 11,392 pounds of milk, making a profit over feed of \$94. The five most profitable grades averaged 8,918 pounds in milk production and made a profit over feed of \$82.18, or only \$12 less than the pure-breds, whereas in 1917 there was a spread in milk production of 3,825 pounds and a difference in profit over feed, in favor of pure-breds, of \$35. "This spread," said Mr. Archibald, "is wider all the way back."

**Holsteins Average \$261 at Ingersoll.**

W. B. Poole and A. Groves held a dispersion sale of registered Holsteins at their farm, south of Ingersoll, on Thursday, March 20. Comparatively few of the animals were tested, but the prices obtained were particularly good. It was one of the best sales of untested stuff of the season. One secret of this was that the animals were brought out in excellent condition. The daughters of Colantha Fayne Butter Baron made a high average. Mr. Groves' herd sire, Captain Snow Canary Hartog, topped the sale at \$805. His dam is Calamity Snow Mechthilde 2nd, the Canadian champion R. O. P. three-year-old, which has just completed another R. O. P. year with over 25,000 lbs. milk and 1,107 lbs. butter. She has given as high as 108 lbs. in a day. The females averaged \$261. Following is a list of the animals selling for \$100 and over, together with the names and addresses of the purchasers:

Doris Abbekerk Hengerveld, P. S. Moote, Dunnville.	\$140
Princess Wayne Artie, F. L. Blouin, Quebec City.	285
Blanche Lyons of Bellevue, J. Groves, Ingersoll.	165
Maud Lyons Mercena, Fred Pratten, London Jct.	185
Mary Wayne Abbekerk, Soldiers' Civil Service, Guelph.	320
Lady Wayne Artis Posch, J. Dickout, Salford.	150
Ruby Cubana Snowdrop, A. Douglas, St. Mary's.	220
Sadie Cubana De Kol, F. L. Blouin.	320
Countess Wayne Mercena, F. L. Blouin.	300
Nellie Abbekerk Wayne, House of Refuge, Leamington.	225
Mary Jane Abbekerk, P. S. Moote.	270
Aaggie Mechthilde Queen, J. Douglas, St. Mary's.	250
Mabel Mercena, Soldiers' Civil Service.	170
Elsie Posch Walker, F. L. Blouin.	375
Olivia Walker, F. L. Blouin.	445
Two-year-old heifer, G. E. Wright, Belmont.	215
Imperial Baroness Posch, F. L. Blouin.	420
Colantha Fayne Daisy, Soldiers' Civil Service.	350
Josie Baroness Fayne, F. L. Blouin.	400
Josie Colantha Fayne, Soldiers' Civil Service.	355
Princess Favorit Colantha, B. Taylor, Mt. Elgin.	175
Lady Aileen Hengerveld, G. E. Wright.	275
Aaggie Hengerveld Aileen, G. E. Wright.	285
Abby Pontiac Mercena, G. Nutt, Salford.	165
Belle Mercena Pontiac, House of Refuge.	265
Butterfly De Kol, R. Simmons, Verschoyle.	140
Queen Segis Kent, F. L. Blouin.	310
Lucy Mercena, G. E. Wright.	205
Two-year-old heifer, G. E. Wright.	205
Daisy Veeman Lindley, G. E. Wright.	255
Captain Snow Canary Hartog, Wilbur Lemon, Lynden.	805

**The Care of the Milking Machine.**

In the production of pure milk with a milking machine, great care is necessary in the handling and washing of the machine. Milk that is allowed to become dry on the parts is very difficult to get off. To avoid this, as soon as the last cows are milked and the milk emptied, but while the pump is still running, cold water should be drawn through the teat cups into the can. The machines should then be removed to the dairy and dismantled. The can covers to which the pulsator is usually attached should be washed, wiped dry and hung up. The teat cups and tubes should be washed in hot water to which has been added some alkaline washing powder. This will dissolve any fats adhering to the parts. Once a day, a brush should be used on the interior of the teat cups. These parts should now be put into a sterilizing solution until next milking time. Once a week, the teat cups and attached rubbers should be taken apart and thoroughly washed in hot alkaline water with the special brushes supplied for this purpose. The cans may be handled with the rest of the dairy utensils in the ordinary way, steaming or scalding and draining in a room free from dust being important.

On taking the teat cups from the sterilizing solution for the next milking they should be rinsed in fresh, cold water and then be assembled. At this stage, the drawing of scalding water through the teat cups into the cans would have a beneficial effect but is liable to injure the rubber. When adjusting the milker and attaching the teat cups to the cow's teats, be careful not to draw

barn air through the tubes into the can. In shifting the machine from one cow to another and changing the cans, let the milk and cans be exposed to the barn air as little as possible.

One of the best sterilizing solutions to use is composed of chloride of lime. Use fresh chloride of lime, preferably from sealed tins, and provide an earthenware crock. Into this put one pound of chloride of lime and add a gallon of cold water. Break up the lumps, stir thoroughly and then allow to settle. Cover and keep in a cool place. This is a stock solution and only the clear liquid off the top is to be used. In making up the solution for the teat cups use one pint of this stock solution to every ten gallons of water. As the sterilizing action gradually decreases, add another half-pint of the stock solution every three or four days as long as this solution is kept in use. The old solution should be emptied out and a new solution made as often as is necessary to keep it clean. A new stock solution should be made at least every two weeks.

The keeping of the outside metal parts of the teat cups and pails bright is not so important but improves the appearance of the machines.—Experimental Farms Note.

**Perth District Holstein Breeders' Sale.**

There was a good attendance at the second annual consignment sale of the Perth District Holstein Breeders' Club, at Stratford, Mar. 12, and fairly good prices were realized. Bidding was brisk throughout, many of the animals being purchased by men just commencing with registered stock. The Perth District Holstein Club is doing pioneer work along this line. Nine young males made an average of \$130, but considering their breeding and quality it was none too high. The females were a good lot and averaged around \$200. Cheery Grove Dolores was the highest priced cow in the sale. She went to the \$350 bid of Ira Moyer, of Beamsville. The consigners to the sale were M. A. Arbogast, J. Archibald, Wm. Bolton, Jesse Looker, McNamara Bros., G. C. McIntosh, R. S. Oliver, Rosarden Farms, Peter Smith, Wm. Steinacker, W. S. Shearer, E. Turner, W. J. Tinning and T. Wood. Following is a list of the animals selling for \$100 and over together with the names and addresses of the purchasers:

Nancy Ormsby, A. Jutzi, Gad's Hill.	\$140
Maud De Kol Ormsby, W. Ingram, Embro.	185
Flossie Abbekerk Mercena, R. Low, Stratford.	185
K. S. W. Mechthilde, W. H. Kincade, Stratford.	265
Sunnyside Dewdrop Beth, D. Wilhelm, Stratford.	145
Korndyke Clementine Lass, L. G. Cornish, Stratford	160
Sunnyside Alcartra King, H. Purcell, Listowel.	120
Home Farm Pearl DeWitt, J. J. Innes, Stratford.	200
Pauline Dewdrop, S. King, Stratford.	140
Vernbam Lula Colantha, A. Reinecker, Sebringville	130
Jenny Lyons Abbekerk, Geo. Hargreaves, Listowel.	130
Flora Schuiling Korndyke, F. A. Wood, Fordwich.	200
Elsie Grange, A. Reinecker.	130
S. C. Butter Rose, F. J. Knott, Carlingford.	190
Pearl Grange, Ira Moyer, Beamsville.	250
Francy Paladin, J. A. Forbes, Embro.	100
May Hartog Pietertje, G. Gill, Russeldale.	160
Alice Grange, W. A. Roadhouse, Stratford.	170
Roxie Grange, L. Seebach, Stratford.	210
Calamity Mercena Queen, Geo. Jackson, Stratford.	175
Princess Calamity, J. Gerofsky, Stratford.	150
Bessie Banks Mercena, Wm. Steinacker, Stratford.	205
Ianthe Mechthilde Jewel 3rd, Henry Morrow, Stratford.	225
Ann Abbekerk, Wm. Cornish, St. Pauls.	105
King Aaggie Abberkerk, G. Studer, Stratford.	110
Ianthe Mercedes Korndyke, R. Low.	160
Cherry Grove Dolores, Ira Moyer.	350
Rosarden Johanna, H. Thistle, St. Pauls.	235
Greenfield P. W. Korndyke, W. H. Kincade.	105
Lady Paladin, D. J. McKay, Science Hill.	185
Floss of Cairngorn, F. Willows, Carlingford.	145
Cherry Grove Erma, F. J. Knott, Carlingford.	185
Calamity Lass, J. J. Innes.	225
Sadie Mercedes Wayne, F. Willows.	260
Rosarden Segis Josie, J. Davidson, Carlingford.	170
Annie Grange, F. Bell, St. Pauls.	155
S. C. Butter Jean, M. A. Arbogast, Stratford.	165
Bessie Rooker De Kol, J. K. Schwartzentruber, Petersburg.	155
S. C. Butter Bess, Arbogast Bros., Sebringville.	210
S. C. Butter Rose Alcartra, D. J. McKay.	170
Pontiac Waldorf Pietertje, W. S. Riddell, Thorndale	150
Violet May Abbekerk, G. Morganroth, Tavistock.	295
Hengerveld Colantha Maid, W. Ingram, Embro.	225
Rhoda Cherry Korndyke, G. Morganroth.	200

**Brantford District Holstein Sale Averaged \$228.**

The Brantford District Holstein Breeders' Club again held a very successful sale on Wednesday, March 28. This is their seventh semi-annual consignment sale, and the average was above that of previous sales. The breeders consigned a splendid lot of individuals and after the first few head were sold bidding was brisk and the prices very satisfactory. The cattle were practically all young and showed indications of being heavy producers. The breeding was right. Several exceptionally high-quality sires are kept in the district and their progeny were in the sale. Madeline Beauty Posch, consigned by E. C. Chambers, topped the sale at \$395. She went to the bid of C. E. Smith, of Scotland. Grace Posch, from the same herd, was second highest at \$390. She goes into W. H. Hurd's herd. Thirty-

five mature cows averaged \$228.57; eleven two-year-olds averaged \$175, and the three males averaged over \$200. Following is a list of the animals selling for \$100 and over, together with the names and addresses of their purchasers:

Smithdale Maggie Juliet, R. H. Shaver, Brantford.....	\$165
Smithdale Bessie Posch, Jno. F. Lampkin, Brantford	125
Smithdale Pontiac Valentine, F. E. Heximer, Niagara Falls.....	190
Smithdale Segis Pontiac, J. B. Stevenson, Burford.....	130
Smithdale Beauty Queen, Jas. Knight, Brantford.....	175
Smithdale Jane Segis, J. H. Nevills, Wellandport.....	185
Smithdale Segis Wayne, Fred Mitchell, Brantford.....	130
Smithdale Acme Wayne, C. Force, Brantford.....	150
Daisy Faforit De Kol, C. W. Mitchell, Sherkston.....	205
Queen Posch Diotime, Clarence Smith, Ancaster.....	270
Faforit Kent De Kol, A. H. Cressman, Blair.....	165
Grace Posch, W. H. Hurd, Cainsville.....	390
Rose Faforit Abbecker, H. Herd, Onondaga.....	375
Madeline Beauty Posch, C. E. Smith, Scotland.....	395
Maggie Kent, G. E. Van Valkenburg, Brantford.....	210
Braeside Segis Baroness, A. H. Cressman.....	230
Katie Korndyke Segis, J. S. Whaley, Caledonia.....	185
Beauty Korndyke Segis, H. Anderson, Caledonia.....	175
Lady Hartog Pietertje, H. Chapin, Brantford.....	150
Kate Castleton Hartog, J. C. Brown, Stamford.....	320
Tidy Abbecker Mercena Scott, J. E. Brethour	
Burford.....	280
Johanna Celestia Scott, Oak Park Farm, Paris.....	330
Johanna Celestia Scott 2nd, E. Plant, Burford.....	170
Fairview Maud, G. W. Michael.....	140
Pasma Abbecker 2nd, F. A. Ficht, Curries.....	170
Dainty Perfection Korndyke, Frank E. Heximer.....	230
Hazel Bell, Oswald Ebert, Cayuga.....	240
Sarcastic Lady Schuiling, A. Merryweather, Bridgeburg.....	200
Lady Schuiling 4th, E. Plant.....	230
Malone Hiemke Banks, G. E. Van Valkenburg.....	200
Queen Schuiling De Kol, Jas. G. Currie, Ingersoll.....	220
Grace Fayne Canary, David E. Butler, Scotland.....	155
Rockford Lady, D. Wilson, Brantford.....	155
Ida Mercena Bonheur, Walter G. Ash, Mohawk.....	165
Tidy Calamity Johanna, Jno. F. Nelles, Caledonia.....	405
Tinie Grant 3rd, J. E. Brethour.....	250
Jewel Monarch, G. E. Van Valkenburg.....	220
Schuiling Jewel, Wm. Merryweather.....	220
Schuiling Eugenie, D. T. Thompson, Cainsville.....	140
Canary Mercedes Daisy, Jno. F. Lampkin.....	155
Molly Pontiac, W. D. Burch, Brantford.....	220
Mary Smith, E. Plant.....	230
Lady Patricia Korndyke, E. Plant.....	245
Smithdale Schuiling Arcano, F. A. Ficht.....	195
Lady Tryntje Butter Girl, Wilson Bros., Hamilton.....	235
Schuiling Mercedes, Fred Plant, Brantford.....	205
<b>Males.</b>	
Sir Patsy Hartog, B. Mason, Cainsville.....	215
Norman Posch, J. Biggar, Mohawk.....	175
Premier Lyons De Kol, G. W. Michael.....	225

**A New Record Cow for Canada.**

Rolo Mercena De Kol, a three-year-old Holstein heifer, sired by Sir Rolo Banks Mercena, recently completed a seven-day test, making 44.70 lbs. of butter and 735 lbs. milk. Her best day's milking was 116 lbs. This is a new Canadian butter record for a three-year-old. The heifer is owned by J. B. Hanmer, of Norwich. A heifer which will give 116 lbs. of milk in a day, making over 6 lbs. of butter, is a valuable individual to have in a herd.

**POULTRY.**

**Feeding Poultry for Strong Fertility.**

EDITOR "THE FARMER'S ADVOCATE":

If one starts early to feed for results along the line of fertility, he should not have so many complaints to make at the hatching season as are sometimes heard. Many people do not secure the results they hope for and are often heard to remark, "Wait till another season and I will have better luck, as I will feed plenty of feed that makes for fertile eggs." If we are to get eggs that are strong in fertility there are certain conditions that must be met, and these conditions should be as near springlike as we can possibly make them.

Begin early to feed plenty of green feed. If you have mangels feed them as they are excellent. A good plan is to have some spikes driven into the wall in handy places, high enough from the floor so the birds have to exert themselves a little in order to reach them. On these hang one-half of a large mangel which is split in two pieces. This gives them some exercise, which is necessary to get good fertility. The fat, lazy hen will be found to be the one that will lay a few eggs, but they are generally lacking in fertility. Then we have the clover and alfalfa for green feeds. In order to get the best results from clover it should be steamed. If a hot mash is fed you may steam some of the clover and mix the mash with it. The birds will do well on this mixture; will lay well in the winter, and in the spring the eggs should be very fertile.

Again, if the dry mash is used, get some meal alfalfa and mix about one-sixth part of it with the ground grains. We must not forget the sprouted oats, which I think is the best of all green feeds, but it is not every farmer who has an oat sprouter or the time to sprout them.

If you are to get fertile eggs don't feed one kind of grain alone, but rather feed as great a variety of grains

as possible, making the birds work for their feed in the morning by having about six inches of dry straw on the floor. It pays to go around amongst the birds after they are on the roost at night and feel the crops of some of them to see if they are full, and if they are not you may feed more the next night. It is well to feed a lighter mixture of grains in the morning, such as barley, oats and feed wheat in equal parts, and at night a heavier mixture such as wheat and corn.

Of course, the male bird has much to do with fertility and should have extra good treatment. Once in a while particularly during the breeding season, he might be put by himself in a small coop and fed some raw beef and given milk to drink. The male bird should always be in the best of condition, for a male bird that is out of sorts is a bad thing to have in a breeding pen.

If the male bird should take sick during the winter and be of such a nature as to make him unfit for breeding work, it is better to take him right out of the pen than to wait, hoping that he may come along all right. He might appear all right, but still not be in proper condition for the best results. A sick bird of either sex should never be allowed in a breeding pen, as it is hard enough to raise chicks that come from good, hardy stock without trying to raise them from sickly birds.

Take good care of your birds early and the results in fertility will, in all probability, be good at hatching time.

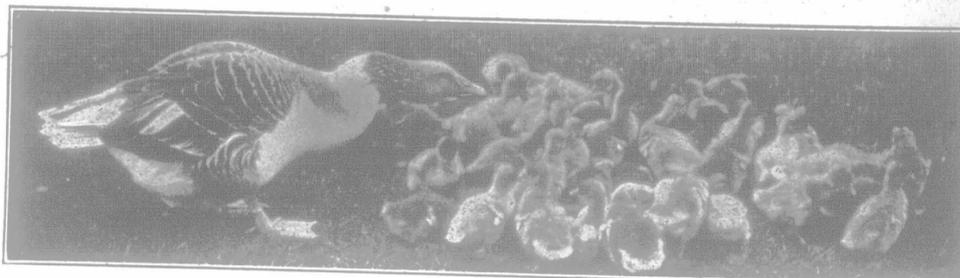
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**HORTICULTURE.**

**The First Ontario Potato Institute.**

An institute is not an unknown thing to the Ontario farmer. He has had long experience with Farmer's Institutes and Women's Institutes, and if it so happened that Farmer's Institutes ended their career after a long and protracted attack of sleeping sickness, it does not necessarily follow that everything else which goes by the name of an institute should end in the same manner. At any rate the idea, in a specialized form, is being revived, and it was a privilege accorded to a representative of "The Farmer's Advocate" to attend the first potato institute ever held in the Province. This event was held at Bowesville, in Carleton County, under the guidance of W. D. Jackson, Agricultural Representative of the Ontario Department of Agriculture. Other potato institutes are to be held in various



A Busy Mother.

counties, particularly, of course, those possessing recognized potato districts. They will be held with the full co-operation and encouragement of the Ontario Department of Agriculture through the medium of the Potato Specialist and Advisory Potato Council. It is hoped to create some form of local organization after a short time in each of the potato districts and, once the way seems prepared and the usefulness of such an organization fully demonstrated to the growers, to further organize the potato industry into a provincial potato association.

The potato institute will have a three-fold object; first, to provide the occasion for the potato growers of a district to meet together and exchange experiences in the production of their special crop; second, to afford opportunity for competition in exhibits of commercial potatoes grown locally; and third, to get the growers together so that they may get additional information on the subject of potato growing from men who are regarded as potato experts, in the several phases of this branch of agriculture. The institute at Bowesville was a modest start in this direction, and although the day was not a great deal more promising than the state of the roads, and although a very small crowd was predicted for the afternoon session, the attendance at both afternoon and evening was all that could have been expected, in point of numbers and interest.

**Standardization and Methods.**

The standardization of potato varieties was discussed by T. G. Raynor, Seed Branch, Department of Agriculture, Ottawa, in his usual practical and vigorous style. The speaker drew attention to the fact that whereas we may be able to market potatoes of good quality, the Ontario crop is variable in size, shape and maturity, so that it cannot command the highest market price, for the reason that it does not cook or keep evenly. Green Mountain and Irish Cobbler were recommended as the two varieties most favorably received on the market, and the ones recommended for Ontario by a special conference of representative potato growers held something over a year ago. Evidently, however, Green Mountain is not the favorite in the Bowesville district, because it does not appear to yield well on high ground, and where the yield is satisfactory the potatoes

are too small. The Dooley was thought to be a heavy yielding variety by some, largely because it does not require so strong a soil. However, Mr. Raynor pointed out that where such sandy soil as is found in that district is met with, plenty of plant food must be added. It was also thought by some that Green Mountain plants do not make as much root and, therefore, cannot stand drouth so well. They appeared to die earlier in 1918 than other varieties. In this connection it was pointed out that Green Mountain seed secured from New Brunswick in 1918 was seriously affected with mosaic disease, which would produce this effect.

"Successful growing," said Mr. Raynor, "depends quite as much upon methods as upon soil and climate. The selection of varieties is of the greatest importance, and the three R's of variety selection, Reproductiveness or yield, Relish, or cooking quality and Robustness or resistance to disease, should always be considered. One can tell fairly well from appearance whether a potato will cook well, because if the centre of a potato split lengthwise shows a large water core the potato will cook out watery, while if the two halves show a tendency to stick when placed together again, plenty of starch is indicated and this means good cooking quality." Sandy loam is probably the best potato soil, according to the speaker, as it never packs hard and yet has sufficient body to produce splendid crops, with plenty of fertilization. "Experience has shown that one man can profitably spend his whole time and that of a team in looking after and cultivating a 20-acre field of potatoes. A good method of soil preparation for a five-acre field where potatoes are not necessarily a principal crop is to plow down clover sod about the middle of May, after putting on about 20 tons of raw stable manure per acre. The sets can be planted 12 to 14 inches apart in every third furrow. For the regular commercial grower it is better to have potatoes in a three or four-year rotation, following potatoes with grain seeded down to clover, or clover and timothy, depending on whether the rotation covers three or four years. Stable manure should preferably be applied in the fall or with the previous crop if possible to lessen the chances of scab; and when land is plowed in the fall it should be plowed from seven to nine inches deep."

Large-sized tubers produce larger yields than small ones, and this also applies to the size of the pieces used, which should weigh from one ounce to two and a half ounces. Small tubers have been shown by experiments to decrease the yield. Potatoes should be planted from 12 to 14 inches apart in the row, and this should require from 18 to 20 bushels to plant an acre. A potato crop

requires a very great deal of moisture, as much as 650 tons for a crop of 200 bushels per acre, or 450 tons for each ton of dry weight produced. Hence, there is a necessity for incessant scuffling which should not stop necessarily with the blossoming period if the weather is very dry, but should become shallower as the plants grow bigger. "Generally speaking, moulding is not necessary unless surface drainage is required," said the speaker, but several growers pointed out that a digger cannot be used unless there is sufficient moulding of the soil to bring the potatoes part way up on the digger; otherwise they will fall back. Experiments were suggested by one grower to determine whether or not the plants would spread sufficiently when not moulded to scatter the tubers and lose part of the crop if dug with a digger.

**Fertilization.**

H. G. Bell, discussed potato fertilizers and fertilizing, emphasizing first the fundamental importance of water in the plant to transport food materials. The root systems of potato plants develop very quickly, according to Mr. Bell, and within 30 days after planting the tiny rootlets may cross the space between the rows. Lime is a necessary constituent in soils to sweeten them, because all soils that will grow and do good crops tend to become sour. Nitrogen is necessary for stalk and leaf growth, while phosphoric acid is necessary for seed production and to secure quality and maturity. Potash gives strength to the plant.

Potatoes require a great deal of plant food, and in the State of Maine some growers apply as much as from 1,500 to 2,400 pounds of high-grade commercial fertilizers per acre. To show the relative amounts and kinds of plant food required by different classes of plants the following table was given:

Plant Food Required.			
Crop	Nitrogen	Phosphoric Acid	Potash
Hay	Abundance	Fair	Fair
Grain	Fair	Abundance	Fair
Roots	Good	Fair	Abundance

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The speaker showed the purpose of artificial fertilizers and where the nitrogen, phosphoric acid and potash come from. It was pointed out that fertilizers must be dissolved in the soil before they can be taken in by the plant, and that in dry weather it must be the stored-up moisture in the soil that dissolves them. Fertilizers should be worked into the soil when the potatoes are planted.

A. H. MacLennan, Vegetable Specialist, Ontario Department of Agriculture, spoke briefly on labor-saving machinery. Referring to fertilizers the speaker said that vegetable growers had secured yields of early potatoes at the rate of over 600 bushels per acre. One grower, to secure such a yield, applied 15 loads of manure, 800 pounds of bone meal in the fall and 600 pounds of acid phosphate and 200 pounds of tankage per acre in the spring. This was, of course, on high-priced, vegetable-growing soil near a large market. It pays better to cut potatoes by hand, said Mr. MacLennan, who also advocated the use of a two-horse digger, larger ones being needlessly cumbersome.

Justus Miller, Acting Potato Specialist, outlined the extension work being conducted throughout the province in potato growing. Three factors are necessary, he said, to a progressive potato-growing industry. These are the production of the crop, its preparation for market and its sale. The present commercial situation in Ontario with regard to potato growing is that our ideas are not uniform, disease is very prevalent, and there are great fluctuations in price from one year to another as well as wide variations in price between the different potato districts in the same season. We must have graded stock to develop an export market, and New Brunswick potatoes sometimes sell for over a dollar a bag more than Ontario potatoes, because they are graded and our own are not. There is no special outlet for the Ontario crop, and normally we have not even our own local markets because the Maritime Provinces run us off with a more marketable product, notwithstanding the fact that our own potatoes show equal quality and greater maturity. We must get our industry better organized. Mr. Miller suggested several promising lines of investigation which might be undertaken as co-operative experiments or tests by growers in the district. These referred to time of planting, rate of planting, and cost of production. Demonstration experiments conducted by the Agricultural Representatives in 1918 with Green Mountain and Irish Cobbler seed from different sources resulted as follows:

Source of Seed	Green Mountain (Bushels per acre)	Irish Cobbler (Bushels per acre)
Southern Ontario	127	167
Northern Ontario	153	177
New Brunswick	148	137

This year experiments are to be tried comparing certified seed from Northern Ontario, good seed from New Brunswick, and the farmer's own seed. Apparently it is possible to get comparatively better results from Irish Cobbler on clay soils than from Green Mountain.

### Notes on the Spray Calendar and Spraying.

BY L. CAESAR, PROVINCIAL ENTOMOLOGIST.

In a spray calendar covering so many kinds of fruit trees and bush fruits as the one published last week in "The Farmer's Advocate" it has been found convenient to use the letters A, A2, A3, B1, B2, B3, and C, to indicate the different mixtures and strengths of mixtures to be used for each particular application. These abbreviations are fully explained. References are made to the hydrometer, but the equivalent of all hydrometer readings are given, so that unless a person is making his own lime-sulphur mixture an hydrometer is not necessary. Commercial lime-sulphur tests between 32 degrees and 33 degrees Beume or between 1.280 and 1.295 specific gravity.

In the lower part of the Calendar under the heading "Bordeaux mixture" a new formula or rather an old formula modified has been given, which states the amount of hydrated lime that can be used instead of stone lime. This is done because hydrated lime is readily secured and is very convenient to use. The stone lime is, of course, excellent too. Hydrated lime is about one-third weaker than the stone lime and for this reason the quantity given in the formula is increased. An excess of lime does no harm except that it is a little harder sometimes to send through the nozzles, particularly with hand outfits. Hydrated lime may be kept for many months in tightly-closed paper bags in a dry room, but if exposed to the air it soon becomes worthless. This should not be forgotten.

#### Hints re Outfits.

If a fruit grower wishes to spray well he must have a good outfit, whether it be a barrel pump or a larger machine. The barrel pump of course, is only suited for a very limited amount of work as small orchards of large trees or moderate-sized orchards of small trees. A leaky outfit that will not give good pressure is a nuisance and a waste of money. Nearly half the poor spraying in the country is caused by poor outfits kept in bad condition. Now is the time to put the spray machine into good condition. Nothing about it is more important than to have the cylinders well packed so that at every stroke they will draw in all the liquid that they were built capable of drawing in. This means good pressure with the minimum amount of effort whether

it is man power or gasoline power. Repacking the pumps is not a difficult process. Candle wick steeped in tallow or even in oil makes a good packing in many cases. Often, however, excellent ready-made packings can be purchased from the manufacturer of the pump and are quick and easy to apply. If the pressure begins to go off screw down the packing a little tighter. Examine the valves also to see that both are working right. Often only one valve is working in a double acting pump or two in the triplex type. The valves get set and all they need is to be loosened.

Another matter of great importance is the size of the openings in the nozzles. Large openings should very seldom be used and then only with powerful gasoline outfits. They let too much mixture out and make it hard to get a fine mist. The opening in any nozzle soon becomes worn, so have a good supply of discs with small or comparatively small holes and put a new one on as soon as the old becomes much worn.

For comfort and satisfaction no spray machine should be leaky at any place. This means having a good line of hose tightly fastened to the couplers. Wire, such as the wire used on baled hay, makes an excellent fastener, better in many cases than the clamps that are made specially for the purpose. Do not use short lines of hose except for a man standing on the tank or tower. The man on the ground requires one thirty to forty feet long, and he should have a comparatively short spray rod; six feet long is the most convenient, so that he can go underneath the tree and reach places that the man on the tower cannot.

If a power outfit is used it is desirable to purchase a good spray gun. There are several excellent ones on the market. A spray gun will pay for itself in a short time, because it takes the place of two spray rods and four nozzles and requires only one man to operate it instead of two as in the case of the spray rods. It also uses less mixture per tree and enables the operator to cover every part of the tree thoroughly without having to go in under it as he would have to do with the spray rod. Of course, some system must be followed with a spray gun to see that nothing is missed and to avoid unnecessary waste. The gun is so adapted that by turning the handle in one direction it will give a fine wide mist and by turning in the opposite direction it will give a narrow, coarser spray that will carry ordinarily over or through the largest tree. This is its great advantage. The only drawback is that if a coarse opening is used and great pressure it is more inclined to cause burning. This can be largely overcome by using a smaller opening in the disc and setting the pressure gauge so that not more than 225 pounds pressure will be supplied. A small opening is also more economical, though not quite so rapid as the large opening. The large opening may be safely used at the first spray. Very good hose is necessary for the spray gun.

#### Importance of Promptness in Spraying.

Many growers quite naturally overlook or minimize the importance of spraying a tree at a certain definite time. This time is indicated as nearly as possible in the Spray Calendar. For the first application there is a good deal of license allowed as to the time, for good results may be obtained from spraying any time the buds are ready to burst until the leaves are the size of a ten cent piece; but for the second application it is of the greatest importance to wait as long as possible before the buds actually burst. The best time is when the pink is clearly showing but the blossoms have not opened. This spray in some cases has to protect the fruit for three weeks until the blossoms fall and the next application can be given. Hence the great importance of waiting as long as possible and of getting the blossom buds in the ideal shape, that is most of them visible, to cover them with a protecting mixture. The third spray should not be put off a day after most of the blossoms have fallen, say 90 per cent., because every day from that time on means a great risk of apple scab getting started on the young fruit. Most years this is the most important spray for apple scab, though some years the one before the blossoms is just as important. It is also of great importance to get this application on promptly because of the Colding Worms. Most of these enter the calyx end of the fruit and unless the spray is put into that end of each blossom before the calyx closes it cannot get in at all, and the worms will enter later without being poisoned.

#### Omission of Applications.

Many fruit men who are considered good growers omit the second application and talk as if this were unnecessary. Some of these men are making money, but it is not due to the omission of this application and if their fruit were compared with that of a good sprayer who gives all three applications the difference would often be striking. Do not follow the advice of such men. Of the three applications the least important one except where there is San José Scale or Oyster-Shell Scale, is the first, but even this should only under the most urgent circumstances be omitted, because each application helps to make the other a success. As to the fourth application mentioned under "Remarks" in the Spray Calendar, there are some districts where apple scab is harder to control than in most districts. Under such circumstances it is always wise to give the fourth application. Snow and McIntosh in all districts would be better for the fourth application every year.

#### Choice of Fungicides.

In most cases the lime-sulphur will be most desirable for the first application, because of its value against scale insects. If there are no scale insects it will have practically no advantage over Bordeaux mixture, and if it is used in orchards free from scale it need not be stronger than one gallon to twenty of water. No

poison is necessary. For the second application, the one just before the blossoms burst, there is no doubt that Bordeaux mixture will in most instances control the scab better than lime-sulphur, this is especially true in years very favorable for scab development. With it either arsenate of lime or arsenate of lead may be used. Lime-sulphur in spite of all that is said against it has given and is yet giving good results for this or any other application, but we still advise the use of arsenate of lead with it instead of arsenate of lime, as being safer. For the third application use nothing but the lime-sulphur and arsenate of lead at the strengths recommended in the Calendar.

In conclusion we may say that if you do not get satisfactory results from your spraying, that is do not obtain a high percentage of clean fruit (the average should not be less than 95 per cent. after the first year or two) there is something wrong with your spraying and not with the mixture. We shall be glad to have you correspond with us and tell us of your troubles and in most cases we hope to be able to point out what has been the error.

### A Bright Future for the Apple Grower.

W. F. KYDD, DEPARTMENT OF AGRICULTURE, TORONTO.

In the winter of 1917 and 1918 a great number of apple trees were killed and many badly injured in Ontario with the severe cold. In the extreme eastern part of the Province, Snow or Fameuse are nearly all gone, one large orchard of that variety near the St. Lawrence River being practically wiped out. Prince Edward County and the district from Trenton to Pickering have lost a great many trees. Many young trees beginning to bear have suffered from "Winter Injury", particularly in the crotches, and very few of those trees will be long lived.

The bearing orchards have been sadly neglected during the war. Nothing else could be expected, because the farmers were urged to produce wheat, bacon, cheese, etc., necessities to win the war. There will never be as many apples again in Ontario until the young trees already planted come into bearing. It certainly looks as if apple growing would be a paying proposition for many years.

There are several things that must be done to secure profitable crops of apples. Fertilizing is probably the most important; many, perhaps nearly all orchards, are starved. Barn-yard manure is, without a doubt, the best fertilizer to-day, but it is very expensive getting it from the city. The price has gone up and the freight has also increased. Yet, after all, I think it is the cheapest fertilizer in the end.

It is a mistake to put manure close to the trunk as there are few feeding roots there. It is not much value nearer the trunk than 5 feet. From that distance to the tips of the root branches is where best results will be received. Four hundred pounds of rotted manure would give a bearing tree a liberal application in one season.

It is also impossible to have high-class apples without pruning. There are many trees so high that it is almost impossible to spray thoroughly. Those high trees should be lowered. Twenty feet is a good height for a bearing tree. Many of them, however, could not be lowered to this height in one season without great danger of injury and perhaps death in many varieties. Better take one or two feet off the top the first year; this will have a tendency to force out sprouts on the long bare branches below. All of these sprouts should not be left, but thin them to one in a place about fifteen inches apart and cut most of the sprouts back to four or five inches, unless there is a vacancy higher up that the pruner desires to fill. Sprouts if well managed, will bear apples in four or five years. Pruning a vigorous neglected orchard is slow work, but a little time on each tree would be a great improvement. Take out all cross branches and branches that will rub the fruit also everything dead or cankered.

Many trees have very rough bark where San José Scale or Oyster Shell Bark Lice hide away from the spray. This bark should be scraped off. It is better to do this scraping after a heavy rain when the bark comes off easier and there will be very little dust to hurt the eyes of the operator.

Some men are making a great success with no cultivation, but those growers have excellent land to begin with and mulch very heavily with coarse or strawy manure. If the orchard is in sod, mow the grass but be sure to leave it on the land. However, the average orchard in Ontario will pay better if cultivated.

If there is no good in putting manure near the trunk, what value is there in cultivating nearer than 5 feet? Bearing trees that have got their growth do not require cultivation close to the tree, that is the most expensive part to work and most likely to cause injury by the tools.

Plow as shallow as possible between the trees. Deep plowing will cut off too many fine roots. The more thorough the cultivation the more moisture will be conserved for dry weather.

Quality in apples is often mentioned. In red apples, color denotes quality. Color is the one thing we should all strive for. The later in the season cultivation is carried on, the less color there will be. Cultivation makes the tree vigorous so the apples will be large, but medium sized apples, well colored, are worth more than very large ones of poor color. It depends on the season when cultivation should stop. The drier the weather the later cultivation should be continued. In average seasons about the middle of June, would be nearly the proper time to stop in Southern Ontario, and further north, even earlier.

quired.

Phosphoric Acid	Potash
Fair	Fair
Abundance	Fair
Fair	Abundance

When cultivation is stopped a cover crop should be sowed. This crop takes moisture from the soil stopping growth and allowing the wood to ripen. It gets the tree into good condition for winter, and helps greatly to color the fruit.

The Ontario grower should handle his apples more carefully than many of them do. Some associations are putting up splendid packs and have a big demand for their apples, others again apparently think anything will do. Consumers will not buy poor apples the second time, but will wait until they get apples put up by an association or grower with a good reputation. There is always "room at the top". Good apples, well packed always sell at remunerative prices.

Young man, plant an orchard of good varieties such as Snows, McIntosh, Blenheim, Wealthy, Duchess, Greening (where it is hardy) and Spy. Apple growing looks good to the writer.

### Spraying for Eastern Ontario and Quebec.

Spraying methods and mixtures for one part of Eastern Canada do not of necessity differ materially from those of another. Pretty much the same pests and diseases are to be found throughout, while climatic conditions should not vary sufficiently to create any considerable differences other than in the time of application for the various sprays. For this reason the sprays and spray materials recommended in the spray calendar published by the Ontario Department of Agriculture, are suitable for general adoption throughout the province.

When approached recently by a representative of "The Farmer's Advocate," W. T. Macoun, Dominion Horticulturist, Ottawa, had few special recommendations to make with reference to spraying methods in Eastern Ontario. "However," said Mr. Macoun, "it is evident from the fact that San Jose scale is not present in Eastern Ontario that the first spray for apples can be delayed longer than where this serious pest must be combated. Instead of spraying before the leaf buds open, one can

wait until after they have begun to open, thus rendering the spray a little more effective and permitting the use of a slightly weaker solution (1 to 20)." Mr. Macoun does not believe in frequently changing recommendations with regard to spraying practice, because the average man who should spray annually and consistently will become confused and neglect this important orchard operation. New methods are not despised, however, and should all be tried out thoroughly in different parts of the country, side by side with those previously in vogue, before they are generally recommended. For the second apple spray, the Horticultural Division of the Dominion Experimental Farms favors Bordeaux mixture, one year with another. This is for the reason that Bordeaux is probably a more suitable material for the control of apple scab than lime and sulphur. The third spray should be given with poisoned Bordeaux, according to the formulae prescribed by the Ontario spray calendar. Lime-sulphur and arsenate of lead can be used with splendid success. Soluble sulphur used with either arsenate of lead or arsenate of lime is likely to cause injury, according to Mr. Macoun, especially where the foliage is in a tender condition owing to cool, wet weather. An alkaline wash made by reducing soft soap to the consistency of thick paint by the addition of a strong solution of washing soda in water, is recommended by Mr. Macoun where borers are present. This should be applied at the end of May, and if put on with a brush on the morning of a warm day will dry in a few hours and form a tenacious coating not easily dissolved by rain. Greater effectiveness can be secured by the addition of one pint of crude carbolic to each gallon of wash. Aphis can be controlled by the use of nicotine sulphate, kerosene emulsion, or whale-oil soap, just when the buds break and the eggs are hatched.

Plums require four sprayings, the first two of which are important. Lime-sulphur wash or copper sulphate and arsenate of lead before the buds open, constitutes the first spray, while the second, or curculid spray, is given by applying lime-sulphur wash (1 to 40) or poisoned Bordeaux (3-4-40) very soon after the blossoms have fallen. The same materials used in the second spray are used for the third and fourth sprays, applied 12 to 15 days after the second, and again about two weeks later. For cherries, lime-sulphur wash or poisoned

Bordeaux applied before the flower buds open constitutes the first spray. The second and third sprays are important however, and are given by applying either of the above materials when the fruit has set and again 10 to 15 days later.

Far too little attention has been paid to the spraying of currants and gooseberries, in the opinion of Mr. Macoun. The currant worm is a very serious pest at times, and unless a spraying is given at the time the worms first appear, the bushes may be stripped of their leaves in two or three days. Paris green is advised for this spray, because it kills quickly and washes off so that it does not remain by any chance, to affect the ripened fruit. Hellebore, one ounce to 2 gallons of water, is advocated for the second spray, when the fruit is fully formed. Bordeaux mixture after the fruit is picked and about two weeks later constitute other necessary sprays. Gooseberries, said Mr. Macoun, should be sprayed first just before the leaves open with copper sulphate solution, one pound to 20 gallons of water, or with lime-sulphur wash. Poisoned Bordeaux or lime-sulphur wash applied just before the flower buds open, when the fruit has set and again about ten days later constitute the three later sprays.

We are likely to pay too much attention to new spraying devices and machinery. At least Mr. Macoun is inclined to this opinion, for, though he does not doubt the value of power sprayers, spray guns, etc., they are of little value if thoroughness is lost sight of. It little matters what machinery is used so long as the spray is put on efficiently. For years, almost perfect results were secured with a barrel outfit at the Central Experimental Farms, Ottawa. Timeliness and thoroughness are especially necessary when applying the second and third sprays for apples.

### FARM BULLETIN.

It is understood that H. S. Arkell, Live Stock Commissioner, will soon return from England, where he has been investigating conditions in regard to markets, and gathering information bearing on our export trade in animal products.

## The First Division of the Session Occurs at Ottawa.

WHAT was obviously an attempt to embarrass the Government and to throw some, at least, of the Western low tariff advocates into hot water was instigated by the Opposition in the Federal House on Tuesday, March 25, when Sir Thomas White moved "that the House do go into Committee of Supply" in order to provide the usual two months' requirement of funds for the carrying on of Government until the estimates are finally passed. A. R. McMaster, Brome, moved a liberal tariff amendment calling, in brief, for the acceptance by the Government of the following sweeping tariff adjustments:

1. Repeal of the extra war duty of 5 per cent. on goods from Great Britain, and of 7½ per cent. on goods coming from other countries.
2. Acceptance of the reciprocity agreement with the United States.
3. Elimination of duties on foodstuffs.
4. Elimination of duty on machinery needed on farms, mining, fishery and lumber.
5. General downward revision of the tariff made after careful investigation, and with the object of relieving the consumer and of bringing more revenue into the coffers of the state.

Supporting his argument Mr. McMaster said, in small part: "The elimination of duties on foodstuffs would mean a loss of revenue, on the basis of the last fiscal year, of \$14,366,000; on agricultural implements, \$1,428,000; on cement, \$4,376; on sawmill machinery, \$57,530; on fertilizers, \$77,224; on oils of all sorts, a little more than \$2,509,000. So the loss of revenue by placing these things on the free list would not make any substantial inroads upon the treasury of the country. It will interest the House, I am sure, to learn what proportion of the revenue of the United Kingdom, the United States, and of Canada was raised by direct and by indirect taxation in the year 1917-18. The United Kingdom during that time raised 81 per cent. by direct taxation, and only 19 per cent. by indirect taxation. The United States during the same period raised 69 per cent. by direct taxation, and only 31 per cent. by indirect taxation; while Canada, in the period under review, raised 11 per cent. by direct taxation, and no less than 89 per cent. by indirect taxation." Contending that practically no tax is laid upon articles of actual necessity in the United States, and that only 6 per cent. of the \$5,788,260,000 taxes called for by the U. S. Revenue Act of 1918 was provided by taxes on transportation and necessary processes of production and commerce, the speaker contrasted this with the Canadian tariff on articles of necessity, taking a great many articles of clothing and food in common use by Western farmers as illustrations. Mr. McMaster enumerated the customs tariff on each, showing the frequency of duties as high as 30 to 42 per cent. on articles such as soap, towels, boots, carpets, linoleum, iron pipe, windmills, woollens, cottons, kitchenware, oatmeal, lanterns, milk pails, horse blankets, furs, mitts, collars and cuffs, rubber clothing, nuts, cereal foods, catsup, molasses, lamps, plows, harrows, harness, tongued and grooved lumber, wagons, building materials and other articles.

The debate lasted the whole day and was defeated by 115 to 61 by the first division of the session. Two

*The reports of Parliament which appear weekly in this paper are prepared by a "Farmer's Advocate" editor who occupies a seat in the Press Gallery, while the House is in session, for the express purpose of giving this service to our readers. An effort is being made to separate the gold from the dross, and reproduce only those remarks and addresses that have any real significance. In other words, the chaff, which constitutes a regrettably large percentage, is being blown out and the wheat preserved.*

Opposition members, L. Lapointe, St. James, Montreal, and T. N. McCrea, Sherbrooke, voted with the Government. Sir Thomas White, Acting Prime Minister, rising immediately after Mr. McMaster sat down, at once characterized the amendments as inopportune, and a "want-of-confidence" motion, which, if carried would mean the defeat of the Government. This meant that he called upon all Western low tariff members to stand firm until the budget speech is delivered sometime in April. He promised some tariff concessions then, in accordance with what had been decided upon at a Unionist Caucus a few days previous and a further revision of the tariff later on after careful enquiry had been made. This set the pace for all Unionists, who stood firm and although several well-known low tariff men such as Dr. Michael Clarke, Red Deer; Hon. T. A. Crerar, Minister of Agriculture; Levi Thompson, Qu'Appelle, and Hon. F. B. Carvell, expressed themselves in favor of the principle of the motion, most of them agreed in spirit with what Dr. Clarke said in his usual eloquent and forceful style.

"I shall vote against this amendment to go into Supply, because, in the first place—I do not want to say anything unparliamentary, and I do not think I shall be doing so when I say—it is not meant to succeed. Now I want to say, in the second place, that I shall not vote for it because there are only certain possibilities in regard to the handling of a tariff. It is a very sweeping resolution, and I thoroughly endorse what has been said by my Hon. Friend (Sir Thomas White) who leads this House about the impropriety of introducing a sweeping resolution, which ought to be an amendment to the Budget, weeks, and possibly months, before the Budget can be introduced."

#### Good Roads Resolution Debated.

A contentious question was introduced by the Minister of Railways and Canals, when he asked the House to go into committee on the proposal to aid the provinces in the matter of highways. Hon. Mr. Reid, in introducing the resolution, enumerated the reasons why we should have good roads as follows: To enable the farmers to take advantage of central markets by

reducing the cost of transportation; to provide employment for many citizens, particularly returned soldiers; to facilitate passenger traffic between different parts of the country; to enhance the value of land in sections through which these roads will run; to encourage tourist traffic in Canada; to save rural people much money by "the slower depreciation of their vehicles;" and to increase convenience and speed of travel in rural districts. Thomas Foster, East York, argued that the provinces follow a system of patronage as a result of which the Toronto-Hamilton cement highway showed only about 65 per cent. efficiency in the expenditure of money. He urged that this work to provide employment would draw men from the farms, and that this money could be better spent in helping the soldiers on the land. J. R. Wilson, Saskatoon, urged railway building in the West, to provide employment for the soldiers, and to best serve the Western farmer. J. E. Argue, Swift Current, spoke to the same effect, to which Hon. F. B. Carvell, Minister of Public Works, replied, stating as follows:

"I have no doubt that a railway is necessary in my Hon. Friend's constituency, but if we attempt to build a railway in every section of Western Canada where it is necessary I suppose we would require to have \$100,000,000 or \$150,000,000 in the estimates instead of \$10,000,000 or \$15,000,000. The whole country must be considered to some extent in the expenditure of public money. I do not know if the Estimates state the locations where we expect to build railways during the coming year, but my recollection is that \$10,000,000 or \$12,000,000 is going to be provided to build new lines of railways, and every mile of that railway construction is west of the Great Lakes."

The distribution of this money, explained in a former article, was declared to be very unjust to the Western Provinces by several Western members, led perhaps by T. M. M. Tweedie, Calgary West, who urged that a basis of population was unfair because of the much greater mileage of roads in the Western Provinces than in the Maritime Provinces, although the latter have a much larger population proportionately. The speaker said that this is an inopportune time to bring in a measure providing for the construction of roads, and that he "would be much better satisfied if the tariff were reduced by \$4,000,000, and keep the \$280,000, which they hope to give us from this measure of road construction in the province."

J. W. Edwards, Frontenac, replied spiritedly and said: "We happen to have a greater population down here in Ontario and the Eastern Provinces and a greater area. But the Western Provinces are not the only ones interested in agriculture by any means. May I be permitted to tell my Hon. Friend that the Province of Ontario produces a greater agricultural wealth every year than all the Western Provinces put together. This is the province which not only produces more in agricultural wealth than all the Western Provinces put together, but this is the province where most of the tariff revenue is raised, and this is the province which contributed more than all the rest of Canada put together when it came to raising money for Victory Loans and other war purposes."

All the speakers referred to above spoke from the

Government added and derived from the Comm authority mile had and that loss of 1. At a calcul in the D sum of \$4 were impu

Am Hon. Monday, conscient Hon. Hug that there going pris between 7 Chairman to review committee objectors should be notwithstanding years. Of very few really slac them are that the s on as a r hardly be moment, a been pena

Canada April 1, 19 with an ac During th have been delivered therefore, program of Supplement probably of several made out 785,490.65 made up \$4,450,000 public wo mates rep made up o and \$52,2 five major consolidat amounts o debt of C \$8,295,764 Legislation 748,000; Pensions, 187,600; R Railways a Public Wo of Revenue 860.48; In Police, \$2 233,745; S laneous, \$ Customs, Trade and Re-Establ Arts and 100,000 is Instruction provinces. \$487,848 a Experiment \$149,200; Fruit, \$12; \$50,000; M increase \$200,000; Improvement Institute of ction Act—

Misc Any me ment regat tures can on the o answer it able. A g this mann informatio picked on shipbuildin commission mission by constructio tonnage of by contract The tot tion and er is \$3,661, Defence, Justice.

Government benches. O. D. Casselman, Dundas, added a very intelligent contribution to the discussion and drew attention to the great benefits that have been derived from better roads in New York State. Quoting the Commissioner of Roads for New York State, as his authority, the speaker said the cost of hauling per ton mile had been reduced from 25 cents to 8 or 10 cents, and that there was found after investigation to be a loss of 12 days per year for each rig used in hauling. At a calculation of one rig for each of the 750,000 farmers in the Dominion and \$5.00 per day for each rig, the sum of \$45,000,000 could be saved for farmers if roads were improved.

**Amnesty for Conscientious Objectors.**

Hon. Rodolphe Lemieux introduced a resolution on Monday, March 24, asking for amnesty for religious conscientious objectors to the Military Service Act. Hon. Hugh Guthrie, Solicitor-General, replied stating that there had been 152 conscientious objectors undergoing prison sentences of from two to ten years, of whom between 70 to 80 have been liberated. The speaker is Chairman of a committee appointed by the Government to review these sentences. Mr. Guthrie said: "The committee reported that, in its judgment, conscientious objectors who were bona fide objectors and not slackers should be liberated after they had served six months, notwithstanding that many of the sentences were ten years. Of the 152 cases in Canada, I may say that very few have so far turned out upon investigation to be really slackers. I believe a very large proportion of them are bona fide conscientious objectors. I think that the six months' penalty, which has been resolved on as a minimum, is a moderate one, and it would hardly be fair to grant a general amnesty at the present moment, as eighty who have been already released have been penalized to the extent of six months' servitude."

**Estimates for the Coming Year.**

Canada will spend during the fiscal year beginning April 1, 1919, the huge sum of \$437,679,071.65 together with an additional sum of \$350,000,000 on war account. During the past week the estimates of the Government have been tabled, but the budget speech will not be delivered for some weeks in all probability and there is, therefore, plenty of opportunity to digest the financial program of the Government as regards expenditures. Supplementary estimates when brought down will probably augment these expenditures to the extent of several million dollars more. Expenditures to be made out of the consolidated revenue fund total \$351,785,490.65 and capital expenditures total \$85,893,581 made up of \$50,896,681 for railways and canals, \$4,450,000 for Public Works, and \$30,546,900 for public works—Marine Department. The whole estimates represent a total increase of \$137,996,832.34, made up of \$85,734,464.87, out of consolidated revenue and \$52,262,367.47 on capital account. Of the forty-five major items included in expenditures from the consolidated revenue fund the following represent the amounts of most general interest: Interest on public debt of Canada, \$106,847,443.64; Civil Government, \$8,295,764.66; Administration of Justice, \$1,554,083.34; Legislation, \$1,803,201.50; Arts and Agriculture, \$4,748,000; Immigration and Colonization, \$1,438,000; Pensions, \$30,053,646.72; Militia and Defence, \$4,187,600; Railways and Canals—Income, \$36,237,394.16; Railways and Canals—Collection of Revenue, \$7,849,000; Public Works, \$12,098,833.14; Public Works—Collection of Revenue, \$951,000; Subsidies to Provinces, \$11,490,860.48; Indians, \$1,946,853; Royal Northwest Mounted Police, \$2,249,505.08; Dominion Lands—Income, \$3,233,745; Soldiers Land Settlement, \$25,016,000; Miscellaneous, \$26,676,233 including \$25,000,000 for housing; Customs, \$4,815,000; Post Office, \$19,701,530.25; Trade and Commerce, \$1,901,095.33; Soldiers Civil Re-Establishment, \$22,763,420. Of the estimates for Arts and Agriculture, amounting to \$4,748,000, \$1,100,000 is authorized by statute under the Agricultural Instruction Act, and will be distributed to the various provinces. The remainder, representing an increase of \$487,848 over 1918-19 is to be expended as follows: Experimental Farms, \$1,200,000—increase \$187,963.40; Entomology, \$18,000; Destructive Insect and Pest Act, \$149,200; Dairy, \$155,000; Cold Storage, \$25,000; Fruit, \$122,500; Health of Animals, \$465,000—increase \$50,000; Meat and Canned Foods Act, \$442,000—increase \$63,000; Live Stock \$800,000—increase \$200,000; Publications, \$36,300; Seed Act and Seed Improvement, \$200,000—increase, \$35,000; International Institute of Agriculture, \$10,000; Agricultural Instruction Act—Administration, \$25,000.

**Miscellaneous Information of Interest.**

Any member who desires information of the Government regarding any appointments or details of expenditures can secure this information by placing a question on the order paper. The Minister responsible will answer it within a few days if the information is available. A great many questions have been answered in this manner during the past week, and the following information of more or less general interest has been picked out from these answers. The Government shipbuilding program since 1917 includes one vessel in commission, 6 vessels which will be ready for commission by the end of May, and 38 in various stages of construction. These ships represent a total dead weight tonnage of 263,950 tons, all ships being of steel, built by contract.

The total expense incurred to date in the administration and enforcement of the Military Service Act, 1917, is \$3,661,417.20 by the Department of Militia and Defence, and \$1,711,675.73 by the Department of Justice. About \$700,000 was paid out to Military

Police for wages and expenses for the apprehension of 27,459 men under the Military Service Act. The number of men registered under the M. S. A. 1917, in each of the nine provinces is as follows:

Provinces	Draft 1.				
	Class 1	Defaulters on strength	49 Class	Americans	Total
Alberta.....	28,076	550	4,228	8,087	40,941
B. Columbia.....	18,169	870	2,630	4,395	26,064
Manitoba.....	22,515	1,206	4,544	1,954	30,219
N. Brunswick.....	16,902	1,020	4,403	258	22,583
Nova Scotia.....	25,616	1,087	4,702	300	31,705
Ontario.....	124,965	2,781	28,711	6,119	162,576
Prince E. I.....	4,501	67	1,095	50	5,713
Quebec.....	115,602	1,806	22,656	4,599	144,663
Sask.....	45,536	657	5,932	6,310	58,435
Totals.....	401,882	10,044	78,901	32,072	522,899

The total amount of duty refunded out of the Consolidated Revenue Fund on account of refunds and drawbacks was: 1917, \$17,720,925.84 and \$10,334,691.96 in 1918.

The total expenditure for the carriage of mail and the cost of mail bags during the fiscal year 1918, was \$8,293,515.24. Newspapers make up about 65 per cent. of the bulk of the mails, the average daily weight of newspapers carried being 239,731 pounds. The gross postal revenue derived from newspapers during 1918 was \$291,539.21.

The Department of Public Information cost \$81,414.84 to the end of 1918, the present total cost of this department is about \$11,800 per month. The total outlay to date in connection with the Official Record published by this Department is \$21,980.

Registration under the Canadian Registration Act has cost to date \$631,230.89 including the cost of compilation and 5,245,606 persons were registered. The Canada Registration Board is not still in existence. The cost of registering the men and women of Canada during 1918 was \$491,900.44.

The gross earnings of the Intercolonial Railway for the fiscal year ending March 31, 1918, were \$18,758,186.41. The gross earnings of Government Railways for the fiscal year 1915-16, were \$18,427,908.66, for 1916-17, they were \$23,539,758.61 and for 1917-18 they were \$27,240,956.87. The general managers of Government Railways East and West, have headquarters at Montreal and Winnipeg, with salaries of \$12,000 and \$10,000 per year, respectively. The Vice-President of the Canadian National Railways is in charge of traffic at a salary of \$12,000.

The number of homestead entries made each year in Canada since 1896 is as follows:—

Departmental Year Ending.	
December 31, 1896.....	1,857
" 31, 1897.....	2,384
" 31, 1898.....	4,848
" 31, 1899.....	6,689
June 30, 1900.....	7,426
" 30, 1901.....	8,167
" 30, 1902.....	14,673
" 30, 1903.....	31,383
" 30, 1904.....	26,073
" 30, 1905.....	30,819
" 30, 1906.....	41,869
Nine months ended March 31, 1907.....	21,647
Year ended March 31, 1908.....	30,424
" " 31, 1909.....	39,081
" " 31, 1910.....	41,568
" " 31, 1911.....	44,479
" " 31, 1912.....	39,151
" " 31, 1913.....	33,699
" " 31, 1914.....	31,829
" " 31, 1915.....	24,088
" " 31, 1916.....	17,030
" " 31, 1917.....	11,199
" " 31, 1918.....	8,319
Balance of Calendar Year 1918.....	3,521
First two months in 1919.....	417

**Department of Public Health.**

Hon. N. W. Rowell on Wednesday last, introduced bill Number 37 which provides for the creation of a Department of Public Health. No discussion took place, the bill merely being given its first reading, so that it is sufficient at this time to quote Mr. Rowell in introducing the bill, as follows:

"Certain particular powers are mentioned in detail covering co-operation with the provincial, territorial and other health authorities, with a view to the co-ordination of efforts proposed or made for preserving public health. The Department is also authorized to deal with questions relating to the conservation of child life and child welfare generally; the inspection and medical care of immigrants; the supervision, as regards the public health, of railways, boats, ships and all methods of transportation; the supervision of federal public buildings and offices with regard to the health of civil servants and other Government employees therein; the enforcement of the regulations of the International Joint Commission promulgated pursuant to the treaty between the United States and Great Britain for the prevention of the pollution of boundary waters; and the administration of certain statutes mentioned in the schedule now being administered by other departments. Provision is also made for the appointment of a Dominion Council of Health of which the Deputy

Minister of Public Health is to be chairman; the council to be composed of the chief executive officers of the Provincial Health Departments and three other persons to be named by the Governor in Council."

**Daylight Saving.**

Last Thursday was farmers' day in the House and a straight discussion of Daylight Saving lasting through; out the whole of the afternoon and evening led to the "canning" of Daylight Saving toward midnight. It was truly a state funeral, marked by 51 mourners and a body of 115 directors of the ceremony, hailing for the most part from rural constituencies. There were some members who found pressing business elsewhere and who, therefore, can be numbered neither among the sad nor the joyful. Fully fifty members contributed to the excitement of the scene at the bedside of the departing spirit, the great majority of whom urged that the child was sick and that it should be allowed to die. Others thought that this would be a crime, that it was a pet of the laborers and manufacturers in towns and cities and that if allowed to live its influence would have a wonderful effect upon the health of the Canadian people. A similar child was living in Germany, and the United States and these would be lonely if ours were to die. Against these arguments, several Cabinet Ministers, including the Acting Prime Minister, the Minister of Railways and Canals, the Minister of Agriculture, the Minister of Immigration and many members including Wm. Smith, South Ontario, Donald Sutherland, South Oxford, J. W. Edwards, Frontenac and nearly every Western member, threw their weight—and the wavering spirit flickered and went out.

The farmers scored a victory in the House, largely due to the wise action of Sir Thomas White in announcing that the Government would waive its right to take up the matters on the order paper as they appeared, and permit a resolution introduced by the Member for South Vancouver, favoring the re-enactment of the 1918 Daylight Saving Bill, to be discussed impartially and without reference to party politics. The Government is certainly to be commended for taking such a broadminded view of this question and permitting the House to discuss it on its merits. The result of such a policy is that a member may vote according to the dictates of his conscience or his constituents and feel that he will not be accused of having helped defeat the Government by means of any "want of confidence" motion.

The farmers' desires prevailed in the House for once and this is very gratifying indeed, but it is by no means certain that the country will be as free from Daylight Saving as those, who have to till the soil in Canada would like. The railway War Board, it appears has decreed that Canada shall have Daylight Saving in so far as her railways are concerned, at least, and it requires no stretch of the imagination to see that where the railways use new time the rest of the people must necessarily do so also to a certain extent, unless Parliament takes the matter into its own hands and informs the Board that its wishes are contrary to the orders that have been issued. As was pointed out by the member for South York, the farmers will be more or less euchred out of any satisfaction or relief they may have gained by the recent vote of the House if the railways persist in adopting Daylight Saving time in accordance with that which has gone into effect by default in the United States.

The first regular meeting of the Agricultural Committee of the House took place last Thursday morning. This was largely a preliminary meeting whereat the Minister of Agriculture discussed briefly the present world situation with regard to cereals, and expressed his own personal opinion—not the policy of the Government necessarily—that it would be inadvisable to fix the price of wheat in Canada for the crop of 1919. This subject is, however, to be fully discussed at the next regular meeting which will be held on Tuesday, April 1. A very full program was suggested by the Minister which might be carried out so far as possible by the Committee during the present session. It is to be hoped that much good work will be done.

Last week a typographical error in our report of Parliament said that Mr. Crerar, Minister of Agriculture, was "an unwilling victim" of a sally made by Hon. Rodolphe Lemieux who referred to Mr. Crerar's participation in the framing of "The Farmer's Platform." This should have read "a willing victim," because Mr. Crerar showed no inclination to depart from his well-known principles in favor of low tariffs.

the flower buds open... second and third sprays... are given by applying... when the fruit has set and... been paid to the spraying... in the opinion of Mr... is a very serious pest at... is given at the time the... may be stripped of their... Paris green is advised for... quickly and washes off so... any chance, to affect the... one ounce to 2 gallons of... second spray, when the fruit... mixture after the fruit is... later constitute other... said Mr. Macoun... before the leaves open... one pound to 20 gallons... wash. Poisoned Bordeaux... set just before the flower... set and again about ten... later sprays... much attention to new... At least Mr. Macoun... though he does not doubt... spray guns, etc., they are... is lost sight of. It little... ed so long as the spray is... is, almost perfect results... fit at the Central Experi... eliness and thoroughness... applying the second and

**LLETIN.**

rkell, Live Stock Commis... ngland, where he has been... gard to markets, and... on our export trade in

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tion; to provide employ... ularly returned soldiers;... between different parts of... value of land in sections... run; to encourage tourist... people much money by... their vehicles;" and to... of travel in rural dis... York, argued that the... patronage as a result of... cement highway showed... in the expenditure of... work to provide employ... the farms, and that this... helping the soldiers on... skatoon, urged railway... de employment for the... Western farmer. J. E... the same effect, to which... of Public Works, replied,

lway is necessary in my... if we attempt to build a... tern Canada where it is... require to have \$100,-... the estimates instead of... the whole country must... in the expenditure of... if the Estimates state... to build railways during... tion is that \$10,000,000... vided to build new lines... that railway construction

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replied spiritedly and... eater population down... Provinces and a greater... s are not the only ones... y means. May I be... d that the Province of... icultural wealth every... ovinces put together... only produces more in... Western Provinces put... ce where most of the... is the province which... est of Canada put to... nity for Victory Loans

above spoke from the

# Toronto, Montreal, Buffalo, and Other Leading Markets

Week Ending March 27

Receipts and Market Tops

Dominion Department of Agriculture Live Stock Branch, Markets Intelligence, Division

CATTLE						CALVES					
Receipts			Top Price Good Steers (1,000-1,200)			Receipts			Top Price Good Calves		
Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Same Week	Week Ending	
Mar. 27	1918	Mar. 20	Mar. 27	1918	Mar. 20	Mar. 27	1918	Mar. 27	1918	Mar. 20	
Toronto (Union Stock Yards)	5,808	5,347	5,009	\$15.50	\$12.25	\$15.50	1,200	1,687	1,361	\$17.50	\$17.00
Montreal (Pt. St. Charles)	491	896	483	13.50	13.00	14.00	1,920	1,640	1,783	13.00	14.00
Montreal (East End)	633	376	591	13.50	13.00	14.00	1,161	1,640	1,269	13.00	14.00
Winnipeg	1,365	2,076	2,843	15.00	12.50	15.25	141	34	89	14.50	16.50
Calgary	1,619	1,224	2,606	14.00	12.15	14.50					
Edmonton	521	388	539	14.25		15.00	149	87	206	10.25	11.00

HOGS						SHEEP					
Receipts			Top Price Selects			Receipts			Top Price Good Lambs		
Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Same Week	Week Ending	
Mar. 27	1918	Mar. 20	Mar. 27	1918	Mar. 20	Mar. 27	1918	Mar. 27	1918	Mar. 20	
Toronto (Union Stock Yards)	8,857	10,271	7,567	\$20.00	\$21.00	\$20.00	502	220	524	\$20.00	\$20.85
Montreal (Pt. St. Charles)	999	1,411	1,287	19.75	21.75	19.35	41	36	41	15.00	17.00
Montreal (East End)	647	700	601	19.75	21.75	19.35	58	76	68	15.00	17.00
Winnipeg	5,981	7,632	6,723	19.25	20.25	19.25	55	90	50	20.00	15.00
Calgary	2,572	2,154	2,823	18.75	19.25	18.35	375	257	182	13.00	17.25
Edmonton	515	1,069	269	18.50		18.25	14		934	13.00	13.00

## Market Comments.

### Toronto (Union Stock Yards.)

Following a decline in cattle values on the American markets, local quotations ruled a little easier on all grades of butcher cattle. Heavy cattle were in slower demand than was the lighter butcher stock. The decline on the Monday market, probably equal to about fifty cents per hundred, was in some measure recovered on the Wednesday and Thursday markets, on which a fairly brisk demand developed. Buyers for the American trade operated to a limited extent only and shipments to American points approximated only seven hundred head. Out of a total of three hundred and fifty cars offered for sale, fully sixty cars in farmers co-operative shipment were handled through the United Farmers' Commission firm. The quality of the stock offered was fairly good but no exceptional prices were realized. Eight head of steers weighing twelve hundred and thirty pounds sold at \$16 per hundred, six head of equal weight sold at \$15.50, while other sales were made from \$15 to \$15.50 per hundred for steers of top quality. Of steers weighing from ten hundred to twelve hundred pounds, a few odd head of eleven hundred to eleven hundred and fifty pounds each sold at \$15.50 per hundred, a number sold from \$14.50 to \$15, while numerous loads were weighed up from \$14 to \$14.50. Choice heifers of ten hundred to eleven hundred pounds were moved out at prices as high as \$14 per hundred. A load of handy-weight butcher steers of nine hundred and twenty-five pounds average sold at \$14.10 per hundred, a few head at \$14.50, and quite a number from \$13.50 to \$14 per hundred. The demand for cows and bulls was weaker in sympathy with the decline in the market for other grades of cattle. A few choice fat cows sold as high as \$12.35 per hundred, quite a number moved from \$11 to \$11.50, and good cows from \$10 to \$10.75. A few fat bulls sold at \$11.50 per hundred, most of the best quality animals offered were weighed up at from \$10 to \$10.75 per hundred, while medium and common stock sold from \$8.50 to \$9.50 per hundred. There was an increased demand for stockers and feeders, and several hundred head were shipped to country points for finishing on grass. Good feeders sold from \$12 to \$13 per hundred, and good stockers from \$11 to \$12. The calf market was about steady although very few veals sold above \$17 per hundred, most of the sales of good calves being made from \$15.50 to \$16.50, and those for medium stuff from \$12 to \$14.

Sheep and lambs were in good demand. Ten choice lambs sold at \$20 per hundred, while most of the sales were transacted within the range of \$17 to \$19. Choice sheep sold up to \$13 per hundred and heavy sheep at \$10.50.

Hogs prices were very unsettled during the week. On Monday, selects were weighed up at prices equal to those of the previous week, or at \$20 per hundred, fed and watered. No hogs were sold on Tuesday, and only a limited number on Wednesday when some transactions were as low as \$19.25. On Thursday the market was a little stronger with select stock moving from \$19.25 to \$19.50

CLASSIFICATION	No.	TORONTO (Union Stock Yards)		Top Price	MONTREAL (Pt. St. Charles)		Top Price
		Avg. Price	Price Range Bulk Sales		Avg. Price	Price Range Bulk Sales	
STEERS heavy finished	73	\$15.25	\$14.75-\$15.50	\$16.00			
STEERS good	440	14.59	14.00-15.25	15.50			
STEERS 1,000-1,200 common	55	12.81	12.00-13.50	13.50			
STEERS good	1,385	13.45	12.75-14.00	14.50	91	12.50	12.00-13.50
STEERS 700-1,000 common	452	11.26	10.50-12.00	12.50	181	10.75	9.00-11.50
HEIFERS good	896	13.50	13.00-14.00	14.50	2	11.50	11.00-12.00
HEIFERS fair	228	11.27	10.50-12.00	12.00	9	10.50	10.00-11.00
HEIFERS common	25	9.70	9.00-10.50	10.50	33	8.50	7.00-9.00
COWS good	615	10.50	10.00-11.00	12.00	26	11.00	10.00-12.00
COWS common	764	8.26	7.75-9.00	9.50	94	8.25	7.50-9.00
BULLS good	95	10.50	10.00-11.25	12.00	7	10.00	9.50-10.50
BULLS common	107	8.69	8.00-9.50	10.50	47	8.25	7.50-9.00
CANNERS & CUTTERS	201	6.06	5.75-6.75	6.75	42	5.75	5.00-6.50
OXEN					10.00	10.00	9.00-12.00
CALVES veal	1,190	14.50	13.00-16.00	17.50	1,886	12.00	11.00-12.50
CALVES grass	10	7.00	6.00-8.00	8.00	34	6.00	6.00-
STOCKERS good	136	11.25	10.75-11.50	11.75			
STOCKERS fair	165	9.56	8.75-11.00	11.00			
FEEDERS good	104	12.57	12.00-13.00	13.00			
FEEDERS fair	58	11.55	11.00-12.25	12.50			
HOGS selects	8,183	19.81	19.25-20.00	20.00	807	19.25	19.25-
HOGS heavies	29	19.67	19.25-20.00	20.00	21	18.25	18.25-
HOGS lights	444	17.81	17.25-18.00	18.00	148	17.25	17.25-
HOGS sows	182	17.28	16.50-18.00	18.00	19	16.25	16.25-
HOGS stags	19	15.19	14.50-16.00	16.00	4	14.25	14.25-
LAMBS good	375	18.46	17.00-19.00	20.00	1	15.00	15.00-
LAMBS common	51	15.58	14.00-17.00	17.00	28	14.00	14.00-
SHEEP heavy	46	10.43	9.50-11.00	11.00	6	11.00	11.00-
SHEEP light	26	12.00	11.00-13.00	13.00	6	10.25	10.00-10.50
SHEEP common	4			9.00			

per hundred, although \$19 f. o. b. country points, which is about equal to \$20, fed and watered, was bid in one or two instances.

Of the disposition from the Yards for the week ending March 20, Canadian packing houses purchased 426 calves, 2,942 butcher cattle, 8,180 hogs and 358 lambs. Local butchers purchased 620 calves, 354 butcher cattle, 150 hogs and 166 lambs. Canadian shipments were made up 56 calves, 92 milch cows, 287 stockers, 65 feeders and 29 hogs. United States shipments consisted of 163 calves, 1,223 butcher cattle, 35 stockers, 27 feeders, and 12 lambs.

The total receipts from January 1 to March 20, inclusive, were: 74,105 cattle, 8,134 calves, 77,023 hogs and 27,469 sheep; compared with 52,977 cattle, 7,289 calves, 93,051 hogs and 9,746 sheep, received during the corresponding period of 1918.

**Montreal.**

Prices for cattle remained at about the same level as during the previous week. Nearly all the steers offered were light in weight and of medium to common grading. The best lot averaged ten hundred and ten pounds and sold at \$13.50 per hundred. Next to these were two cars made up of very common-bred steers in fair flesh that sold for \$12.50

The balance of the steers were very light and unfinished and sold in most cases between \$9 and \$11.50. A few fat cows were offered and sold in small lots at \$12; medium fat cows ranged from \$8 to \$9, while a number of strong cows a little better than canners were sold from \$7.50 to \$8, and were purchased for finishing on grass. Canners remained at \$5. The demand for heavy bulls was a little off, \$10.50 being about the top. The quality of the veal calves were somewhat better than recently, but despite this considerable difficulty was encountered in making sales at the previous week's quotations. The majority of good calves sold in car lots at \$12.50, a lighter grade went in large lots at \$11, and some very poor calves at \$7. One good calf weighing two hundred pounds was sold for \$18 per hundred.

Not enough sheep and lambs were offered to make a market.

Hogs on Monday sold for \$19.50 per hundred for selects, off car weights, while an odd sale of long-run was made at \$20. On Wednesday, buyers were offering \$19.25 off cars for short runs. Sows, lights, and heavies were sold at the usual reductions.

**PT. ST. CHARLES.**—Of the disposition from the Yards for the week ending March 20, Canadian packing houses and local butchers purchased 1,783 calves, 58

canners and cutters, 65 bulls, 241 butcher cattle, 1,287 hogs and 41 lambs. Canadian shipments were made up of 74 milch cows. There were no shipments to United States points during the week.

The total receipts from January 1 to March 20, inclusive, were: 8,494 cattle, 6,877 calves, 13,894 hogs and 4,972 sheep; compared with 7,243 cattle, 5,512 calves, 14,353 hogs and 5,004 sheep, received during the corresponding period of 1918.

**EAST END.**—Of the disposition from the Yards for the week ending March 20, Canadian packing houses and local butchers purchased 1,269 calves, 523 butcher cattle, 526 hogs and 68 lambs. Canadian shipments were made up of 75 hogs. There were no shipments to United States points during the week.

The total receipts from January 1 to March 20, inclusive, were: 10,262 cattle, 4,105 calves, 7,549 hogs and 5,451 sheep; compared with 7,557 cattle, 4,573 calves, 9,151 hogs and 4,692 sheep, received during the corresponding period of 1918.

**Cheese Markets.**

Montreal, finest Easterns, 24c. to 25c.; New York, specials, 32 $\frac{3}{4}$ c.; average run, 32 $\frac{1}{4}$ c.

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Markets

Department of Agriculture Live Markets Intelligence, Division

Top Price Good Calves

Table with columns: Week Ending, Same Week, Week Ending. Rows for Mar. 27, Mar. 20, Mar. 13, Mar. 6, Mar. 29.

Top Price Good Lambs

Table with columns: Week Ending, Same Week, Week Ending. Rows for Mar. 27, Mar. 20, Mar. 13, Mar. 6, Mar. 29.

TREAL (Charles) Price Range Bulk Sales Top Price

Table with columns: Price Range, Top Price. Rows for various weight ranges like 12.00-13.50, 9.00-11.50, etc.

Table with columns: Price Range, Top Price. Rows for various weight ranges like 9.25-19.75, 8.25-18.25, etc.

65 bulls, 241 butcher and 41 lambs. Canadian made up of 74 were no shipments points during the week.

the disposition from the week ending March 27, 1,269 calves, 523 hogs and 68 lambs. were made up of were no shipments to during the week.

Easterns, 24c. to 25c.; average 32 3/4c.

Every farmer who desires to do business with

The Molsons Bank

is always assured of a courteous reception by local managers. And their object is to assist the farmer in a legitimate way, to make his land and stock more productive.

Buffalo.

Cattle.—Cattle prices on steers generally were lowered from a half dollar to seventy-five cents per hundred last week the result of the announcement that the Federal Government would make no army contracts for beef for April and further that receipts were larger than could be absorbed.

Shipping Steers—Natives—Choice to prime heavy, \$17.50 to \$18.50; fair to good, \$16.50 to \$17; plain and medium, \$13 to \$15; coarse and common, \$10.50 to \$11.

Shipping Steers—Canadian—Best heavy, \$15 to \$16; fair to good, \$13.50 to \$14.75; medium weight \$12.00 to \$15.00; common and plain, \$10.75 to \$11.

Butchering Steers—Yearlings, choice to prime, \$15.50 to \$16.50; choice heavy, \$16 to \$16.50; best handy, \$14.50 to \$15; fair to good, \$12.50 to \$14; light and common, \$10 to \$11.

Cows and Heifers.—Best heavy heifers, \$13 to \$13.75; good butchering heifers, \$12 to \$13.35; fair butchering heifers, \$10.50 to \$11; light common, \$8 to \$9; very fancy fat cows, \$11.50 to \$12; best heavy fat cows, \$10.50 to \$11.00; good butchering cows, \$9 to \$10; medium to fair, \$7.75 to \$8.50; cutters, \$6 to \$6.50; canners, \$5.25 to \$5.50.

Bulls.—Best heavy \$11 to \$12; good butchering, \$10 to \$10.25; sausage, \$8 to \$9; light bulls, \$7.50 to \$8.

Stockers and Feeders.—Best feeders, \$11.50 to \$12.50; common to fair, \$10 to \$11; best stockers, \$11 to \$12; fair to good, \$9.25 to \$9.75; common, \$8.75 to \$9.

Milchers and Springers.—Good to best, (small lots) \$100 to \$135; in carloads, \$90 to \$100.

Hogs.—Prices were generally lower the first four days of last week, liberal receipts being responsible for the break.

Monday the top was \$20.25, but the great bulk of the crop sold at \$20 and pigs landed at \$18.25 and \$18.50.

Tuesday's trade was about steady, Wednesday the top was \$20.10, although Yorkers and mixed grades had to sell from \$19.75 to \$19.90 and pigs landed at \$17.75 and \$18.

Thursday nothing brought above \$19.85, with pigs selling at \$17.75 and \$18 and Friday prices were up 25 to 50 cents, extreme top being \$20.40, bulk sold at \$20.25 and pigs reached \$18.25

and \$18.50. Roughs ranged from \$16.50 to \$17.50 and stags went from \$14 down. The past week's receipts totaled 23,500 head, being against 20,752 head for the week before and 20,800 head for the same week a year ago.

Sheep and Lambs.—Market on lambs was very slow all week. Demand was light and several loads went over unsold from day to day. Monday the best wool lambs brought from \$20 to \$20.25, Tuesday and Wednesday top was \$20.35, Thursday's range was from \$20.10 to \$20.25 and Friday only three loads, which brought \$20.35 to \$20.40, reached above \$20.25.

Calves.—The first four days of last week showed top veals selling generally at \$18 and culls ranged from \$13.50 down. Friday's trade, however, was somewhat higher, best lots being placed up to \$19 and \$19.25, with culls selling up to \$15.

Toronto Produce.

Breadstuffs.

Receipts of live stock at the Union Stock Yards, West Toronto, on Monday, March 31, consisted of 165 cars, 3,124 cattle, 285 calves, 1,574 hogs, 118 sheep and lambs. It was a slow market with heavy higher prices.

Wheat—Ontario (f.o.b. shipping points, according to freights)—No. 1 winter, per car lot, \$2.14 to \$2.20; No. 2 winter, per car lot, \$2.11 to \$2.19; No. 3 winter, per car lot, \$2.07 to \$2.15; No. 1 spring, per car lot, \$2.09 to \$2.17; No. 2 spring, per car lot, \$2.06 to \$2.14; No. 3 spring, per car lot, \$2.02 to \$2.10.

Oats.—Ontario (according to freights outside)—No. 2 white, 67c. to 69c.; No. 3, white, 65c. to 67c. Manitoba (in store, Fort William)—No. 2 C. W., 71 1/2c.; No. 3 C. W., 67 1/2c.; extra No. 1 feed, 67 1/2c.; No. 1 feed, 65 5/8c.; No. 2 feed, 62 5/8c.

Corn.—American, (track, Toronto, prompt shipment,) No. 3 yellow, \$1.73, nominal; No. 4, yellow, \$1.70, nominal.

Peas (according to freights outside)—No. 2, \$1.80, nominal.

Barley (according to freights outside) \$1.80, nominal;—Malting, 93c. to 98c., nominal.

Buckwheat (according to freights outside)—No. 2, 90c., nominal.

Rye (according to freights outside)—No. 2, \$1.59 to \$1.62, nominal.

Flour.—Manitoba (Toronto)—Government standard, \$10.75 to \$11; Ontario (prompt shipment, in jute bags). Government standard, \$9.55 to \$9.75, in bags, Montreal and Toronto.

Millfeed.—(Car lots delivered, Montreal freights, bags included)—Bran, per ton, \$40.25; shorts, per ton, \$42.25; good feed flour, \$3.25 to \$3.50 per bag.

Hay.—(Track, Toronto)—No. 1, per ton, \$20 to \$21; mixed, per ton, \$18 to \$19.

Straw.—(Track Toronto)—Car lots, per ton, \$10.

Hides and Wool.

Prices delivered in Toronto: City Hides.—City butcher hides, green, flats, 18c.; calf skins, green, flats, 30c.; veal kip, 20c.; horse hides, city take-off, \$6 to \$7; sheep, \$3 to \$4.

Country Markets.—Beef hides, flat, cured, 18c. to 20c.; green, 16c. to 17c. deacon and bob calf, \$2 to \$2.75; horse hides, country take-off, No. 1, \$6 to \$7; No. 2, \$5 to \$6; No. 1 sheep skins, \$2.50 to \$4; horse hair, farmers' stock, \$28.

Tallow.—City rendered, solids, in barrels, 8c. to 9c.; country solids, in barrels, 6c. to 8c.; cakes, No. 1, 7c. to 9c.

Wool.—Unwashed fleece wool as to quality, fine, 40c. to 55c. Washed wool, fine, 70c. to 75c.

Farm Produce.

Butter.—Owing to its scarcity, butter advanced sharply in price, selling as follows, wholesale: Creamery, fresh-made lb. squares at 62c. to 63c. per lb.; creamery solids at 59c. to 61c. per lb. choice dairy 53c. to 55c. per lb.; other grades, down to 40c. per lb.

Oleomargarine.—32c. to 34c. per lb. Eggs.—Prices on new-laid eggs declined, selling at 42c. to 43c. per dozen, wholesale: selects in cartons bringing 45c. per dozen.

Cheese.—Kept firm at unchanged prices—year-old Stiltons selling at 35c. per lb.; and September at 29c. to 31c. per lb.

Honey.—There is no demand for honey, which is being offered at 23c. to 25c. per lb. for 5, 10 and 60-lb. pails, respectively.

Poultry also kept firm at stationary prices. The following prices being quoted for live weight to the producers: Chickens, crate fed, 34c. per lb.; chickens, 27c. per lb.; hens, under 4 1/2 lbs., 25c. per lb.; hens, 4 1/2 lbs. to 6 lbs., 30c. per lb.; hens, over 6 lbs., 32c. per lb.; roosters, 22c. per lb.; ducks, 35c. per lb.

Wholesale Fruits and Vegetables. Apples surely reached the limit during the past week when some choice No. 1 Spys sold at \$12.50 to \$14 per bbl.; other varieties and grades ranging from that price down to \$6 per bbl. Western Wine Saps selling at \$5 to \$5.50 per box.

Rhubarb came in more freely selling at 75c. to \$1.25 per dozen bunches. Tomatoes arrived freely from Florida, selling at \$7 to \$8 per six-basket crate for No. 1 grade.

Beans kept stationary—Prime whites selling at \$2.75 to \$3.25 per bushel and hand-picked at \$3.50 to \$4 per bushel. Beets did not vary selling at 90c. to \$1 per bag.

Cabbage—New cabbage arrived freely: Florida selling at \$3 per hamper, \$7 per case; Cal. at \$3.50 to \$4 per case; old domestic at \$3 to \$3.50 per bbl.

Carrots kept firm at 90c. to \$1 per bag. Cauliflower advanced; the standard crates selling at \$5.50, and pony crates at \$3.

Celery—Florida celery remained practically stationary at \$6.75 to \$7 per crate. Lettuce.—Leaf Lettuce sold all the way from 30c. to 65c. per dozen according to quality.

Onions have been very slow at \$2.50 to \$3 per 75-lb. bag. Parsnips were a slow sale at 75c. to 90c. per bag.

Potatoes were slightly easier at \$1.35 to \$1.40 per bag; Irish Cobbler seed potatoes selling at \$2 per bag.

Montreal.

Horses. Some buying of horses is taking place for account of farmers who are prepared to pay from \$150 to \$200 for good mares. The price continued steady with heavy draft horses weighing from 1,500 to 1,700 pounds quoted at \$250 to \$300 each; light draft, weighing 1,400 to 1,500 pounds, \$200 to \$250 each; light horses, \$125 to \$175 each; culls, \$50 to \$75; fine carriage and saddle animals \$175 to \$250.

Dressed Hogs.—The market for dressed hogs showed very little change and high prices are being paid in spite of some decline in live hogs. Country-dressed light-weight hogs were selling at 25c. per lb. and abattoir fresh-killed stock 26 1/2c. to 27c. per lb.

Poultry.—Prices continued steady with choice turkeys selling at 43c. to 45c. per pound; milk-fed chickens as high as 42c. and ordinary down to 36c.; fowls, 30c. to 34c.; ducks, 36c. to 40c.; geese, 28c. to 30c.

Potatoes.—Prices of potatoes showed very little change, quotations of Green Mountains in car lots being \$1.40 and on Quebec white stock \$1.30, ex-track, these prices being, however, lower than for the week previous. Onions were quoted at \$3. Carrots \$2, and Quebec turnips, \$1.50 for 70 lbs., ex-store.

Eggs.—The market for eggs has not been over crowded with stock during the week and the price showed a firm tone. Exporters offered 40c. and 41c. f. o. b. Some shipments were taking place to Great Britain. For city trade in a jobbing way the quotation was about 44 cents.

Butter.—Supplies were light and prices showed an upward tendency. Sales of creamery were taking place as high as 60c. for choice in solids, while fine cream-

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ery was quoted at 58c. to 59c. Last price on dairy was in the vicinity of 45c. to 47c. per lb.

Cheese.—The Commission quoted 25c. per lb. for No. 1, 24 1/2c. for No. 2, and 24c. for No. 3.

Grain.—No. 2 Canadian Western oats were quoted at 86c.; No. 3 are 81c.; extra No. 1 feed 81c.; No. 2 feed, 86c. Ontario No. 3 white, 78c.; per bushel ex-store; No. 3 Canadian Western Barley \$1.17; No. 4, \$1.14; extra Ontario No. 3, \$1.18; No. 3, \$1.17. sample barley, \$1.07.

Flour.—Prices were unchanged with Manitoba Government standard for shipment to country points, Montreal freights, \$11 per barrel, in jute bags, the same price to city bakers, with 10c. off for spot cash. Winter wheat flour was steady at \$10.30 in new cotton bags, ex-store. White corn flour and rye flour sold around \$8.50 to \$9 per barrel in bags.

Millfeed.—Car lots of bran were quoted at \$40.25 per ton, including bags, ex-track; shorts being \$42.25; smaller lots of feed cornmeal were quoted at \$46; mixed grain mouille, \$58 to \$60; pure ground oats, \$58; dairy feed, \$46.

Baled Hay.—Sales of car lots of No. 1 Timothy were made at \$36, ex-track; No. 1 light clover mixture, \$25; No. 2 timothy, \$25; No. 2 clover mixture, \$24; No. 3 timothy, \$23.

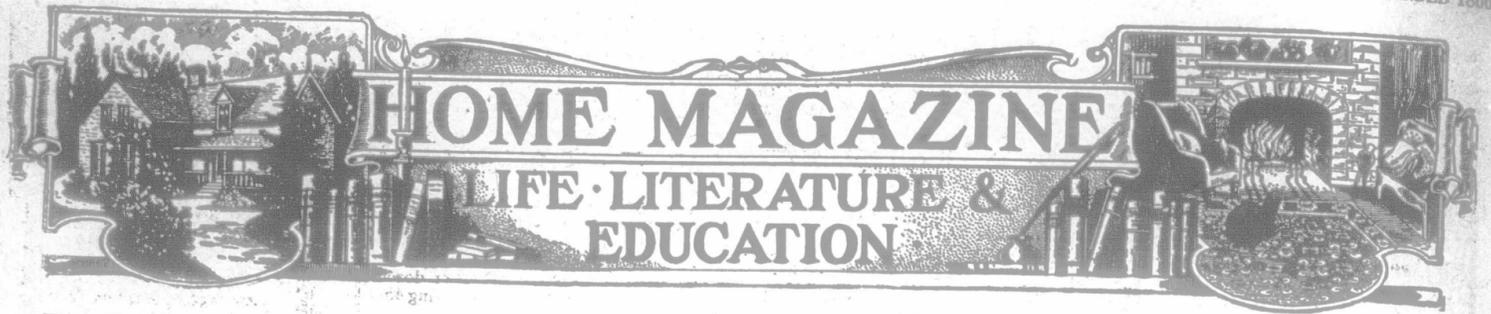
Hayseed.—Dealers quoted offering to farmers at country points: 8c. to 12 1/2c. per lb. for timothy; 37c. to 45c. for red clover; 22c. to 27c. for alsike.

Hides.—Beef hides were 16c. per lb. for cows; 14c. for bulls and 20c. for steers; veal skins 52c. grassers, 22c. Lamb skins \$3 to \$3.25 each and horse hides \$5 to \$6.50 each.

Chicago.

Hogs.—Heavy weight, \$19.50 to \$19.65; medium weight, \$19.25 to \$19.50; light weight, \$18.75 to \$19.45; light \$17.50 to \$19; sows, \$17.50 to \$18.85; pigs, \$16.50 to \$17.25.

Sheep.—Lambs, 84 lbs. or less, \$18 to \$20.15; 84 lbs. or better, \$17.75 to \$20.15; culls, \$14 to \$17.75; ewes, medium and good, \$11.75 to \$15; culls and common, \$6 to \$11.50.



### The Primrose Path.

BY ROSAMUND MARRIOTT WATSON.

The green fans of the chestnut-trees  
Are all unfolding one by one,  
The breath of April's in the breeze,  
The long streets glisten in the sun.

The tasseled lilacs in the square  
Are full of nods and whisperings,  
While black-boled poplars stir the air  
With hints of happy secret things.

The town is all so fair and fine,  
The streets they make so brave a show  
And yet—and yet—Corinna mine,  
It is now the pale primroses blow.

The woods are calling us to-day  
Where grassy hills fall fold on fold;  
Come, let us take the primrose way  
And gather wealth of faery gold.

Put off your dainty silks and lace  
For leathern shoon and homespun gown;  
Come, leave this bustling market-place  
To play the truant out of town.

For tho in town the sun shines gay,  
You can not hear the sweet birds sing  
Come, my Corinna, come away,  
And let us go a-primrosing.

—From *The Athenæum* (London).

### Reconstruction.

What Does It Mean? What Can We Do Towards It?

BY "A. N."

EVERYWHERE, since the Armistice was signed, one word has been especially in evidence—"Reconstruction." It has been found on the pages of newspapers and magazines; it has been the theme of numberless pamphlets and bulletins; it has been constantly upon the lips of public speakers. The thousands of farmers and farm women who went to Toronto during the winter to attend the Conventions of the various organizations which have now become so important a factor in Canadian life, must have noticed its constant recurrence; scarcely an address was given in which it had not a place, casually or otherwise.

And yet if one sets forth to question one finds everywhere a general haziness in regard to what "Reconstruction" really signifies. There is a vague feeling that it must be a good thing, but very little clearness as to what it covers or how it can be brought about.

The following articles may not, it is true, touch more than the fringe of the subject, yet they will make some effort to render the whole matter more definite.

TO begin with, a most startling starting-point is to realize how very small the earth has actually become during the past four years. Even when this idea is unexpressed there is evidence enough that it is, perhaps subconsciously, realized. No longer do we speak with confidence of this "great globe" upon which we live; much more likely are we to refer to it as our "little planet." And perhaps this realization is not at all to be deplored; it shows that at last we are beginning to get a true concept of our planet and its position in comparison with the other planets and systems which make up the Universe; it shows that at last we are beginning to get some glimpse of cosmic workings.

However, that may be, and whether we are willing to face the fact or not, we must admit that the Great War has shaken our earth, so far as we humans are concerned, to its very foundations, so that it has become for all time henceforth comparatively a mere village—with riots at the street-corners, it is true, and with little hope of comfortable, peaceful and aspiring living until the rioters have

learned to live sensibly together, and to work in harness with instead of quarrelling with one another.

During the past four years the rioters have made sad havoc, and so "Reconstruction" is necessary, each section having its own problems, while there are greater problems affecting the whole.

In Europe, for instance, Reconstruction means, concretely: bringing starving people back to health and strength and getting them once more upon their feet, industrially; rebuilding whole cities and thousands of manufacturing plants; reclaiming to fertility vast stretches of shell-torn country, where the bleaching subsoil, hurled to the top, now lies where rich soil once was; re-adjustment of boundary lines; re-forming relations of nation to nation; in Germany and Russia the stabilizing of Government itself. Asia, Africa, and the great islands of the Pacific are also affected; trade-routes are altered, business is dislocated; new adjustments of colonies mean new responsibilities;—Looking over the seas we see the Whole Eastern hemisphere more or less upset.

Nor, turning our eyes upon ourselves, can we see that we here in America are apart from all this upheaval. Our trade, too, is affected; our responsibilities are increased; we are just awaking to a realization of the fact that no longer can we feel any real security in our geographic isolation from the lands across the seas. We now know that with Twentieth Century possibilities in airships and submarines and high explosives,

in every one of the broadest questions with which Canada may be concerned; for upon the voter rests the really great, fundamental onus of electing to Parliament the men who will have to do Canada's work in connection with those questions,—the men who, eventually, work into the Cabinet and into positions of international responsibility. We should know, although some of us do not sufficiently realize it, that upon the quality of the men we elect—above all, their far-seeingness, unselfishness and executive ability—depends overwhelmingly the quality of international relations established between us and other countries as well as that of our domestic government, and we should see more clearly than we do, that all these things affect the quality of life in our very homes.

At the present time, however, there is a something more immediately definite that we can do towards the Reconstruction of the world in this its time of need. The subject is not new, but it is no less imperative because of that.

It concerns the starving people of Europe. In this our duty—or privilege—personally, should be clear;—and yet it is hard to realize what we have never experienced. But few of us in Canada have ever known what it was to be hungry, with no sure prospect of anything to eat. Perhaps one half-week of actual starvation, could it come to us, would be sufficient to open our eyes and hearts to what thousands upon thousands of people over the seas are to-day going through,—people who must continue, unless sufficient help is speedily sent to them,

With rosy children sleeping quietly,

"Ours were as yours until war came,  
and famine,  
And day by day we saw them wane  
and fade;  
And first our babies died, and then we  
followed,  
Our bread all given to the little ones  
who stayed.

"How can we rest here in the light, the  
quiet,  
Even though we hold again the babes  
who died,  
When through the worlds we hear our  
moaning children,  
Upon a cross of hunger crucified?"

So in the night their voices keep me  
waking,  
Crying "Speak for us now, we cannot  
wait,  
You that can help, you that can speed  
your plenty;  
Hasten, oh hasten, lest you be too  
late!"

Even now these "starving mothers" and "moaning children" are dragging through weary days, in Serbia and Poland, Armenia and Palestine, Russia and Roumania, Germany and Austria. In all of these countries the people in many parts are even yet dying off like flies—for disease strikes hard upon bodies insufficiently fortified by proper food.

But there is a little light in the sky. . . . Because of the recent opening of the Dardanelles it should now be possible to send food in more easily to Poland, Roumania and other portions of the Near East which are suffering still as a result of the War. The way is open to all of the other countries, so that now the only necessity appears to be to obtain the money and supplies and establish again the trade routes. Indeed, even as this is being written, the word has come that a shipload of food from America has reached Hamburg, and that a number of barges laden with it have arrived at Coblenz—Germany having given the necessary guarantees and payment. . . . This is in accordance with the decision of the Peace Conference, which has well recognized that Hunger is the strongest ally of Bolshevism—which at present seems the greatest menace to the order and re-stabilization of the world—and moreover, that the Central Nations must be permitted to get upon their feet industrially before they can begin to pay off the enormous debt which they owe to the Allies for the destruction and devastation wrought by Teuton Militarism during the four years of the War.

JUST here comes in, then, the thing that each of us, as individuals can do. The Peace Conference may provide the way, but we must provide the "goods." . . . Money contributed through the various relief organizations will help. Heavy grain production will help (—It's the same story we have heard for four years, but what a very necessary story!)—Growing potatoes and other vegetables for home consumption will help; and continuing to use cereals, brown flours, etc., in our homes—since wheat flour is most needed abroad. . . . Lastly taking care that no food whatever is wasted about the home will help.—A little waste in one home may seem a small matter, but an equal waste in tens of thousands of homes totals astounding quantities.

Let it be very clear that what is wasted in one place must be "done without" someplace else. If we in our individual homes draw more than we should upon the general food supply—even though it be by wasting something we raise ourselves, but could sell if we tried—some-where else, *somewhere* must do without



Lieut.-Col. John McCrae

Who wrote the finest poem produced by the War. Lt.-Colonel McCrae was born in Guelph, Ont., and was one of the gallant young men of Canada killed during the great struggle. The picture reveals his love for animals, as well as for the flowers, which will now bloom over his grave "In Flanders Fields."

we are not apart, nor can ever be again. We cannot live unto ourselves even if we would.

All this seems very perplexing, and in the effort to come right down to what we can do, as individuals, in regard to our relations with the countries across the seas, it may appear at first thought that we are helpless, and that, therefore, discussion of the matter must be useless. At second thought, however, it may dawn upon us that every voter in the land has a part

to be hungry and underfed every day until the next harvest comes in.

Just here, at the risk of appearing emotional—but surely the subject gives excuse for emotion—may we quote a little poem written by Helen Stockton Parker, which appeared recently in the *New York Times*:

I cannot sleep at night for the crying  
voices  
Of all the dead, starved mothers oversea,  
Calling to me "Safe mother, happy  
mother,

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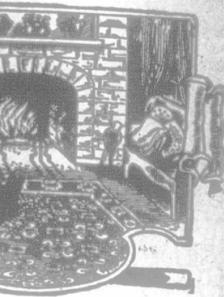
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just that much.—Again, let it be understood: *the world has become just a great village, everyone in it depending, more or less, upon everyone else.*

And so this "little" matter of saving waste in our homes is really a great matter.—It is our privilege and opportunity to help in this apparently insignificant, homely, yet tremendous and far-reaching way.

These suggestions sum up a few of the considerations and steps which we in Canada can adopt right now to help stop the food-shortage abroad, and so do our share in laying the basis for all further Reconstruction.

The next question is Reconstruction in our own country.

(To be continued.)

### Books for the Home Library.

(Continued.)

#### History and Travel.

BOOKS on history appeal especially to the mature and books of travel to the young, although the latter, when written with true literary quality, may be a joy to all readers. Through history and travel we learn the story of man and his environment and are enabled to see how environment may be, and has been, one of the foundations of the character and actions of the various peoples.

Among the best histories are: Greene's *Short History of the English People*.

Hume's *History of England*. Gibbon's *Decline and Fall of the Roman Empire*.

Carlyle's *History of the French Revolution*.

Buckle's *History of Civilization*. Goldwin Smith's *Political History of the United Kingdom*.

Parkman's delightful series of North American history.

*Young India* (new) by Lajpat Rai.

*Russia from the Varangians to the Bolsheviks* (new) by Forbes and Birkett.

*Chronicles of Canada* series.

*Peking Dust* (new) Ellen La Motte.

Travel books are numerous as the sands of the seashore. A few among the best are:

Stoddart's *Travel books*.

*Literary Geography and Travel Sketches*, William Sharp.

John Foster Fraser's delightful travel books.

Johns Muir's book on Alaska.

Lange's *Along the Amazon*.

—And the numerous works of fiction that give accurate pictures of countries and peoples. Among these are C. N. and A. M. Williamson's stories; Hichens' *Garden of Allah*, and books by Pierre Loti and Lafcadio Hearn.

Mark Twain's humorous travel books, especially *A Tramp Abroad* must find a place here.

#### Philosophy and Economics.

A number of the very best books on these subjects are included in the *Home University Library*. A few that may be here listed are:

*Wealth of Nations*, Adam Smith.

*Progress and Poverty*, Henry George.

*Woman and Labor*, Olive Schreiner.

*History of the Freedom of Thought*, Prof. Bury.

*Democracy and the Eastern Question*, (new), by Thomas Millard.

*The British Revolution and the American Democracy* (new) by Norman Angell.

*The Biology of War* (new) Nicolai Bergson's books.

Newman's *Apologia*.

*Social Psychology*, William McDougall.

*Sartor Resartus*, Carlyle.

*Present Day Ethics*, Eucken.

*Unto This Last*, Ruskin.

#### Science, Agriculture, Nature Books.

WITH a few exceptions the newest books on science, including agriculture are the most likely to be the best, hence it is well, each year, to secure catalogues from the publishers who make a speciality of these subjects. In agriculture, Ginn & Co., New York may be mentioned.

A few scientific and "Nature" books that may be especially recommended are:

Darwin's books. *The World of Life*, by Alfred Russel Wallace.

*Science and Immortality*, Lodge.

*Food and Dietetics*, Hutchinson.

John Burroughs' *Nature books*.

Fabre's books on insect life.

Smith's *Economic Entomology*.

Gene Stratton Porter's *Moth and Butterfly books*.

*The Canadian Bird Book*, Chester A. Reed.

*Who's Who Among the Wild Flowers*, Beecroft.

*A Guide to the Wild Flowers*, Lounsbury.

#### Poetry, Fiction and Humor.

POETRY occupies, in the estimation of many, a place of its own at the very top of all pure literature; yet perhaps the number of people who fully appreciate and habitually read it is comparatively small. So great a place, however, have the great poets attained, that the names of most of them are household words. In this list we may put:

*Shakespeare, Wordsworth, Coleridge, Shelley, Keats, Tennyson, Scott, Goldsmith, Goethe* and others in the bright galaxy of European poets. Britain's list of outstanding modern poets includes:

*Kipling, Francis Thompson, Noyes, Yeates, Masefield, Rupert Brooke, and William Wilfred Gibson*.

The United States presents outstandingly: *Walt Whitman, Emerson, Lowell, Longfellow, Whittier, Bryant*, and a long list of modern writers including:

*Edgar Lee Masters, Alan Seeger, Siegfried Sassoon and Joyce Kilmer*.

Among the better known

*Candide*, Voltaire. *Eugenie Grandet*, Balzac. *Pierre et Jean*, Maupassant.

*Story of an African Farm*, Olive Schreiner.

*Over Bemerton's*, E. V. Lucas.

*An Iceland Fisherman*, Loti.

*The Golden Dog*, Kirby.

*The Garden of Allah*, Hichens.

*Five Towns stories*, and *The Roll Call* (new) by Arnold Bennett, and books by some others of the busy writers of the day, foremost among whom are, *H. G. Wells, Winston Churchill, Gilbert Parker, Ernest Poole, and Eden Philpotts*.

*The Dark Forest* (called "the most artistic novel of the war") and *The Secret City*, (new), by Hugh Walpole.

*Nocturne* (new), Frank Swinerton.

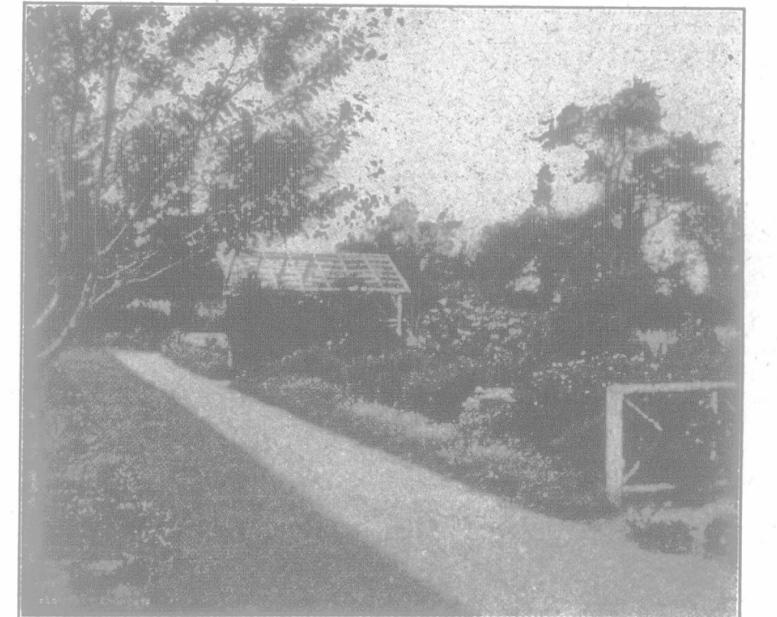
*Emblems of Fidelity*, (new), James Lane Allen.

*Blind Alley*, (new), W. L. George.

Books on Literature that may be recommended are: *The Pageant of English Literature*, by Parrott; and *The Advance of the English Novel, and The Advance of English Poetry*, by Prof. Phelps.

Books of real humor are few in number and, it goes without saying, those that find a place on one's bookshelves should be of the best; nothing is so "cheap" as poor humor.

Here, perhaps, the great American humorist, *Mark Twain* stands first. Nearly all of his books may find a creditable place in this happy section. Other books delightful for a sprinkling, more or less, of humor are:



A Bit of the Garden at the late Col. Roosevelt's home at Oyster Bay.

The garden is enclosed by a rustic, vine-covered fence.

Canadian poets are: *Lampman, Bliss Carman, Roberts, Campbell, Scott, Service, Watson, Norwood, Bernard Trotter, Marjorie Pickthall, Pauline Johnson, and Lt. Col. John McCrae*, the author of the great war poem, *In Flanders Fields*.

#### Fiction.

FICTION claims, perhaps, the greatest number of devotees in reading. In the following list only acknowledged and representative masterpieces are included:

*Les Miserables*, Victor Hugo.

*Vanity Fair, Pendennis, Henry Esmond*, Thackeray.

*David Copperfield, Tale of Two Cities, Bleak House*, Dickens.

*Adam Bede*, George Eliot.

*Framley Parsonage, Trollope*.

*Cranford*, Mrs. Gaskell.

*Pride and Prejudice, Emma*, Jane Austen.

*The Return of the Native*, Thomas Hardy.

*Bible in Spain, Lavengro*, George Borrow.

*Ivanhoe*, Scott.

*Lorna Doone*, Blackmore.

*The Egoist*, Meredith.

*Last Days of Pompeii*, Lytton.

*Bob, Son of Battle*, Ollivant.

*The Prisoner of Zenda*, Hope.

*Gil Blas*, Le Sage.

*Don Quixote*, Cervantes.

*My Summer in a Garden*, Charles Dudley Warner.

*The Caravans, My Solitary Summer*, Countess von Arnim.

*The People of the Whirlpool*, Mabel Osgood Wright.

*The Hills of Hingham*, Dallas Lore Sharp.

*In Pastures Green, The Red Cow*, (new), Peter McArthur.

*Walking Stick Papers* (new), Robert Cortes.

*Frenzied Fiction*, Stephen Leacock.

*Eating in Two or Three Languages*, (new), Irvin S. Cobb.

### The Dollar Chain

Proceeds are now being devoted exclusively for blind and maimed Canadian soldiers, unless otherwise requested.

Except for the amounts acknowledged herewith the Dollar Chain treasury is now empty, the last \$90.00 having been sent last week to the "Pearson" Institution for the blind, where it was most gratefully received.

Contributions from Feb. 28 to March 21: "Toronto", \$2; "M. C. F.", Toronto, \$1; "Scotia", London, Ont., \$1.

Amount previously acknowledged.....\$5,845.50  
Total to March 21.....\$6,849.50

Kindly address contributions to The Farmer's Advocate and Home Magazine, London, Ont.

## Hope's Quiet Hour.

### Strengthened by Friendship.

Jonathan Saul's son arose, and went to David into the wood, and strengthened his hand in God.— I Sam. XXIII:16.

It's the kindly hearts of earth that make This good old world worth while.

It's the lips with tender words that wake The care-erasing smile.

And I ask my soul this question when My goodly gifts I see,—

Am I a friend to as many men As have been good friends to me?

When my brothers speak a word of praise My wavering will to aid,

I ask if ever their long, long ways My words have brighter made.

And to my heart I bring again This eager, earnest plea,—

Make me a friend to as many men As are good, staunch friends to me.

NIXON WATERMAN.

When the first detachment of Canada's victorious army was greeted enthusiastically by Toronto, many war-worn veterans pushed through the crowd to grasp the hands of comrades who had endured with them the awful strain of life at the front.

How could that life have been endurable without comradeship? Would any life be worth living without friends? Through all the horror and misery of war the glory of fellowship has shone like a pillar of fire in the darkness. The war has knit in undying friendship the hearts of many men; and this priceless treasure will still be theirs when peace has healed the world's wounds. It was when David returned victorious from his battle with Goliath that "the soul of Jonathan was knit with the soul of David, and Jonathan loved him as his own soul."

There are many beautiful stories in the Old Testament—written for us to heed and follow—but, like a glorious star among the rest, shines the story of Jonathan's love for David. Let us study that story for a little while, so that we may be inspired to strengthen our friends also by loyal and faithful love.

It was not surprising that the shepherd lad should be devoted to the generous young prince; but Jonathan's love had many difficulties to overcome. Jonathan had been the hero of the army before David appeared. With only his armor-bearer to stand by him he had climbed a steep cliff in the sight of the enemy and won a victory over twenty men, leading Israel on until the Philistines were driven to their own land. He wrought with God that day, and the people declared that not one hair of his head should fall to the ground. But, when David with his sling and a smooth stone killed the Philistine's dreaded champion, the women came out of all cities of Israel singing songs in his honor.

Most men would have felt hurt at such a moment, but it was then that Jonathan made a covenant with David because he loved him as his own soul. David had taken from him the praise of the fickle crowd, yet Jonathan gave him many outward signs of affection—his princely robe, his sword and his bow. As time went on and it became plain to Jonathan, and to Saul his father, that David would reign in their stead over Israel, the hatred of Saul for his rival grew more and more terrible, while the love of Jonathan grew stronger and more beautiful.

The souls of David and Jonathan were akin and God was the Link binding them together. Jonathan was not afraid to attack a garrison of Philistines, because he knew that "one with God is a majority," no matter how many millions may be opposed to that Alliance. Therefore, he said calmly to his armor-bearer: "There is no restraint to the LORD to save by many or by few." So, also, David went fearlessly against his giant foe, trusting in the name of the LORD of hosts.

And now let us look at the context of our text. David had heard that the

Philistines were robbing the threshing-floors of Keilah, therefore he and his men went to the rescue. Saul was fiercely seeking David's life, and the ungrateful men of Keilah were ready to deliver up their benefactor. David took refuge from Saul in a wood, and it was there that the brave and faithful son of Saul found his friend and strengthened his hand in God. Jonathan told him to be fearless, for Saul could not find him. He said, with beautiful unselfishness: "Thou shalt be kind over Israel, and I shall be next unto thee; and that also Saul my father knoweth."

What a great soul he was in his wonderful humanity! He, the heir to the throne, was ready to accept God's will and take the second place, giving whole-hearted allegiance and devotion to his outlawed brother-in-law, who was hunted like a partridge upon the mountain.

Jonathan loyally pleaded David's cause in spite of his father's mad and jealous rage; until one day Saul cast a javelin at his brave son and Jonathan arose from the table in fierce anger. His anger was not roused by injury done to himself; but it was for his friend, because his father had done him shame. In spite of Jonathan's gentleness and his wonderful meekness—real meekness is rare indeed—he was a strong and fearless man, and loyal-hearted as a man should be.

And so he strengthened the friend whom he loved, reviving his faith in man's honor and in God's faithfulness. Like John the Baptist, whose joy was fulfilled in the "increase" of his Great Kinsman, though it meant his own "decrease," the young prince gloried in the thought that his friend was to be greater than himself. He was greater in worldly position—was he really as great a man? Of course, that is not for us to judge, and yet there is a glory of large-hearted generosity plainly visible in Jonathan, which is an inspiration to all who desire to win the prize of friendship.

Unless your friendship helps to strengthen your friend in God—makes him more ready to do his duty manfully—then you are injuring instead of helping him. Eve tried to prove her friendship for Adam by offering him a gift that was pleasant and profitable—from a worldly standpoint—yet was forbidden by God and conscience. And so the wife who loved him dragged him down, instead of helping him to climb nearer to God and holiness.

When St. Peter showed his love for his Master by trying to stop Him when His face was turned towards Jerusalem—and Calvary—he was sternly rebuked. How astonished the discipline must have been with the knockdown blow he received, in answer to his affectionate appeal: "Be it far from Thee, Lord: this shall not be unto Thee."

The Friend he desired to save from shame and agony, turned on him as if he were a deadly foe, and said: "Get thee behind me, Satan: thou art an offence unto Me: for thou savourest not the things that be of God, but those that be of men."

During the terrible ordeal of the war many women have strengthened in God the hearts of their dearest friends. With smiling lips and steadfast eyes they have said good-bye, without shedding tears which might weaken the resolution of men whose duty called them straight towards danger and death. I heard to-day of a woman who was disappointed because her son preferred to keep out of danger. If you strengthened your son to go—and if his comrades have returned without him—your love should rejoice in his glory.

"Think! Would you wish that he had stayed!

When all the rest the Call obeyed?  
—That thought of self had held in thrall His soul, and shrunk it mean and small? Nay, rather thank the Lord that he Rose to such height of chivalry;  
—That, with the need, his loyal soul Swung like a needle to its pole;  
—That, setting duty first, he went At once, as to a sacrament."

So wrote John Oxenham, as he contemplated a vacant chair.

I thank God every day for His priceless gift of friendship. First of all, of course, we should thank Him for His own strengthening fellowship—thank Him because He loves us too well to weaken our souls by over-indulgence or flattery. Those who shall win His great "Well done!" will know that the commendation is sincere. May our praise to our friends

be real and true. Flattery is always a poor gift, and it can never strengthen a friend in God; but genuine praise is an inspiration. It is humbling to know that a friend looks up to you—when you know he is far above you—yet it makes you eager to really be what he thinks you are. If the friend should happen to be—Christ—then you want to rise to His ideal of you and carry out His plans for you.

Friendship is a big subject and a fascinating one; but I must be careful lest I take up too much space and crowd my friends out of their rightful corner of our Ingle Nook. Let us catch something of the spirit of Jonathan, and rejoice whole-heartedly in the glory of our friends—even though we may have to take second place. Yes, even though we may have to stand aside and see someone else take the first place in a friend's heart. As S. John the Baptist said—the bridegroom has the bride, but the friend of the bridegroom can still rejoice in his own lesser place. Those who cannot sing—or preach—can listen.

"All the others can sing," he dolefully said,

"All the others can sing," said he. So he sat and drooped. But as far and wide

The music was borne on the air's warm tide,

A sudden thought came to the sad little bird,

And he lifted his head as within him it stirred;

"If I cannot sing, I can listen!" he cried, "Ho, ho, I can listen!" he cried."

DORA FARNCOMB.

Gifts for the Needy.

I wish "little Miss Muffett" could have seen the mother's face, when she heard that two dollars had been sent on purpose for her dying child, who has been lying for weeks waiting for the call to go. "Doris" sent two dollars for a deaf friend, and Mrs. J. M. H. (a reader in N. B.) dropped \$2.50 out of her "dime bank" into the Q. H. P. Several readers sent papers for the "shut-in." Do you wonder that I am glad to see the postman? He often brings bills—but they are not of a depressing nature. I do my best to pass on your donations where they are especially needed.

DORA FARNCOMB, 6 West Ave., Toronto.

The Fashions.

How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. Price fifteen cents PER PATTERN. If two numbers appear for the one suit, one for coat, the other for skirt, thirty cents must be sent. Address Fashion Department, "The Farmer's Advocate and Home Magazine," London, Ont. Be sure to sign your name when ordering patterns. Many forget to do this.

Positively no pattern will be sold under 15 cents each, regardless of date published, owing to advance in cost of same.

When ordering, please use this form:— Send the following pattern to:

Name.....  
Post Office.....  
County.....  
Province.....  
Number of Pattern.....  
Age (if child or misses' pattern).....  
Measurement—Waist..... Bust.....  
Date of issue in which pattern appeared.....

2748—Boys' Suit. Cut in 4 sizes: 3, 4, 5 and 6 years. Size 4 requires 1 3/4 yards of 27 inch material for the waist, and 1 1/2 yards for the trousers. Price 10 cents.

2740—A Smart Frock. Cut in 3 sizes: 16, 18 and 20 years. Size 18 requires 5 1/4 yards of 40 inch material. With plaits extended, the skirt measures about 1 3/4 yards at the foot. Price 10 cents.

2752—Girl's Dress. Cut in 4 sizes: 6, 8, 10 and 12 years. It requires 1 yard of lining 27 inches

wide for the underwaist, and 3 yards of material for the dress, for an 8 year size. Price 10 cents.

2750—Ladies' Cover-All Apron. Cut in 4 sizes: Small, 32-34; Medium, 36-38; Large, 40-42, and Extra Large, 44-46 inches bust measure. Size Medium will require 4 1/2 yards of 36 inch material. Price 10 cents.

2596—Girls' Dress. Cut in 4 sizes: 4, 6, 8 and 10 years. Size 6 requires 2 3/4 yards of 36-inch material. Price, 10 cents.

2762—Ladies' Dress. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 5 1/2 yards of 44 inch material. Price 10 cents.

2749—Girls' Dress. Cut in 5 sizes: 4, 6, 8, 10 and 12 years. Size 10 requires 3 1/2 yards of 36-inch material. Price 10 cents.

2760—Ladies' Hous Dress. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 6 yards of 36 inch material. The dress measures about 2 1/4 yards at the foot. Price 10 cents.

2756-2753—Ladies' Costume. Waist 2756, cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 3 1/2 yards of 27 inch material. Skirt 2753 is cut in 7 sizes: 22, 24, 26, 28, 30, 32, and 34 inches waist measure, and requires 3 yards of 36 inch material for a medium size. Width of skirt at lower edge is about 1 3/4 yards. TWO separate patterns 10 cents FOR EACH pattern.

2758—Girls' Dress. Cut in 4 sizes: 8, 10, 12 and 14 years. Size 10 will require 3 3/4 yards of 44 inch material. Price 10 cents.

2519—Ladies' Kimono. Cut in 4 sizes: Small, 32-34; Medium, 36-38; Large, 40-42; and Extra Large, 44-46 inches bust measure. Size Medium will require 5 1/4 yards for full length, and 1 1/2 yards less for sack length, of 36-inch material. Price, 10 cents.

2746—Ladies' Skirt. Cut in 7 sizes: 22, 24, 26, 28, 30, 32 and 34 inches waist measure. Size 24 will require 3 1/2 yards of 44 inch material. Width of skirt at lower edge, is 1 3/4 yards. Price 10 cents.

2602—Ladies' Dress. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 will require 5 yards of 44-inch material. The dress measures about 2 1/2 yards at the foot. Price, 10 cents.

2437—Girls' Dress. Cut in 5 sizes: 6, 8, 10, 12 and 14 years. Size 8 requires 3 1/2 yards of 44-inch material. Price, 10 cents.

2766—Ladies' Apron. Cut in 4 sizes: Small, 32-34; Medium, 36-38; Large, 40-42; and Extra large, 44-46 inches bust measure. Size 38 requires 3 1/2 yards of 36-inch material. The Sleeve protectors require 1/2 yard. Price 10 cents.

2745—Ladies' Waist. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 2 3/4 yards of 40 inch material. Price 10 cents.



APRIL  
2695—  
Cut in 4  
44 inches  
4 1/2 yards  
of skirt at  
10 cents.  
2705—  
Cut in 4  
Size 10 w  
material.  
2331—  
Cut in 4  
and 46 in  
requires 7  
The dress  
the foot.  
2679—  
Cut in 4  
Size 4 will  
material.  
2693-270  
Waist 2  
38, 40, 42,  
Skirt 2701  
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2 3/4 yards  
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2681—  
Cut in 4  
Size 12 wil  
material.  
2680—  
Cut in 4  
and Extra  
require 3 3/4  
Price 10 ce

Girls' Dress.  
 sizes: 8, 10, 12 and 14 years.  
 require 3 3/8 yards of 44 inch  
 Price 10 cents.

Ladies' Kimono. Cut in 4  
 sizes: Small, 32-34; Medium, 36-38;  
 Large, 40-42; and Extra Large, 44-46  
 inches bust measure. Size Medium will  
 require 3 3/8 yards for full length, and  
 1 1/2 yards for sack length, of 36-inch  
 material. Price, 10 cents.

Ladies' Skirt.  
 sizes: 22, 24, 26, 28, 30, 32  
 inches waist measure. Size 30  
 will require 3 3/8 yards of 44 inch  
 material. Width of skirt at lower edge,  
 2 1/2 yards. Price 10 cents.

Ladies' Dress.  
 sizes: 34, 36, 38, 40, 42, 44  
 inches bust measure. Size 38  
 will require 5 yards of 44-inch material.  
 Price, 10 cents.

Girls' Dress.  
 sizes: 6, 8, 10, 12 and 14  
 years. require 3 3/4 yards of 44-inch  
 material. Price, 10 cents.

Ladies' Apron.  
 sizes: Small, 32-34; Medium,  
 36-38; Large, 40-42; and Extra Large,  
 44-46 inches bust measure. Size 38  
 will require 3 3/8 yards of 36-inch material.  
 Price, 10 cents.

Ladies' Waist.  
 sizes: 34, 36, 38, 40, 42, 44  
 inches bust measure. Size 38  
 will require 40 inch material.



2695—Ladies' Dress.  
 Cut in 6 sizes: 34, 36, 38, 40, 42 and  
 44 inches bust measure. Size 38 requires  
 4 5/8 yards of 40-inch material. Width  
 of skirt at lower edge, is 2 yards. Price,  
 10 cents.

2705—Girls' Dress.  
 Cut in 4 sizes: 4, 6, 8, and 10 years.  
 Size 10 will require 3 3/8 yards of 36-inch  
 material. Price 10 cents.

2331—Ladies' House Dress.  
 Cut in 7 sizes: 34, 36, 38, 40, 42, 44  
 and 46 inches bust measure. Size 38  
 requires 7 yards of 36-inch material.  
 The dress measures about 2 1/2 yards at  
 the foot. Price, 10 cents.

2679—Girls' Dress.  
 Cut in 4 sizes: 2, 4, 6, and 8 years.  
 Size 4 will require 2 3/8 yards of 36-inch  
 material. Price 10 cents.

2693-2701—A Good Business Costume.  
 Waist 2693, Cut in 7 sizes: 34, 36,  
 38, 40, 42, 44 and 46 inches bust measure.  
 Skirt 2701, Cut in 7 sizes: 22, 24, 26, 28,  
 30, 32 and 34 inches waist measure.  
 For a medium size the waist will require  
 2 3/8 yards of 36-inch material. The skirt  
 will require 3 3/8 yards of 44-inch material.  
 Width at lower edge is 2 1/4 yards with  
 plaits drawn out. TWO separate pat-  
 terns 10 cents FOR EACH.

2681—Girls' Dress.  
 Cut in 4 sizes: 6, 8, 10 and 12 years.  
 Size 12 will require 3 3/8 yards of 44-inch  
 material. Price, 10 cents.

2689—Ladies' Apron.  
 Cut in 4 sizes: Small, Medium, Large  
 and Extra Large. Size Medium will  
 require 3 3/8 yards of 36-inch material.  
 Price 10 cents.

2703—Girls' Night Dress and Bed  
 Sock.

Cut in 7 sizes: 1, 2, 4, 6, 8, 10 and  
 12 years. Size 10 years requires for  
 the gown, 3 3/8 yards of material 36-  
 inches wide and for a pair of socks,  
 1/8 yards 22-inches wide, or wider. Price,  
 10 cents.

### The Ingle Nook

Rules for correspondence 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.]

#### A Question.

Dear Junia—I have seen many helpful  
 suggestions in your Nook so I thought  
 I would come to you also for help.

We made vinegar last spring from  
 maple sap and it is real strong but very  
 thick. There is plenty of plant in it  
 but it seems to need something to thin it  
 out. Could you tell us any way of doing  
 that?

Bruce Co., Ont.  
 I have about a thousand recipes on  
 hand, but not a single one that deals  
 with maple sap vinegar. Will someone  
 who has had experience kindly answer  
 Mrs. A. T. P.—J.

#### Cream Puffs.

For "Patience," Elgin Co., Ont.:

**Cream Puffs.**—Pour 1 cupful boiling  
 water into a granite dish (not too large)  
 and set it on the stove. Turn into it 1/2  
 cup butter. When the mixture is boiling  
 hard turn in quickly 1 cup flour and stir  
 rapidly. Take off at once and let cool.  
 Next rub in 3 eggs, unbeaten, one at a  
 time, mixing each into the paste thorough-  
 ly before adding the next. Drop the paste  
 in little rough lumps on a greased pan  
 and bake about 25 minutes in a rather  
 hot oven. When done there will be  
 a hole in the middle of each. Open at  
 one side and put in a spoonful of stiffly  
 whipped cream, slightly sweetened and  
 flavored with vanilla. If preferred a  
 boiled custard may be used instead of the  
 cream.

#### Almond Icing.

For W. R. W., Peel Co., Ont.

Icing made as follows is excellent:  
 Take whites of 3 eggs, 1 lb. icing sugar,  
 1 lb. sweet almonds, 1 1/2 oz. bitter almonds  
 Blanch the almonds, (by scalding and  
 rubbing off the skins) the day before they  
 are used so that they will be perfectly  
 dry. Put through a food-chopper 7 or  
 8 times. Add to the slightly beaten  
 white, then add the sugar, mixing very  
 thoroughly. Use a silver knife dipped in  
 hot water to smooth, when putting on the  
 cake. Finally cover all with a plain white  
 icing.

#### Propagating Hyacinths.

For Mrs. W. M. P., Essex Co., Ont.:

It is almost impossible to propagate  
 hyacinth bulbs satisfactorily in this  
 country. With the exception of the  
 Roman variety the world's supply of these  
 bulbs comes from Holland, whose soil and  
 climate seem peculiarly suitable, for them.  
 The method there—as given in Bailey's  
*Cyclopaedia of Horticulture*—is as fol-  
 lows: The bulbs are planted in October  
 in rich land and protected over winter by  
 litter. The flowers are cut when in full  
 bloom in the spring. By July the bulbs  
 are ripe, and are taken up, dried and  
 cleaned. All overgrown or unshapely  
 bulbs are kept for propagating. As  
 soon as taken out of the ground three  
 deep cuts are made with a sharp knife  
 in the bottom of each bulb. They are  
 then set out, bottom upwards, and  
 covered with loose soil for 2 or 3 weeks,  
 during which the cuts open out and the  
 wounds are healed. They are then  
 taken up and spread out till October,  
 when they are planted out. When the  
 next June comes they are lifted: then  
 nothing but some dried skin remains of  
 of the parent bulb, but a number of little  
 bulbets are found. These are picked off  
 and planted in the fall. The process of  
 planting in the fall and taking up for  
 a 2-months rest each summer is repeated  
 for 4 or 5 years, when they will have  
 attained a marketable size.

## The Wonderful convenience of EGG-O Baking Powder

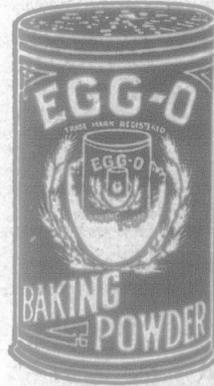
Have you ever wanted tea biscuits for supper, but felt that you couldn't have them because you were going out for the afternoon and wouldn't have time to mix the dough after you returned?

Why not use Egg-O Baking Powder and mix the dough before you go, putting the dough in a cool place until you return? Then put into the oven and you'll have beautiful, light biscuits. Try it.

When Egg-O is used, it improves your biscuits and cakes to allow the dough to stand. And it is a wonderful convenience!

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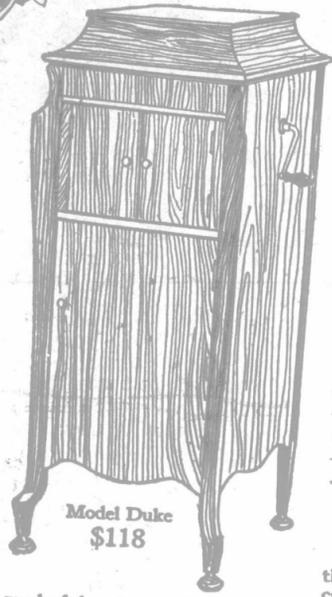
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All seams are double stitched; all buttons are rivetted, while points where the strain is hardest are reinforced to prevent tearing or ripping. You'll be surprised at the way your Carhartt's will wear and wear and wear. You'll say when the time comes to discard them—and you may depend upon it that won't be for a good while—"Well those Carhartt's certainly don't owe me anything." Ask your dealer for Carhartt overalls, allover and gloves by name. They are readily identified by the car-heart button, and remember my overalls have stood the test of twenty-five years. "They are made up to a standard, not down to a price."

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Model Duke  
\$118

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The "Phonola" is far beyond the experimental stage. It has been on the Canadian market for more than eleven years—each year growing more popular. In fact, this company is the pioneer in the cabinet phonograph industry in Canada. Two completely equipped factories are now required to make enough "Phonolas" to supply the insistent demand.



The beauty of the "Phonola" cabinets is remarked by everyone who sees them. The mahogany and oak is of the finest quality and the workmanship and finish are a credit to the cabinet-maker's art.

We take pleasure in announcing to the public that in the future the Phonola will be equipped with a new Universal Seamless Tapered tone arm which does away with all attachments. The entire arm is beautifully designed and finished, and is a marked contrast to the cheap dye cast arms seen on other makes of Phonographs.

It is the only Universal tone arm that is scientifically designed and the only one that will play all makes of records perfectly.

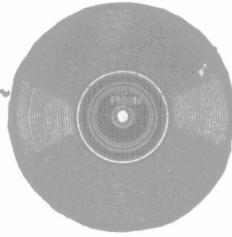
The Phonola will also be equipped with a new Aluminum Reproducer fitted with a special insulated rubber connection which eliminates metallic sounds from being transmitted to the Amplifier.

Equipped with these two new devices the Phonola takes another step in advance of all competitors as furnishing the truest, clearest and sweetest tone it is possible to reproduce.

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They are played with the sapphire point, with which the "Phonola" is always equipped. No needles to change. Leading singers, instrumentalists and bands make "Phonola" records. A new list of selections every month. Buy one "Phonola" record. You'll like the tone so well you'll get a dozen right away. Double-Disc—90c.



The Phonola Co. of Canada, Limited  
Kitchener, Canada

## Our Serial Story.

The Forging of the Pikes.  
A Romance Based on the Rebellion of 1837.

Serial Rights secured by The Farmer's Advocate and Home Magazine.  
CHAPTER XVIII.

Toronto.

November 5th, 1837.

AS I write this I am not sitting in my little room under the rafters, but in another, very daintily furnished, with a window that looks out upon the bay, so that continually I have a changing picture from it of gleaming water, now rose-streaked, now blue, or green, or silver, or iridescent, according to the time of day, if the sun shines, but very steely and sullen when the skies are gloomy and the snow-flakes begin to fall as they do of late.

The reason of my being here is this—and I think I shall write all of the dear scene in detail, for I may confess to my journal that sometimes I am more than a little homesick, and very much given to living over the old home days.

Upon the afternoon of which I write we had had a bee in the fallow—a very small one—for burning up some logs and slash which should have been disposed of long before, in August or September but which my father and I could not manage this year to get ready in time. However, a short dry spell, with high winds, dried everything out so that we thought we might venture, and so invited a few of the boys—Dick and Fred Jones, Hank and Ned, and one or two more, who brought oxen and chains as usual.

At any other time, after a bee, the evening would have ended in a dance,



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This Package has been on the market over 12 years and is in greater demand to-day than ever.

Imitation is the sincerest form of flattery. Our product is imitated but not equalled—Refuse all Substituted Imitations.

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Head Office and Plant: LONDON, ONT.

THIS \$22.75 Equipment Will Raise Over 350 Chicks in Three Months



The Radio Hover \$6.75



Cycle Hatcher \$8.00



\$8.00

Fresh eggs hatch better. Start a machine as soon as you gather 50. One gal. oil runs our machine three weeks. Each machine equipped with Tycos thermometer and Oakes' sensitive thermostat. Weight, Hover, 16 lbs.; Cycles, 14 lbs. Write for free catalogue. Orders shipped same day as received. Buy of the makers.

THE COLLINS MFG. CO.

411 Symington Avenue, TORONTO

but the boys had doings afoot with The Schoolmaster and left immediately after supper, while I returned to the fallow for some things I had forgotten and that I feared might be in the way of the fire.

It was quite dark then, and so I sat down for a time to look at the scene, for I think there can be nothing more beautiful than a log-burning in a fallow at night. About the log-heaps the flames licked and curled, creeping upward and upward in long, red tongues, and sending up columns of smoke that spread out like reddish misty trees in the flickering light. All about, the little knolls and hollows seemed to move as the shadows wavered and shifted, like a restless sea of black with red-crested waves, while beyond all stood the great silent wall of the forest, grim as though in wordless protest against this fiery disposal of its children.

As I sat there enjoying the pleasant warmth, for the evening was chill, Blucher lay beside me, head erect, ears up, very much interested in such unwonted doings, but quite trustful that all must be for the best; and, indeed, we must have stayed over long, for presently my father's voice could be heard, at a little distance, hallooing.

I replied to it and arose, and as we approached each other, with the firelight glowing upon us, I could see that he held a letter.

"Is there some news?" I asked. "Just a letter from your Uncle Joe," he replied. "Tom Thomson left it in on his way from the Corners. Your uncle wants you to come up to Toronto at once. If you decide to do that you can get a chance with Tom in the morning. He's going up on business and can bring Billy back."

"Whew!" I said, "This is rather short notice, isn't it?"

And then we sat down and I read the letter by the fire-light. Briefly this was its content: The young man in my uncle's apothecary shop had recently left, leaving a place there which my uncle would like to have me fill for the winter. Since his patients always increased in number in the cold weather, and it was absolutely necessary for him to make his rounds, there would soon be less time that he himself could spend in his dispensary, yet there was much there that I could do quite well with such instruction as he could give me between times. Besides he thought I should have a taste of city life.

"You've always said," he wrote, addressing my father, "that you wanted your son to be an all-round man.—Just the way I feel, my dear fellow, about my own family,—although, by the same token, all my boys are girls! Anyhow I've done my best with them. Nora and Kate can ride like dragons and swim like minnows, and the two little ones, Mollie and Dora, are coming on after them.—Shoot, too! You ought to see Nora with a rifle! And now she's for learning with the bow and arrows too.—But there's the colleen for you! She can ride all day and dance all night, and then get the breakfast ready for her mother if need be, chipper as a wren, before eight o'clock in the morning. If I remember your lad, Alan, aright, she and he will get along like a house afire. I'll be glad to have him here, too, to keep off some of the other young gallants. They're beginning to come around like bees about a hive of honey, by Jove!—altogether too thick for my notion. Everything considered, you had better send the boy along—the sooner the better, for me. Of course my dear sister there and you will miss him, but you can live your lover-days over again and it won't be long until spring.—

"Your affect. Brother-in-law," "Joe."

Then there followed a very characteristic post-script.

"P. S. If you don't let him come I'll think it's because you're afraid to trust him with such a dyed-in-the-wool Tory as your affect. Brother-in-law. Of course I'll argue with him.—By the powers, that I will! It will afford me the greatest pleasure in the world to knock some of those confounded Reform notions out of his head—if I can. But I don't forget that he's half Scotch, half Irish—a combination that never yet made a mixture easy to handle. So you can trust him to hold his own, one way or another, as you probably know. He looks like his Irish grandfather, and he was

the very way he'd done like a K—and i where h stop thi nine-ten You may self."

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ite dark then, and so I sat  
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the very devil. You'd never know what  
way he was until the last minute and then  
he'd down with his head and ram through,  
like a Kerry bull—horns first, tail flying  
—and it didn't take the Lord to know  
where he was going then! —But I must  
stop this. Send the lad along and give  
nine-tenths of my love to Mary Ma'hree.  
You may keep the other tenth for your-  
self."

When I had ended the letter my father  
was smoking his pipe and gazing solemnly  
at the blazing log-piles.

"Well, what do you think about it?"  
he said.

"What does mother think about it?"  
I asked.

He took out his pipe and knocked  
its contents out on a stone, absent-  
mindedly, for he had just filled it.

"You know," he said, "we've always  
said you should have a while in the city.  
We had hoped it would be at the Upper  
Canada College, but the money doesn't  
seem to have come in enough for that."

"It doesn't matter, father," I said, for  
I knew that this was a sore subject  
with him. "I've had the books, and  
you and mother have helped me past the  
schools here.—Don't you remember how,  
when I was only ten years old, you put  
me thorough the *pons asinorum*?"

He smiled with the remembrance.  
"It was so little we could do," he said,  
but we did our best. And there were the  
books—aye."

For a moment I waited.

"So you think I had better go?" I  
asked.

"Your mother and I think you must  
decide for yourself," he replied. "We  
think it a good chance—of course."

"Perhaps," I agreed, but I confess  
that thoughts of leaving Hank, and of the  
boys drilling, and of the remote possi-  
bility that Barry might return to the  
neighborhood were buzzing through my  
mind so that I could hardly form a  
clear idea at all."

"After all, it's well for you to see more  
than one side of life," said my father.

"It must be," I agreed.

"Your mother says," he went on,  
"that if you're going up with Tom in the  
morning you'd better come in at once  
and see what's to be taken. I left her  
washing out your shirts."

"So it's all settled," I said, smiling,  
and with that we arose and went through  
the dark fields to the little home.

"He's going, Mary, said my father,  
as we entered, and, indeed, my dear  
mother already had my best things out,  
and was sorting them ready to put in the  
travelling-bag. "You'll not have to take  
much," she said. "You'll need better  
things there and can buy them in the  
shops."

It was not long after daybreak when  
I left them. "I'll be home at Christmas  
if not sooner," I assured them, and my  
mother smiled and choked back the tears.  
"Yes, if the roads are fit," she said.  
—And then I rode away, turning at last  
to wave to them as they stood at the gate  
in the gray morning light.

On the way here Tom and I had  
a satisfactory though uneventful journey,  
over fairly hard-frozen roads, and, arrived  
at my uncle's there was another good-bye  
to say to Billy, and big enough was the  
lump in my throat, I do confess, as I saw  
him go off with Tom, the empty saddle on  
his back.

But it was necessary to hide such  
softness, for my uncle was there, and  
my aunt, and all the girls, swarming  
out of the door like so many bees, and  
all very hearty and glad to give me wel-  
come. Right to the sidewalk they came,  
bare-headed, just as they were, and my  
uncle pounded me on the back and aunt  
and the girls kissed me, nor could we go  
in at all until they had all looked me up  
and down, and asked for the folk at home  
and told me how pleased they were to  
have me.

"Taller than I am, by the powers!"  
exclaimed my uncle. "By Jove, boy,  
it takes the backwoods to put inches and  
girth on a young fellow!"

"Still he is like his grandfather,"  
added my aunt, "only taller and broader,  
of course."

"Well, don't keep him out here in the  
cold, while you admire him," laughed  
Kate, and then Nora caught me by the  
arm and the two little girls insisted on

struggling off with my travelling bag,  
and so we went in in hilarious procession,  
everybody talking and laughing at once.

Uncle Joe's house, it seems to me, is  
quite fine, very commodious and comfort-  
able, though built but of wood, painted  
white. There is a portico at the door,  
and the windows are many and protected  
by green shutters. Behind there are some  
fine forest trees, which have been left  
standing, while in front there is a garden  
for flowers enclosed by a picket fence also  
painted white.

Inside there are fire-places with marble  
mantels in every part of the house, and,  
in the long hall that leads from the front  
door a fine broad stair-case of polished  
oak, with carpet so soft that never a  
footfall sounds as one ascends. In  
all the rooms there are such carpets,  
so that, were it not for the merry talk  
and laughter, the place would be very  
silent indeed. The chairs and sofas, too,  
are very soft and deep, and are so many  
that, with marble-topped tables, and  
pictures, and brass sconces and andirons,  
the whole place looks most elegant.

Upon the first evening, as we sat about  
the fire in the family parlor, I had to tell  
all about the dear home and manner of  
living of our people, all of which was  
especially interesting to the girls, who  
have never visited us.

Uncle Joe declared that the bush  
country, with its tree-felling, and logging  
bees, and strenuous out-of-door life is  
the very place for the making of men.

"And of gentlemen, too, dear," added  
my aunt, "when there are such mothers  
as Mary."

—Which words were very kind of them  
to say and very pleasing to me to hear.

Kate, who appears something of a  
patrician in her ideas, said she thought  
it was charming of my mother to stay in  
such savage surroundings; she herself  
would be frightened to death to see  
Indians walk into the house without  
knocking or have to walk at any time  
through woods where she might meet  
bears or lynxes; but this Nora received  
with a peal of laughter.

"Now, Kate," she said, "You know  
very well you're not one bit more afraid  
than I am." Then—turning to me—

"Kate, you must know, Alan, likes to  
make being afraid an excuse for always  
having an escort. It's so much more  
romantic, you know to have that  
young—"

But she could go no further, for Kate's  
hand was over her mouth, whether in  
irritation or playfulness I could not make  
out.

"Anyhow," Nora declared, freeing  
herself, "I think it must be lovely where  
you live, and I'm promising myself a  
holiday there next summer."

The girls are all very beautiful, especial-  
ly Kate, but there is a something about  
Nora that makes her very attractive,  
even more so I think, than Kate. At  
first I thought this was a certain spright-  
liness or life, that is lacking in the more  
graceful and haughty elder sister, but  
later I have come to the conclusion that  
it is Nora's great naturalness and spontane-  
ity that make her chief charm.  
Very evidently—although he tries to  
hide it—she is her father's favorite.

Since coming I have been to every  
part of the town, and find it much grown  
since I was last here, with the houses  
much scattered, the better ones being  
surrounded by large parks of trees, with  
driveways, which make them look very  
imposing—at least to my backwood's eyes.  
Nearly all of the houses are clap-boarded,  
and for the most part, very neatly painted,  
although a few are strongly built of  
brick. Uncle Joe's is on King Street,  
where there are some quite fine places,  
especially towards the West, where the  
residence of the Lieutenant-Governor  
stands at a short distance from the bay.

Along some of the aereets there are  
plank sidewalks with, here and there,  
a space flagged with stones from the bay,  
and along part of King and Front streets  
the business houses are quite closely  
set, the best buildings being about the  
corners of King and Frederick streets.  
For some distance up Yonge street there  
are also some business places, with  
scattered houses and taverns, and some  
very fine private dwellings even north  
of Lot street.

One of my earliest visits was paid to  
the garrison, which I had not seen before,

## "BULLS IS BULLS"

Thousands of dairy farmers have delud-  
ed themselves by using scrub bulls. Result  
—low producing, low testing, ill shaped,  
unprofitable cows.

Do you realize that a good bull is more than  
half the herd, but a scrub is mighty near all of it?

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Mr. Dairyman: Do they apply to you?



If so, remember  
that no breed has ever  
proved their superior-  
ity to the Ayrshire in  
these two great essen-  
tials. Start right—put  
an Ayrshire Bull at the  
head of your herd and  
grade it up.

For information  
about the Ayrshire  
breed, write:—

W. F. STEPHEN,  
Secretary

Canadian Ayrshire Breeders' Ass'n  
HUNTINGDON, QUE.

## Buy an Irrigated Farm IN SUNNY ALBERTA AND GET A CROP EVERY YEAR

The most important fact in the growth of large crops in  
Western Canada is moisture. Given plenty of moistur at the  
right time big crops are assured. This is what the farmer on  
irrigated land can have every year. In Southern Alberta such

#### READ WHAT F. J. MEECH DID

"This year—1918—owing to the  
war I rew a considerable acreage  
of wheat and my crop on this  
eighty acres of land was about  
1,500 bushels of wheat; 250 bush-  
els of oats; 6 tons of oat hay; 25  
tons of potatoes, and from a track  
about one acre set aside for garden  
and small produce I have sold  
about \$75.00 worth of vegetables  
in addition to having sufficient for  
my own use till my next crop  
comes.

"I have also commenced a small  
dairy, having five cows which are  
yielding at the rate of \$90 per  
month.

"My land is in a district where  
alfalfa is an established crop, and  
two or three cuttings can be taken  
off in a season."

Mr. Meech purchased eight  
acres of irrigable land near  
Lethbridge, Alberta, from the  
C.P.R. towards the end of 1916.

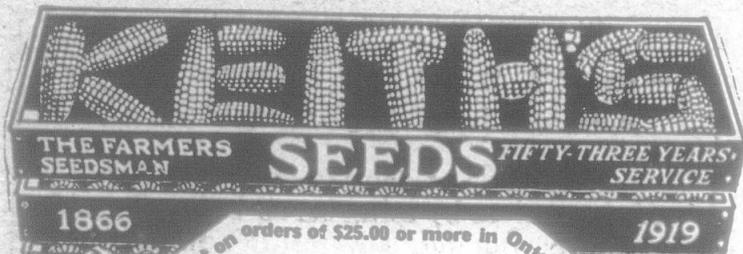
varied crops as wheat, oats, flax,  
barley, rye, alfalfa, timothy, brome  
grass and all kinds of fodder, to-  
matoes, beets, potatoes, roots,  
vegetables are grown profitably  
on irrigated land. Ideal mixed  
farming proposition. First class  
land \$50 acre, including water  
rights. Easy terms, only one  
tenth cash and twenty years to  
pay. \$2,000 loan for buildings,  
etc. A splended chance to become  
independent.

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Table listing various seeds and their prices, including Clover and Timothy, Corn on Cob, Mangel Seeds, and Suede Turnips.

GEO. KEITH & SONS SEEDS 124 KING ST. E TORONTO

Advertisement for Empire Milking Machines, featuring an image of a cow and a milk separator. Text includes 'Milks Any Cow' and 'The Empire Cream Separator Co., of Canada, Limited.'

Table for Saw-Blades with columns for size and price. Includes text: 'PRICE OF SAW BLADES F.O.B. FACTORY' and 'A. R. LUNDY, 255 KING STREET WEST TORONTO'

Advertisement for Aspinwall Potato Planter, featuring an image of the machine. Text includes 'One Man Potato Planter' and 'Plants More Acres per Day'

and where there are low forts and a number of cannon on a commanding position at the head of the bay, overlooking the wharf at which supplies for the garrison are landed. The place is not very interesting just now, however, because there are very few about, the soldiers having been ordered away, for the most part, some short time ago, and sent to Kingston.

To be continued.

Current Events.

A bill to create a Federal Department of Health was introduced into the Commons by Hon N. W. Rowell. A bill to enfranchise women for provincial and municipal elections was introduced into the Ontario Legislature by Premier Hearst.

At the Peace Conference events continue to move with most inconvenient slowness. In order to expedite matters the inner Council of Ten was subdivided and a Council of Four created, much to the chagrin of Japan, whose representative was not included, the Big Four consisting of Premier Lloyd-George, President Wilson, Premier Clemenceau of France and Premier Orlando of Italy.

racial non-discrimination, neither amendment was presented. Something happened—but "what" is not known. Premier Hughes, of Australia, by the way, fiercely resists this claim of the Japanese. The Big Four have, however, accepted the American principle that reparations shall be fixed by the amount of damage the Allies have suffered at the hands of Germany, and that the amount Germany shall be called upon to pay shall be limited by her ability to pay—the amount being placed at between twenty and thirty billions of dollars.

Garden Notes.

Do not plow or spade while the soil is wet. Be sure to mix all fertilizer very evenly through the soil. As soon as the soil is easily worked plant out onion sets and seed, peas, beans, spinach, early turnips and radish.

Dahlia and tuberose tubers for early blooming may be started in the house. Leave a bit of the stalk attached to the end of every dahlia tuber. Poppy seed may be sown as soon as the soil can be worked.

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.

Executors Renumeration.

What should an executor of an estate get where property is valued at ten thousand dollars? What is allowed per thousand? Ontario. Ans.—There is no fixed allowance. It depends upon the pains taken, work done, time expended and responsibility involved in the administration by the executor of the particular estate; and the amount, unless agreed upon by all the parties interested, is determined, by the surrogate judge upon the passing of the executor's accounts. The judge may make the allowance on a percentage basis, or may give a lump sum.

APRIL 3, 1916. Rural... 1. A myself, in a rural li board to line. Ha... 2. If t agree to take my p... 3. Can cow with auction s Ontario Ans.—1 2. Tha course—se Act, 1915 year, Chap 3. If n the vend that the a incline to t pay. A rents \$100 for fr 5 years per due 1st D A's crop is B represent of the lea also the r The lease 1916. Rent ber, 1916. making any ber 1st, 19 to collect re or what po any? Ontario. Ans.—A vided he is factorily th and the a year's rent ments made difficulty in administrat in the even for his own The fact th 1916 rent of Sweet Cl 1. Will mixture of barley and summer pas last year a but as swee clover I th it kill sweet year? Wil first year? advise sowi 2. Is th for dairy co lbs. of milk lbs. mixed class oat st of oil cake shorts two parts, feedi pounds of protein, ca to each hur balanced ra Ans.—1 with the g We doubt barley in barley is b stock, and sickening a a summer included. pasturing th make a littl red clover. per acre is fertility of t 2. The is fairly we satisfactory of milk wh ratio is 1 to lbs. of car figured as 3 carbohydrate about 32 l protein; 13 of fat. By could ascer cows would less of the Oats are pa of course, ar

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 o hold office in the League;  
 va shall be its headquarters.

**Questions and Answers.**  
 Miscellaneous.

**Rural Telephone—Diseased Cow.**

1. A number of farmers, including myself, installed telephones and built a rural line. We also put in a switch board to get connections with the bell line. Have we to be incorporated?  
 2. If the majority of the shareholders agree to have it incorporated can they take my phone out if I do not sign also?  
 3. Can A be compelled to pay for cow with tuberculosis purchased at auction sale?  
 Ontario. SUBSCRIBER.

Ans.—1. Yes.  
 2. That would not be their legal course—see The Telephone Amendment Act, 1915, Ontario Statutes of that year, Chapter 33, Section 21.  
 3. If no representation was made by the vendor or auctioneer to the effect that the animal was free from disease we incline to the view that A can be made to pay.

**Claim of Rent.**

A rents a farm from B for 6 years at \$100 for first year and \$125 for remaining 5 years per year. A pays first year's rent, due 1st December, 1915. Second year A's crop is a failure and farm is not as B represented. A asked B to be relieved of the lease under those conditions, and also the rent for improvements done. The lease was cancelled November 8, 1916. Rent was not due till 1st of December, 1916. In spring 1918 B dies without making any demand for rent due December 1st, 1916. Now the estate is trying to collect rent. Is A liable for rent or not, or what portion of rent would he pay if any?  
 Ontario. R. H.

Ans.—A need not pay any rent, provided he is in a position to prove satisfactorily the cancellation of the lease and the allowance, off of the second year's rent in consideration of improvements made by him. He may have much difficulty in satisfying the executor or administrator of B's estate, or the court, in the event of suit—on these points, for his own evidence must be corroborated. The fact that B did not demand the Dec. 1916 rent ought to help him considerably.

**Sweet Clover in Pasture Mixture.**

1. Will sweet clover do to seed with a mixture of one bushel each of oats, barley and wheat per acre to use as a summer pasture crop? I used red clover last year and it gave good satisfaction, but as sweet clover is cheaper than red clover I thought I would try it. Will it kill sweet clover to pasture it the first year? Will it make a good growth the first year? How much seed would you advise sowing per acre?  
 2. Is the following a balanced ration for dairy cows giving between 30 and 40 lbs. of milk per day: 30 lbs. silage, 12 lbs. mixed hay, a liberal feed of first-class oat straw at noon, and a mixture of oil cake one part, bran two parts, shorts two parts, and ground oats four parts, feeding one pound to each four pounds of milk. What proportions of protein, carbohydrates, fat and fibre to each hundred pounds of feed should a balanced ration contain?  
 G. A. M.

Ans.—1. Sweet clover may be sown with the grains for a summer pasture. We doubt the advisability of including barley in the mixture. The smut of barley is believed to be detrimental to stock, and last year we heard of cattle sickening and dying from pasturing on a summer pasture where barley was included. The sweet clover will stand pasturing the first year, and will possibly make a little more rapid growth than will red clover. From 15 to 20 lbs. of seed per acre is advisable, depending on the fertility of the soil.  
 2. The ration which you are feeding is fairly well balanced and should prove satisfactory for cows giving the quantity of milk which you state. The standard ratio is 1 to 4.5, or 1 lb. of protein to 4.5 lbs. of carbohydrates and fat; the fat figured as 2.3 times as valuable as the carbohydrates. The standard calls for about 32 lbs. of dry matter, 3.3 lbs. protein; 13 lbs. carbohydrates and .8 of fat. By experimenting a little you could ascertain whether or not your cows would do better on more oats and less of the higher-priced concentrates. Oats are particularly good for cows, as, of course, are the other feeds.

**Garden Notes.**

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 Adolph Rousseau.

**and Answers.**

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**Miscellaneous.**

**Remuneration.**

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**BOYS BUY THIS HAND CULTIVATOR DIRECT FROM THE FACTORY**

It's a strong, light, handy tool made of steel with white Ash Handle 4½ and 5 ft. long. For hand cultivating loosening up the soil, making earth ready for Garden or Flower beds, and for raking it has no equal.

Send one Dollar (\$1.00) Post Office Money Order for two or Two Dollars (2.00) for four. State length of Handle, if not satisfied money refunded.

Save Wholesalers and Retailers profit and help us to advertise it.

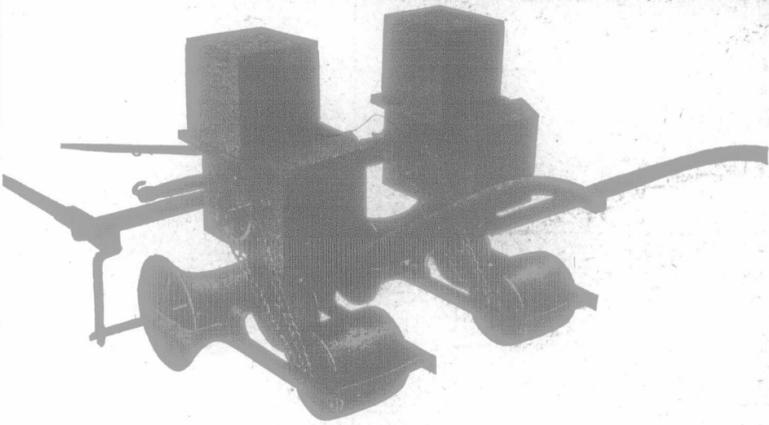
**Canadian-Warren Axe & Tool Company, Limited**  
 ST. CATHARINES - ONTARIO



**HEMME'S Latest Seeder**

Will sow either on drills or level. It will sow seed exactly where you want it and not waste any where you don't want it same as planting by hand, thus saving a great deal of seed and labor in thinning as seed is sown as shown here . . . or . . . as far apart as you like to set it and as many as you like. Our large steel disc turn cutting the furrow, will not trail seed or fertilizer. You will produce enough extra roots to pay for it on 1 or 2 acres. Note the great amount of seed and labor it saves, will sow rape, turnip, carrot, onion, cabbage, sugar-beet, mangel, cucumber, sugar-cane, corn, or any other kind of seed, spreading as much fertilizer as you like around the seeds. Our Seeder and Fertilizer attachment fit on any other root seeder. Hemme's Seeders are shipped freight paid direct from factory to your Station. Send to-day for information and take advantage of special introducing prices.

Manufactured, guaranteed and sold by  
**A. HEMME & SONS**  
 Dublin, Ontario



**No more Aching Backs**

Why not lessen the drag and drudgery of Wash-Day by using a convenient, and easy running  
**CONNOR WASHING MACHINE**

The Connor "Beaver" Washing Machine runs as smoothly and quietly as a watch. Thousands of these popular washing machines are in use every week giving splendid results. Have your dealer demonstrate this machine to you. Handsome booklet sent on request.

**J. H. Connor & Son, Ltd.**  
 OTTAWA - ONTARIO

**Kiln Dried Seed Corn**  
 That will grow. Government test 100%. Your money back if not satisfied.  
 E. BONDY, R. R. No. 1, Arner, Ont.



**Trees on Highway.**  
 Last week the foreman of the local section of the Telephone Company told me that he will soon be ready to cut down a row of forty elm trees which boarder our farm along one side of the road. We have taken considerable care of these trees and are naturally proud of them. to be sure their tops have to be frequently trimmed by linemen to prevent contact with their lines and poles. Does the Railway Commission give this company power to demolish these beautiful trees in spite of our ownership and our desire to save them for their beauty?  
 On the opposite side of the road, on which side we live, the electric company took the tops off five maples, after some thought we consented to this and received some remuneration.  
 If we must submit to this destruction please inform us as to what rate of remuneration we may ask. If the trees must go we want their highest price obtainable but we must save them as they are if possible.  
 J. S.  
 Ontario.  
 Ans.—We do not think that the company are legally entitled to go the length they propose in the matter of these trees; and we would recommend you to instruct a solicitor to write them a warning letter. And a similar letter ought to be sent to the section foreman. For some further information on the subject of such trees, planted on the highway, we would refer you to the Tree Planting Act, Revised Statutes of Ontario, 1914, Chapter 213.

**TOWERS WATERPROOF CLOTHING**

"Takes the Wet out of Rain"  
 The "Twenty-Two" Coat  
 (Trade Mark)

THE coat that keeps out all the water all the time. This coat is specially adapted for farmers and teamsters, made from heavy material, finished with corduroy lined collar. Fastened at an angle with solid brass rust-proof clasps. You cannot get the legs of your pants wet with this coat. On every Fish Brand label appears the simple words "Satisfaction Guaranteed" which mean that we will make good any Fish Brand garment which for any reason fails to do its full duty. Ask your dealer. TOWER CANADIAN LIMITED Toronto Vancouver Halifax Coast to Coast Service

**TOWERS FISH BRAND**

**Sunnyside Herefords**  
 Females all ages, choice bull calves, one full brother to sire of 1st prize bulls at Toronto, London and Guelph 1918, 1 year-old bull at Farmer's prices, car of bulls 2 and 3 years old; one 4-year old bull would exchange for one of equal merit or younger bull. See them they are priced to sell. Arthur F. O'Neill & Sons, Denfield, Ont., R. No. 2. Phone Granton

Please mention Advocate




## POULTRY AND EGGS

Condensed advertisements will be inserted under this heading at four 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 60 cents.

**ANCONAS SINGLE-COMB STRONG AND VIGOROUS.** Two year hens mated to cockerels from trap-nested stock. Eggs \$1.50 per 15, \$7.00 per hundred. W. E. Williams, Clendeboye, Ont.

**AFRICAN GEESSE, INDIAN RUNNER, Muscovy Ducks, Guinea, Barred Rocks, Spanish, R. I. Reds, Langshans, Anconas, Campines, Eggs only.** John Annesser, Tibury, Ont.

**BARRED ROCKS—O. A. C. BRED-TO-LAY strain; eggs one-fifty for fifteen.** J. Acres, Thornbury, Ont.

**BRED-TO-SHOW LAYING STRAIN BARRED Rock eggs for hatching.** Write for catalogue. Chas. Barnard, Leamington, Ont.

**BEAUTIFUL WHITE ROCKS BEAUTY AND utility combined in one grand breeding strain. Only worth while hens trap-nested through their pullet year used as breeders.** Eggs at \$2.50 for 15. J. A. Butler M. D. Newcastle Ont.

**BRED-TO-LAY SINGLE-COMB WHITE Leghorn eggs for hatching, fifteen \$1.50, hundred \$7.00, carefully packed.** Broken eggs replaced. Addison H. Baird, Route 1, New Hamburg, Ontario.

**BARRED ROCK EGGS; FIFTEEN, TWO dollars; thirty, three fifty; ten dollars, one hundred; from hens that are bred and bared right and grand layers.** Order from this advertisement. Satisfaction guaranteed. W. Bennett, Box 43, Kingsville, Ont.

**BARRED ROCKS—PARKES AND O. A. C. College bred-to-lay strains. Can supply cockerels.** Write your wants. Eggs, \$2 for 15. M. A. Gee, Selkirk, Ont.

**BABY CHICKS AND HATCHING EGGS.** Barred Rocks, White Rocks, White Wyandottes, Golden Wyandottes, Rhode Island Reds and White Leghorns. Pure-bred utility stock. Incubator capacity, 9,000. Satisfaction guaranteed or money refunded. Write for prices. Tay Poultry Farm, Perth, Ontario.

**BARRED PLYMOUTH ROCKS—CHAMPION Guelph winners; heavy egg production; eggs, \$3.00 per 15.** Jno. Fenn, Plattsville, Ont.

**BOTH COMBS—RHODE ISLAND WHITES, Eggs, Meat, Rapid Growth.** Send for free booklet on origin. Dominion Poultry Yards, London, Ont.

**BABY CHICKS—BEST LAYING STRAINS.** S.-C. White Leghorns, 18c. each. Barred Plymouth Rocks, 22c. each. Hatching eggs, \$1.25 per setting, \$8.50 per hundred. G. W. Grieve, Parkhill, Ont.

**BARRED ROCK COCKERELS FOR SALE AT reduced prices.** Satisfaction guaranteed. Write John Fringle, London, Ont.

**BABY CHICKS—BRED TO LAY, S. C. WHITE Leghorns.** Catalogue. Cooksville Poultry Farm, Cooksville, Ont.

**BUFF ORPINGTON PURE-BRED COCKERELS and pullets for sale.** James McGregor, Caledonia, Ont.

**BRED-TO-LAY TOM BARRON WHITE Leghorns and Barred Rocks; one-fifty per setting.** Henry Hooper, 83 Nottingham St., Guelph, Ont.

**CANADIAN RINGLET BARRED ROCKS—Trapped daily for 5 years.** Send for records. F. J. Coldham, Box 12, Kingston, Ont.

**EGGS FOR HATCHING—BRONZE TURKEYS Barred and White Rocks, Pekin, Rouen and Indian Runner ducks, White Wyandottes, White Leghorns and Rose-comb Brown Leghorns.** Write for prices. I. H. Rutherford, Albion, Ont.

**EGGS AND DAY-OLD CHICKS FROM extra heavy laying strains of Barred Rocks, White Rocks, Reds, Wyandottes, Orpingtons, Minors, White Leghorns, Brown Leghorns, Anconas, Spanish, Silver Hamburgs, Cornish, etc. Also duck eggs, Pekin, Alsbury, Rouen, Runners, Fawn, pencilled and Pure White.** Write for our free mating list. M. Shantz, Ayr, Ont.

**EGGS—SINGLE-COMB WHITE LEGHORNS, Barron's strain; lay year round.** S.-C. Rhode Island Reds, selected winter layers, \$3.00 per fifteen. E. Willson, Aurora, Ont.

**EGGS FROM EXHIBITION SINGLE-COMB Rhode Island Reds, African Geese, Pekin ducks.** Satisfaction guaranteed. Write for special prices. W. H. Lotz, New Hamburg, Ont.

**FOR SALE—MUSCOVY DUCKS \$5.00 PER pair.** Eggs for hatching \$2.00 per setting. Apply J. A. Tancock, 96 King Street, London.

**FERTILE HATCHING EGGS—TEN YEARS selective breeding—Rose-comb Rhode Island Reds; bred for size, vigor and production of bred-to-lay strains; fifteen, \$2.00; thirty, \$3.50; eight dollars per hundred.** Robert J. Brown, R.R. 2, Cornwall, Ont.

**FAIRVIEW S.-C. BROWN LEGHORNS, Becker strain.** Eggs, \$1.00 per 15. Wm. Bunn, Denfield, Ont.

**LAY-A-LAY S. C. WHITE LEGHORNS trap-nested the year through.** Only tested hens used as breeders. A laying strain of Barron blood foundations. Eggs at \$2.50 for 15. J. A. Butler M. D., Newcastle, Ont.

**PURE-BRED SINGLE-COMB RHODE Island Reds; brilliant red; heavy layers; fifteen hatching eggs \$2.00.** Dr. Hendry, Delhi, Ont.

**PURE-BRED ROUEN DUCKS MATED WITH Imported Drakes.** Eggs \$1.50 per eleven. A. F. Thornton, Thamesford, Ont.

**PUREBRED SINGLE COMB WHITE LEGHORNS—Rose Comb White Wyandottes.** Bred-to-lay and prizewinning stock. Eggs \$2.50 per fifteen. Ezra Stock, Woodstock, Ontario.

**PURE BRED ANCONAS SHEPHERD STRAIN, Eggs for setting 8c. each.** John A. Pollard, R. R. No. 2, Dashwood, Ont.

**RHODE ISLAND REDS—S.-C. COCKERELS beauties, \$4.** Husky R.-C. cockerel and two unrelated, pedigreed pullets, \$10. Eggs, \$2 per 15. Harry Backus, Chatham, Ont.

**REGAL DORCAS WHITE WYANDOTTES** America's Finest Strain, winners at New York and Boston, splendid layers of dark brown eggs. Official records 200 to 255 in North American laying contests. Vigorous matured cockerels \$4.00 and \$5.00 each. Eggs \$3.00 and \$5.00 per setting. FREE illustrated catalogue. John S. Martin, Port Dover, Ontario.

**ROSE COMB BROWN LEGHORNS, BRED-** to lay cockerels, extra large and very vigorous, \$3.00 and \$5.00. Also a limited number of pullets. Wm. English, Box A, Ingersoll, Ont.

**SINGLE-COMB WHITE LEGHORNS, EGGS** from choicest matings Exhibition—\$10, \$5 and \$3. Utility—\$3 and \$2 per settings. S. W. Wilson, Mt. Brydges, Ont.

**S.-C. WHITE LEGHORNS—230-264-EGG** strain, or O.A.C. Barred Rock eggs, \$1.50 setting; \$8 hundred. Selected egg-producers that cannot be beaten. A. B. C. Dickinson, Port Hope, Ont.

**SINGLE-COMB WHITE LEGHORN BABY** chicks from our celebrated laying strain, for sale. Utility Poultry Farm, G. O. Aldridge, Mgr., Lt. Col. T. G. Delamer, Prop., Stratford, Ont.

**SPECIALISTS IN BARRED ROCKS SEVEN-** TEEN years. Eggs for hatching, Guilds and Ringlet strains bred-to-lay, hens have free range; fifteen, two dollars, fifty for five. J. F. Werden and Son, R. 8, Picton, Ont.

**TURKEYS AND GESE—WE HAVE THIS** spring 40 healthy Bronze turkey hens, mated to husky young toms. Eggs in season, \$5.00 per 10. 30 choice Toulouse geese, also well mated; eggs now ready, \$4.50 per 9. Few toms and ganders on sale. Everything in pure-bred land and water fowls. Write us first. Stamps for early reply. Yamaska Poultry Farms, St. Hyacinthe, Que.

**WHITE WYANDOTTES, BRED FOR TYPE,** size, vigor, and production. Eggs for hatching \$2.00 per 15. Frank Morrison, Jordan, Ont.

**WHITE LEGHORN COCKERELS (PEDI-** GREED), from trap-nested stock, trapped by myself, from heavy producers. To improve your flock nothing else would do you. Baby chicks and egg orders booked. Write to-day. Bradley W. Linscott, Brantford.

**WHITE WYANDOTTES—A VERY CHOICE,** lot; health, quality and size. Eggs \$1.50 per 15. Herbert German, R. R. 1, Paris, Ont.

**WHITE WYANDOTTE EGGS FOR HATCH-** ING, heavy layers and prize winners. Two to five dollars per setting. Stock for sale. J. McCaffrey, Newmarket, Ont.

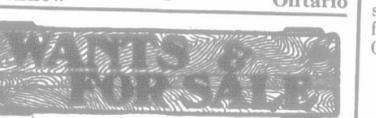
**WHITE LEGHORNS—CHAMPION LAYERS.** Splendid breeding. Cockerels \$5. Exhibition birds fitted for any show. Eggs for hatching from first prize Guelph birds. Mating list free. W. T. Ferguson, Smith's Falls, Ont.

**WHITE WYANDOTTES EGGS FROM** winners of silver cups, with egg record. \$2.50 per setting. A. F. Waddell, Stratford, Ont.

## BABY CHICKS

Barred Rocks, White Wyandottes, 10,000 White Leghorns 10,000. Bred-to-lay from Parks, Poorman's, Barron's strains. These strains are known as America's best, 25 cents each, \$25.00 per 100. Special prices to Farmers' Clubs and others in lots of 300 and over.

Lucknow Hatchery  
Lucknow Ontario



Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted and Pet Stock.

**TERMS—Four 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 any order. No advertisement inserted for less than 60 cents.

**"DAIRYMEN WANTED MUST BE GOOD** milkers at Speedwell Hospital, Speedwell, Guelph Ontario."

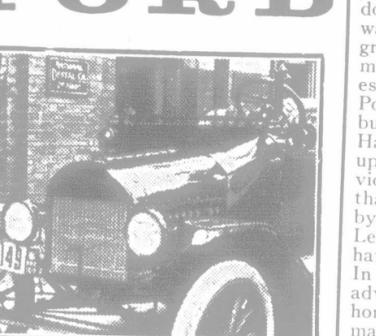
**FOR SALE—200 ACRE FARM, FIRST** class condition, buildings included. Apply F. H. Orris, Box 142, Springfield, Ontario.

**MAN TO OPERATE TRUCK OR FURNISH** team to collect cream and produce. State rate expected and references. Box 27, Farmer's Advocate, London, Ont.

**WANTED—SINGLE EXPERIENCED MAN** for general farming, must be good horseman. State wages by year or eight months with board. Box 24, Freeman, Ont.

**WANTED SINGLE OR MARRIED MAN** must be good farmer and accustomed to milking (small herd.) State wages expected. H. I. Wallace Homewood Farm, Whitby, Ont.

## FORD



### Streamline Hood

Only \$17. Covers Brass Radiator. Fits cars 1912 to 1916.

Write for circular.  
THE BURROWES MFG. CO.  
611 King St. W. Toronto, Ontario.

## Questions and Answers.

Miscellaneous.

### Lump on Colt's Breast.

We have two colts running in a box stall. About a month ago a large lump came on the breast of one. We opened it and removed a lot of water. The lump has disappeared. The other colt has a lump on its breast just the same. What is the cause of this and how can it be cured.

E. P.

Ans.—We are inclined to think that the lump is caused by the colt bruising its breast on the manger. You applied the right treatment. It might be well to bathe it with hot water to bring the lump to a head before lancing, and then to hasten recovery the wound should be washed with a weak carbolic acid solution.

### Developing a Heifer.

1. Pure-bred Shorthorn heifer got in calf to a Holstein bull (running at large) and had a calf when only 20 months old. As this will retard her growth considerably, do you think it would help her to grow any better if we were to milk her say 3 or 4 months and then let her go dry and not to breed her for nine months or so. Do you recommend any other way that would help her growth?

2. Cow that has milked well for nine months was very clotty when drying her off. The milk looked like as if it was matter. What causes this? Will it have any effect on the milk when she freshens?

3. Do you recommend treating clover seed with nitro-culture? Where may it be got if it is necessary?

Ans.—It is advisable to milk a heifer for nearly the full year, as the length of the first lactation will influence future lactations. The heifer should be well fed and not bred until she has been in milk possibly nine months. This will give her an opportunity to get more size.

2. Thick milk when a cow is drying is a frequent occurrence. It is due to physiological or bacterial action in the udder and seldom affects the milk when the cow freshens.

3. If there is difficulty in getting clover to catch, treating the seed with nitro-culture may solve the problem. It has proven beneficial in many instances. The culture may be secured from the Bacteriological Department, O. A. C., Guelph.

## The Other Side of the Tariff Argument.

EDITOR "THE FARMER'S ADVOCATE":

I notice in the Globe of March 15 a very conspicuous and remarkable advertisement issued by the Canadian Reconstruction Association.

This "ad" begins by asking us "to provide work for Canadians by buying Canadian made goods, when possible in preference to imported goods," and continues by emphasizing the importance of the "home market." It says: "Every dollar spent on foreign goods represents loss in work and wages to Canadian workingmen." This statement is false. Would the Canadian Reconstruction Association contend that all parts of Canada should buy *mined-in-Canada* coal in order to give "work and wages to Canadian workingmen?" Or that we should stimulate the production in Canada of tropical fruits under glass? We can do lots of things "to provide work and wages for Canadian workingmen,"—grow oranges in hot-houses, build a few more million-dollar Government houses establish an aerial service to the North Pole (a strictly all-Canadian route!) build a ship canal from Vancouver to Halifax, or simply dig holes and fill them up again. All these enterprises will provide work enough, and there is no doubt that we could pay \$5 or even \$10 a day by the liberal use of the printing press. Let us build up a diversified Canada, and have no truck or trade with foreigners! In the classic words of this remarkable advertisement: "Every dollar spent at home improves the domestic market for manufactured and agricultural products and stimulates national development." Surely the veriest fool knows better than this; knows that it all depends upon what the work accomplished and what the wages are paid for. We can, of course give "work and wages to Canadian workingmen" growing bananas in green-houses; we can also give "work and wages" growing wheat on the Western prairies.

And let me ask the Canadian Reconstruction Association which kind of work would be the most beneficial to Canada? Would it be in the interests of Canada to withdraw labor from wheat production and engage it in banana culture? Or should we be well advised to labor at that for which our conditions are suitable, and exchange our wheat for California or Florida oranges? Let the Reconstruction Association answer this question. Let them tell us also if they consider it inimical to the interests of Canada that we in Ontario should get our coal from Pennsylvania instead of from British Columbia or Nova Scotia? Further, let them tell us if we should endeavor to establish in Canada any industry which cannot become self-sustaining?

This remarkable "ad" goes on to say: "During 1918 foreign products to the value of \$906,954,900 were imported into Canada for consumption in this country. If one-half of these goods had been produced in Canada, or if the people of the Dominion had substituted 'made-in-Canada' products for one-half of the imported commodities, employment would have been provided for 100,000 more workers, and close to \$100,000,000 would have been paid in wages and salaries." This, too, is false,—most obviously and damnably false. Does the Canadian Reconstruction Association think that the aforesaid 100,000 workers were standing around idle waiting for a chance to produce the half of the aforesaid nine hundred millions of imported commodities? Certainly not! They were busy producing commodities to exchange for the imported commodities; and the presumption is that their labor was more profitable (i.e. created greater value) than it would have been if they devoted their efforts to produce part, or all, of the imported goods. People do not buy imported commodities without some reason for doing so; either the quality or the price attracts them, or they wish to pay something into the Federal treasury. Sir John Willison is probably well enough off to ignore these considerations, and I suppose he is always careful to eat Canadian apples in preference to California oranges and thus stimulate domestic production. Being an apple grower I shall welcome any patriotic demand for Canadian apples, and shall not even ask for any tariff against southern fruit to assist me in my business. But the hard-headed business man imports foreign goods because he thinks he gets better value for his money; and if he should insist upon getting "made-in-Canada" goods, labor already employed in other lines (either actually or potentially) must be withdrawn to satisfy his demand. If, therefore, Canadian consumers were to follow the advice of the Reconstruction Association, they would probably get poorer value for their money, and at the same time divert labor from relatively profitable to relatively unprofitable industries, as, for example, from wheat growing to banana culture. Incidentally they would contribute nothing to the Federal treasury through customs duties, and then we should have internecine strife between the Reconstruction Association, and the Manufacturers' Association, for the latter insists upon a tariff for revenue purposes, and we cannot collect customs duties upon stuff which is not imported. It is quite certain at all events that the policy of the former will give neither more employment nor more wages.

A further consideration seems also to have been ignored by the Reconstruction Association's expert: If we do not buy the imported goods alluded to, the labor which might have been employed producing them across the line will tend to come to this side and offer its services along with those of the aforesaid 100,000 workers whom the Reconstruction Association foolishly conceived to be standing idle waiting for a job. Therefore, even if this fiction were fact and not fancy, the consequences alleged to follow would not follow.

From every point of view the Reconstruction Association's argument is false and foolish—utterly and absolutely so. Why in the name of common sense, and in the supposed interests of Industrial Reconstruction do they publish such utter rubbish?

Brant Co., Ont. W. C. Good.

Casey.—"Finnegan got his loife inckered last June, an' he's dead so quick."  
Cassidy.—"Shure, he must hov had a pull wid de insurance company."

ask the Canadian Reconstruction Commission which kind of work would be beneficial to Canada? Would it be to divert the interests of Canada to wheat production and encourage a Canadian culture? Or should we be directed to labor at that for which we are best suited, and exchange our products for California or Florida oranges? The Reconstruction Association has taken this question. Let them tell you whether it is inimical to the interests of Canada that we in Ontario should be dependent on coal from Pennsylvania or iron from British Columbia or Nova Scotia. Let them tell us if we should endeavor to establish in Canada an industry which cannot become self-

able "ad" goes on to say: "8 foreign products to the value of \$954,900 were imported into this country. If these goods had been produced in Canada, or if the people of the United States had substituted 'made-in-Canada' products for one-half of the imported commodities, employment would be provided for 100,000 more men. Close to \$100,000,000 would be saved in wages and salaries." This is a false, most obviously and completely so. Does the Canadian Reconstruction Association think that the 100,000 workers were standing idle waiting for a chance to produce the aforesaid nine hundred and eighty-three imported commodities? Certainly they were busy producing goods in exchange for the imported commodities and the presumption is that they are more profitable (i.e. of more value) than it would have been if they had devoted their efforts to the production of all of the imported goods. They are busy producing commodities in exchange for doing so; either because the price attracts them, or because they are paid something into the pocket of Sir John Willison is enough off to ignore these things and I suppose he is always importing Canadian apples in preference to California oranges and thus destroying the production. Being an American, I shall welcome any patriotic Canadian apples, and shall not object to any tariff against southern goods in my business. But the business man imports foreign goods because he thinks he gets better money; and if he should substitute "made-in-Canada" goods for the ready employment in other lines (or potentially) must satisfy his demand. If the Canadian consumers were to be satisfied by the Reconstruction Commission they would probably get their money, and at the same time labor from relatively unprofitable industries. For example, from wheat production. Incidentally, the Reconstruction Commission does nothing to the contrary through customs duties, but would have intricate strife between the Reconstruction Commission, the Reconstruction Association, and the Reconstruction Commission, for upon a tariff for revenue they cannot collect customs duties which is not imported. In all events that the Reconstruction Commission will give neither more money nor wages.

consideration seems also to be made by the Reconstruction Commission: If we do not buy goods alluded to, the labor which has been employed in the process of the line will tend to be shifted to other services of the aforesaid 100,000 men. The Reconstruction Association is conceived to be standing for a job. Therefore, the Reconstruction Commission was fact and not fiction as alleged to follow.

W. C. GOOD.

## Put up "CAN'T-SAG" Gates—the Gates with every good feature

If you are planning new gates, get our prices first and see if it won't pay you to put up "CAN'T-SAG" Gates—the best made. "CAN'T-SAG" Gates are built of steel angle uprights and truss braces, everlastingly bolted (not nailed) to seasoned hardwood.

homemade, all-wood gate, and will last three times as long, yet is 25% lighter. "CAN'T-SAG" gates are always plumb and true. Stock can't break them, hogs can't open them, time and usage can't sag them.

Painted with your name or "NO TRESPASSING" sign, ready to hang, or, if you prefer, we can supply you with the angle steels, braces, bolts, lag screws, hinges and socket wrench, with full directions, so you can get boards from your dealer and build an A1 gate yourself.

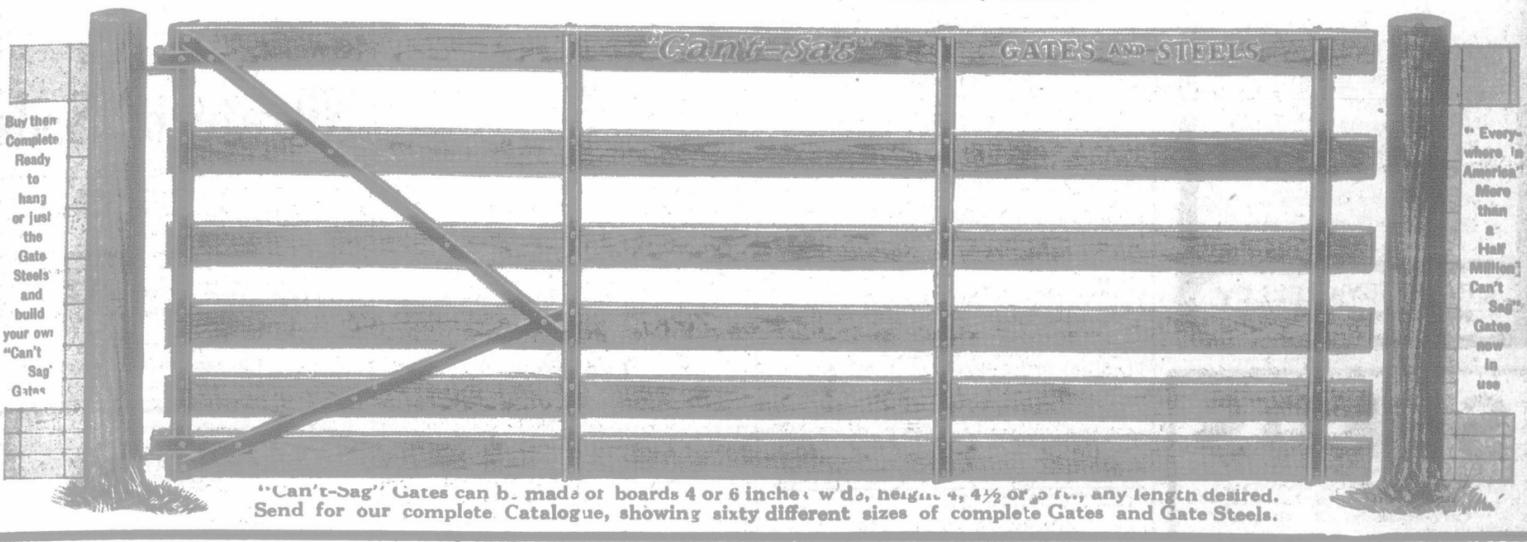
**Less Weight—Yet Stronger—Longer Lasting**

A "CAN'T-SAG" gate has ten times the strength of any

**Build them Yourself—if Preferred**

We can furnish "CAN'T-SAG" Gates, complete, set up.

W. J. READER, Distributor for Ontario, ALVINSTON, ONTARIO



"Can't-Sag" Gates can be made of boards 4 or 6 inches wide, height 4, 4½ or 5 ft., any length desired. Send for our complete Catalogue, showing sixty different sizes of complete Gates and Gate Steels.

### A Discussion of Weeds for School Children.

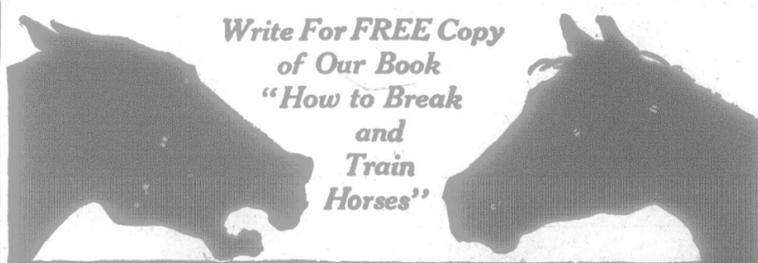
Is there anyone who does not know what a weed is, or is not able to tell which are weeds and which are good plants in a cornfield. We think everyone who has been on a farm should know this much and many school children know very much more than this about weeds. Somebody once said that a weed is "a plant out of place." If this is true and we were to find a pretty little violet plant growing in a wheat field we would have to call it a weed, wouldn't we? Even though we may not like to think of violets as weeds, if they are growing among some crop plants, they might take food from the crop.

But there are both good and bad weeds. Some of them are just nuisances, doing no great harm, but merely getting in the way of more useful plants which the farmer wants to grow. Others are very bad weeds and do a very great deal of mischief, even much real injury which costs many dollars to each farmer who lets them grow in his fields. Such weeds are said to be "pernicious," because they crowd in where they are not wanted and unless one fights them continually they spread from field to field and thus over the whole farm.

Just as there are different kinds of horses and cattle, so there are different kinds of weeds and we can divide them up according to the length of time they live. Some, for example, are *Annuals* that go through their whole life-time in a year and bear large quantities of seed. Wild Mustard is a weed of this kind. Another kind of annual is the *Winter Annual*, like Shepherd's Purse, which does not grow from seed in the spring and produce seed again before fall. These weeds act like fall wheat because the seed starts to grow in the fall then the little plants lie under the snow over winter and go on growing the next spring, bearing seed in the summer. Burdock is an example of another type of weed called *Biennials*. These weeds live for two seasons just as carrots or mangels will do. They spend the first summer storing up food and then the next year they produce flowers and seeds. None of the kinds we have mentioned so far can really be called bad weeds, except some of the annuals like Wild Mustard which produce such a great many seeds, and seeds that live for so many years in the soil, too, that they are very troublesome.

Now we come to another class of weeds that keep on growing for many years before they die and these are called *Perennials*. All perennial weeds produce seeds, but some send their roots very deeply into the soil, like the Perennial Sow Thistle, the Canada Thistle, Bladder Campion and Field Bindweed. Others do not have roots that go so deep and Couch or Twitch grass is an example of this kind. Still others like the Ox-eye Daisy and the Dandelion, produce

a great many seeds but have only very short roots. It is necessary for the farmer to know the bad weeds when he sees them and to know how they grow and spread before he can get rid of them in the earliest way. To show how important this is we are going to talk about the best way of



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getting rid of three very bad weeds. Two of these, Perennial Sow Thistle and Twitch Grass are very bad perennials, that live for many years in the soil and creep along from place to place under the surface by means of very long fleshy rootstocks. The Perennial Sow Thistle is one of the very worst weeds we have

and chokes out whole crops of grain where it is very common. Some of the roots, as mentioned before, go away down deep into the soil and feed the plant, while others are really "underground stems" and enable the plant to spread over large areas by creeping along underneath the ground and sending many young plants above ground as they go along. This weed also produces a great many seeds. Twitch grass moves along underground by means of underground stems or rootstocks just as does the Perennial Sow Thistle but these rootstocks are crowded together very thickly and in old meadows especially will crowd everything else out. The plant is very hard and very tough and wiry so that it is very hard to kill. The third weed is Wild Mustard, an annual that grows from seed in the spring and is in flower from June to September but most of the seed is ripe by August. It has small fine roots, grows very rapidly and takes a great deal of food from the soil, robbing the other crops. It is very troublesome in grain fields and spreads so rapidly from seed that very often whole farms will look almost yellow when the grain is growing.

Perennial Sow Thistle and Twitch Grass can be controlled in the same way. The underground stems must be prevented from sending up young plants and the only way to do this is to keep the ground stirred often enough to weaken the roots under the ground. All green plants, to live, must have sunlight and air and if we can keep these weeds from getting what they need they will gradually weaken and die. So, beginning in the spring when the weeds first come up, the whole field is cultivated often to keep the top down and weaken the roots. Then about the middle of June a crop of rape is sown. Now, rape is usually sown in ridges and grows very fast, making a very thick covering over the soil. If the right amount is sown, and if the land is rich enough, the rape plants will grow faster than the weeds can, in their weakened state, and the latter will all die out. Until the rape gets a start the land should be cultivated about every week so as to give the weeds as little chance as possible. Some Perennial Sow Thistle or Twitch Grass may be alive in the fall and if so some crop like corn or potatoes which must be cultivated, should grow the next year.

Wild Mustard must be treated in a different way. We cannot cultivate the land because it usually comes up in the grain crops and these, of course, are never cultivated. The only thing we can do is to prevent the mustard from going to seed, since this weed spreads by its seeds instead of by both seeds and creeping rootstocks like Twitch Grass. Many men have tried to find ways of killing the mustard quickly without killing the oats or other grain at the same time. Occasionally, when mustard

# SEEDS

We can supply for immediate shipment Home Grown Alfalfa, Red Clover, Alsike, Timothy, Sweet Clover, Ontario Grown Seed Corn, Marquis and Goose Wheat, Bumper King and O.A.C. No. 72 Oats, O.A.C. No. 21 Barley, Peas, Buckwheat, etc. Also Mangel, Turnip Seed and all kinds of Garden Seeds in bulk and packets.

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We pay the freight on all orders of \$25.00 or over east of Manitoba. GOVERNMENT STANDARD

No.	Seed	Per bus.
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No. 1	Alsike	at 22.00
No. 1	Alsike (Special)	at 21.00
No. 2	Timothy, No. 1 for purity	at 6.50
No. 3	Timothy	at 6.00
No. 1	Alfalfa (Northern Grown)	at 17.00
No. 1	Alfalfa Ontario	at 27.00
	Variegated	at 14.50
	White Blossom Sweet Clover	at 10.50
	Mixed Timothy & Alsike	at 12.00
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A big stock of the genuine Ontario Variegated Alfalfa Seed. \$22 per bushel.

Freight paid and bags free in lots of three bushels. This seed was grown right here in the County of Haldimand on fields which in many cases have not been broken up for ten and fifteen years at a stretch. This seed is recommended ahead of all others by the O. A. C. for sowing in Ontario. Ask for samples.

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Wisconsin No. 7 on the cob, germination guaranteed. \$3.50 per bushel (70 lbs.) F.O.B. Bags free

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**Seed Potatoes**

Green Mountain, Northern grown. Produce 400 bus. per acre under ordinary field conditions. Hardest variety known, bug resistant, blight proof in this locality. Finest table variety. \$1.50 per bag 90 lbs. 5 bag lot \$1.25.  
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A quantity of good, clean Alfalfa seed; price \$25.00 per bus., bags included; Gov't test No. 1. Address  
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Rural New Yorker seed potatoes, free from disease. Two dollars per bag. Bags free.  
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for C. F. JACKSON, on the Middlemarch farm two miles west of St. Thomas, on

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- 1 Span Mares 8-yrs.-old weighing 3,000 lbs.
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- 1 Pair General purpose mares.
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- 1 Five-yrs.-old Mare weighing 1,300 (extra).
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- 1 Span Percheron colts 3-yrs.-old.
- 40 Dairy Cows, new milkers and springers.
- 6 Farrow Cows, 15 Young Cattle, a number of Calves.
- 10 Brood Sows, 12 shoats.
- 2 Pure-bred Aberdeen-Angus bulls 12 months old (registered).
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- 100 Bushel Seed Barley.
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### PEARCE'S IMPROVED TREE BEANS

Twelve bushels of first-class, hand picked seed at \$7.00 per bushel, bags free. This seed took first prize at the Ontario Provincial Winter Fair, Guelph 1918, and is being used this year by the O. A. C.  
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of high-class seed corn, White Cap Dent, will sell at reasonable price.  
Telephone—Railways M. C. R. & P. M. R.  
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**Northern Grown Seed Potatoes**—Grown from registered seed; winners in Standing Field Crop Competition, and free from disease. \$2.25 per bag, f.o.b.; bags 15c. extra.  
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Ontario's Variegated Alfalfa No. 1; Gov't inspected; \$25 per bus. Also a few bus. Red Clover, \$25 per bus.  
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A quantity of good, clean ALFALFA SEED \$25.00 per bushel. O. A. C. Oats 72 at 90c. per bushel.  
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**Haldimand Grown Alfalfa Seed** for sale of both the Variegated and Grimm varieties. Send for prices and Samples.  
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To hear from party having young Evergreens to sell. Resident of West Nissouri preferred.  
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### Choice Alsike Clover Seed

No. 1 at \$18.00 per bus., No. 2 at \$15.50 per bus., bags 50c. Freight paid on lots of 100 lbs. in Ont. O. A. C. 72 oats \$1.00 per bus. sacks included F.O.B. here. **A. Bingle, Grimsby, Ont.**

**For Sale**—A quantity of Variegated Alfalfa Seed, Haldimand Grown. For samples and prices write  
**E. W. GOWAN**  
R. R. 1 - Jarvis, Ontario

### FOR SALE

Litter of pure-bred Yorkshire pigs. Apply  
**E. GOFF PENNY**  
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### Seed Corn

—A quantity of Select Early Leaming, Longfellows, Wisconsin No. 7 and White Cap Yellow Dent. A card will bring full particulars.  
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### 50 Early Cabbage Plants

40c. prepaid, shipped everywhere, successfully. Ask for price lists. Agents wanted.  
**Herold's Farms, Fruitland, Ontario, Niagara District.**

### For Sale. 2 STALLIONS

"Baton Acme" Imp. [5748] (13298). Foaled 1904.  
"Monterelle Prince" [13575]. Foaled 1910. Both approved Form 1. Foal getters. And priced right.  
**GEO. B. FORD**  
GALT, R. R. 1, Ontario.

is not very bad, it can be pulled out by hand, but this takes a lot of work and everyone knows that labor is very scarce. Somebody, however, found out that spraying the grain fields would do just what is necessary; and very quickly. The spraying must be done very early when the first Mustard flowers appear and before any of the mustard goes to seed. Iron sulphate, a substance like bluestone, only of a greenish color and much cheaper, is used. Eighty pounds are dissolved in forty gallons of water. This material is sprayed over the field with a spray outfit just like those used for spraying orchards. This kills the mustard without injuring the grain.

Thus we have seen not only that there are different kinds of weeds, but that the farmer must know how they grow and spread before he can get rid of them in the easiest way. We have also seen how much different we have to treat some weeds from others, if we want to save our crops from injury.

### Nitro-Cultures for Legumes.

Among the forage, cover and soiling crops in Canada, one family of plants is of special interest to farmers. These are the legumes or Leguminosae, which include clover and vetches, beans and peas. Botanically they are remarkable for their high nitrogen-yielding qualities, as being constantly associated with bacteria in the soil.

These bacteria—minute living organisms only visible under high microscopic power—form colonies living on the smaller rootlets of the legumes, and produce thereon small lumps or nodules varying in size from a pin head to a small pea. Each kind of crop, whether clover, alfalfa, pea, etc., is greatly benefited by its own particular strain of bacteria culture.

When these bacteria are present in the soil, experience shows that growth is more vigorous, and earlier development takes place. These factors are important in Canada. With alfalfa, robust and early stands have a better chance of resisting winter killing; and the in case of field peas, reports from the Western Provinces show increased yields per acre from the use of nitro-cultures.

Where a crop has once been successfully raised with nodules on the roots, the bacteria survive in the soil for some time, and a subsequent crop is more easily obtained. To give a crop the best chance of succeeding, the appropriate strain of bacteria should be introduced into the ground.

This can be done by transferring soil from ground where that crop has succeeded, and scattering it broadcast over the new field. This method is laborious and expensive, and besides often introduces undesirable weeds and the germs of diseases. Equally good results have been obtained by using pure bacterial cultures. The method of procedure is to mix the culture material, on which are millions of bacteria, with some fluid, generally skim-milk. Then empty the seed on to a clean floor or cloth, and treat it with the fluid, thoroughly stirring the seeds, so that a film of moisture with its bacteria may stick to each seed. The seeds are then spread to dry, out of direct sunlight, which would kill the bacteria. When dry, and on the same day as treated, the seed should be sown and covered up. A cloudy day is the best for this purpose.

Cultures may be obtained commercially from seedsmen, or Agricultural Colleges, at charges ranging from twenty-five cents upwards. The Experimental Farms system, at the Central Farm, Ottawa, prepares cultures for alsike, red clover, alfalfa, peas and beans. Each bottle put up contains sufficient material for the treatment of about sixty pounds of seed. Bona fide farmers and settlers who wish to raise one of the above crops, will be supplied free with a small quantity to assist in establishing that crop in new districts. The recipient is requested at the same time to report results on a form sent with the culture.

Applications should be addressed to the Dominion Botanist, Central Experimental Farm, Ottawa, stating the kind and quantity of seed to be treated.—Experimental Farms Note.

### Top Dress with Nitrate of Soda

## No Risk of Loss

Nitrate of Soda is the only form of Nitrogen immediately available for growing crops. It gets busy at once. Top dress with

## Nitrate of Soda

All other forms must first be nitrated in the soil, taking time, and resulting in costly losses through Bacterial action.

Use 100 lbs. per acre for seeded crops; 200 lbs. for cultivated. These light dressings are easily spread over an acre and the amount is trifling compared to the acreage weight engaged in crop production.

**WM. S. MYERS**  
Chilean Nitrate Committee  
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#### Canadian Root Seed

Raised from the best stock by Dominion Experimental Farms.

#### SUPPLY LIMITED

Prices as follows:

Mangels—	50 lbs. and over	55c. lb.
200 "	"	50c. "
1000 "	"	45c. "
2000 "	"	48c. "
Swede Turnips—	50 lbs. and over	85c. lb.
100 "	"	80c. "
500 "	"	75c. "
1000 "	"	78c. "
Field Carrots—	5 lbs. and over	90c. lb.
25 "	"	85c. "
100 "	"	80c. "
200 "	"	78c. "

Freight paid and sacks free. Net payment bank draft 60 days from date of invoice and 5% allowed for cash 10 days from date of invoice.

Particulars about varieties on application.

**DR. M. O. MALTE,**  
Central Experimental Farm  
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Dealers in all leading makes.

Size	Plain	Non-skids	Tubes
30 x 3 1/2"	\$14.75	\$16.50	\$2.25
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31 x 4"	21.00	26.50	3.20
32 x 4"	21.50	27.50	3.40
33 x 4"	23.50	28.75	3.50
34 x 4"	24.95	31.50	3.65
34 x 4 1/2"	29.50	38.00	4.80
35 x 4 1/2"	33.50	38.50	4.95
36 x 4 1/2"	34.50	39.50	5.15
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### Risk of Loss

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bs. per acre for seeded crops: cultivated. These light dressings spread over an acre and it is trifling compared to the effort engaged in crop production.

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	Non-Slags	Tubes
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on the line as that  
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soft water, spread it  
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hen leave in a breezy  
dry as quickly as

# Opportunity to Procure Nitrate of Soda

All farmers know that during the War it was practically impossible to secure this valuable fertilizer. The Imperial Munitions Board are now in a position to offer a quantity at a reasonable price, and farmers desiring to take advantage of the opportunity are requested to send in their orders at once.

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All orders must be sent to Imperial Munitions Board, 56 Church St., Toronto, and each order must be accompanied by a marked cheque or money order for full amount of the purchase. Cheques and money orders should be made out in favor of Imperial Munitions Board, and must be payable at par in Toronto. In ordering please give full shipping directions including your Post Office address, name of railway and of your nearest railway station. All shipments will be made promptly. Freight charges will be collected on delivery.

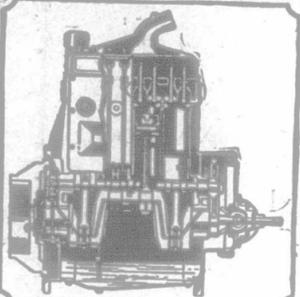
Watch next week's issue of this paper for information about the advantages of using Nitrate of Soda as a fertilizer.

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# No Other Tractor Has So Many Good Mechanical Features—



Electric lighting system draws light both ahead of tractor and down on implement.



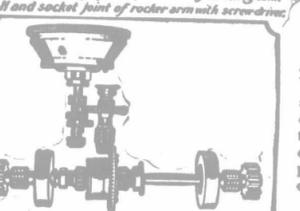
Perfected overhead-valve four-cylinder engine, with force-feed oiling system under 35 lbs. pressure.



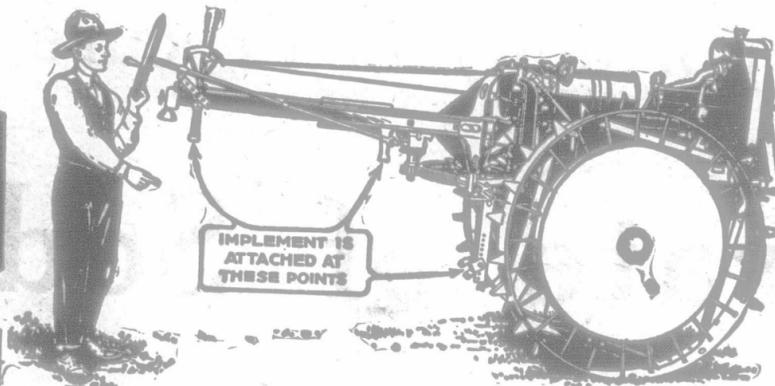
Diameter of connecting rod bearings 2 1/2 in. compared to piston diameter of 3 1/2 in. insuring long life.



Valves placed in perfect adjustment by turning down ball and socket joint of rocker arm with screw-driver.



Completely enclosed transmission with steel cut gears, Hyatt bearings, differential lock, and brakes.



## MOLINE UNIVERSAL TRACTOR

It Solves The Farm Help Problem

EVERYONE who knows what a tractor should do, agrees that the Moline-Universal has three distinct advantages over all other tractors: lighter weight; greater economy and ease of operation; ability to do all farm work, including cultivating; and ONE-MAN control of both tractor and implement from the seat of the implement, where you have always sat, and where you must sit in order to do good work.

Aside from these distinct advantages which the two-wheel construction gives, the Moline-Universal Tractor, Model D, is still the best tractor on the market. In every detail it has been refined and perfected to the utmost limit of modern engineering knowledge.

### Self Starter—Electric Lights

The Moline-Universal is the only tractor regularly equipped with a complete electrical starting, lighting, governing and ignition system. The starter saves many hours of productive work, besides eliminating back-breaking labor. Electric lights enable the tractor to be worked at night during rush seasons.

An electrical governor perfectly controls the engine speed. By simply turning a dial, within easy reach of the operator, engine maintains any speed from 1/2 to 3 1/2 m. p. h., and automatically handles all changes in load.

### Perfected Four-Cylinder Engine

The perfected four-cylinder engine is the latest development in overhead-valve construction. With a bore of only 3 1/2 inches a 2 1/2-inch crankshaft is used. The strength and thickness of the crankshaft eliminates all vibration. Oil is forced through hollow crankshaft to all the main and connecting rod bearings under a pressure of 35 pounds to the square inch. The bearings float on a film of oil, so their surfaces never touch.

Double valve springs give unusually quick action with soft seating. Rocket arms are swiveled on ball and socket joints that may be turned down with a screw driver, placing the valve mechanism in perfect adjustment at all times. This engine develops unusual power and is very economical in operation.

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The transmission is completely enclosed, with drop forged, hardened, and cut steel gears running in oil that reduce power loss to a minimum. All gears are mounted on heavy duty Hyatt roller bearings, with high grade ball bearings fitted with adjustable collars to take up end thrust. Fifteen Hyatt roller and five ball bearings are used in the Moline tractor. Seven splined shafts are used in locking gears to shafts. This is the strongest construction known, and has the additional advantage that it makes the transmission easy to take apart.

For pulling in soft ground, the two drive wheels can be made to revolve as one by means of a differential lock, doubling their pulling power.

### Complete Enclosure of All Parts

The final drive is completely enclosed in dust tight shields, the edges of which are sealed by heavy grease used to lubricate the gears. Every part of the Moline-Universal tractor is protected against friction and wear.

All working parts are accessible. All the weight is so well balanced on two wheels that the rear end of the tractor can be supported with one hand.

The Moline-Universal Model D will give you longer and better service at less expense than any other tractor. It is built for positive reliability.

Our catalog describes the Moline-Universal in detail. Send for it. Address Department F

Canadian Distributors: Willys-Overland, Limited, West Toronto, Ont.

Manufactured by: Moline Plow Co., Moline, Ill.

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Perfect hearing is now being restored in every condition of deafness, or defective hearing from causes such as Catarrhal Deafness, Relaxed or Surken Drums, Thickened Drums, Roaring and Hissing Sounds, Perforated, Wholly or Partially Destroyed Drums, Discharge from Ears, etc.

**Wilson Common-Sense Ear Drums**  
"Little Wireless Phones for the Ears" require no medicine but effectively replace what is lacking or defective in the natural ear drums. They are simple devices, which the wearer easily fits into the ears where they are invisible. Soft, safe and comfortable. Write today for our 168 page FREE book on DEAFNESS, giving you full particulars and testimonials.  
**WILSON EAR DRUM CO.,** Incorporated  
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## THE "Elmhurst" Oat

Guaranteed 99% Pure

This oat is the product of a selection made at "Elmhurst Stock Farm," Brantford, Ont., in 1914. The oat is a white main oat with a very stiff straw, free from rust, and having an exceedingly long, well-filled head, averaging close to 100 grains. The average of the ordinary oat is about 40 grains.

We have a limited supply for sale. Price, \$5.00 per bushel.

Orders will be filled in the order received. Bags extra, 60c.

**H. M. VANDERLIP**  
"Elmhurst Stock Farm"  
Brantford, R. R. No. 1, Ont.

When writing advertisers will you kindly mention "The Farmer's Advocate."

## Gossip.

### A Correction.

On page 563, issue of March 20, Highland Park Scotch Shorthorns are mentioned in an advertisement. Unfortunately the wrong word was inserted in one instance which altered the meaning. It should have read thus: "Also a few females bred to our herd bull, Imp. Edgote Broadhooks, 136357, for the use of which bull for four months, two eminent Old Country breeders offered \$2,000 when they saw his calves after he was sold for exportation."

The American Ayrshire Breeders' Association are planning on holding the 1919 annual meeting, on June 11, at Springfield, Mass. This is a radical change from the old order of things but the Executive believe June to be a more appropriate season for breeders to gather and they are planning on making June 11 and 12 red letter days in Ayrshire history. A sale of fifty choice Ayrshires will be held on June 12, the day following the annual meeting. Champions and grand champions of the 1918 show circuit will be in the offering.

### Sale Dates.

April 3 and 4, 1919.—Western Canada Shorthorn Show and Sale, Brandon, Man.

April 3, 1919.—Menie District Ayrshire Breeders' Club, Campbellford, Ont.—W. E. Tummon, Sec.

April 3, 1919.—J. E. Griffith, Weston, Ont.—Holsteins.

April 4, 1919.—Wm. J. Haggerty, R. R. 3, Stirling, Ont.—Ayrshires.

April 5, 1919.—Collver V. Robbins, Wellandport, Ont.—Holsteins.

April 10-11, 1919.—Canadian National Holstein Sale.—Toronto.

April 11, 1919.—C. F. Jackson, St. Thomas.—Dairy cattle, horses, etc.

### Elmhurst Farm, Brantford.

Improved English Berkshires, Scotch-topped Shorthorns and the Elmhurst Oat are all three, specialized products of the noted Elmhurst Farm, owned by H. M. Vanderlip of R. R. No. 1, Brantford, Ont. In connection with the former it is only necessary to mention the famous imported Suddon Torridor Strain from which the foundation females were selected and those who are at all conversant with Berkshires will recognize a herd, in the breeding of which are the best. There are also readers of these columns, by the score, that will vouch for the outstanding individuality and thriftiness of the "Elmhurst Berk". This follows a plan adopted by Mr. Vanderlip in the early days of the herd, in sending out all orders with entire satisfaction guaranteed. The present offering consists of young pigs (both sex) and a number of bred-sows. There are only some half-dozen boars of serviceable age left.

The Shorthorn offering at present is also somewhat limited. Three bulls, just past the year, are in the sales list and all sired by the present herd sire, Lavender Victor 83341. This is a thick, well-made roan Missie-Lavendar bull sired by Missie Champion and follows in service the imported former herd sire, Royal Warrant (imp.). A number of the younger breeding females in the herd are sired by this bull and the one of the three bulls offered is a grandson of his—being from a daughter and sired by the present herd bull. The families represented in the herd of breeding females are mostly Lavenders, Elizas and Lady Ythans, all popular present-day tribes and all are of the good doing sort. Breeders in search of a young herd bull should keep the Elmhurst offering in mind. The Elmhurst Oat is a selection made by Mr. Vanderlip himself, and it has done exceptionally well with him, yielding over the 100-bushel mark. The oat was demonstrated at the C. N. E. and Western Fair last year and no doubt many farmers saw it at that time.

A Yankee soldier was being shown over an old church wherein hundreds of people were buried.

"A great many people sleep between these walls," said the guide, indicating the inscription-covered floor with a sweep of his hand.

"So?" said the Sammy. "Same way over in our country. Why don't you get a more interesting preacher?"—London Opinion.

**Gossip.**

**A Correction.**  
563, issue of March 20, Park Scotch Shorthorns are in an advertisement. Un- the wrong word was inserted which altered the mean- ould have read thus: "Also iles bred to our herd bull, te Broadhooks, 136357, for hich bull for four months, nt Old Country breeders 00 when they saw his calves sold for exportation."

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**St Farm, Brantford.**

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**Questions and Answers.**  
Miscellaneous.

**Gasoline Engines.**

What company manufactures the best portable gasoline engine in the eight-horse-power size? M. L.

Ans.—There are good points about all makes of gasoline engines. It is rather difficult to draw the line and say which is the best. It is well to get one which you are satisfied will give you plenty of power and that is not too complicated; the more simple the engine the less there is to get out of repair. However, as a rule, the gasoline engines now on the market do not get out of repair very easily. It is always well to consider, however, the service which the makers of the engine you buy can give in case repairs are needed.

**Wall Leaking.**

1. Cellar with cement floor and cement plaster on the stone wall leaks water. Is there any preparation which will stop the leakage? J. C.

Ans.—1. Giving the walls a coating of pitch will prevent a good deal of the moisture from coming through.

2. By going to the extra trouble of scalding the feed the cow will possibly respond a little more freely, especially if she likes this kind of feed. Some cows will do better on dry chop. As a rule, feeding the grain dry gives very good satisfaction. Of course, it is well to have succulent feeds in the form of silage and roots. Where these feeds are not available, then scalding the chop or bran would no doubt give results.

**Sheep Suffering From Catarrh.**

A number of my sheep have a discharge from their nostrils and seem to be stuffed up in the head.

2. If a man takes logs to the saw mill and pays for the sawing, can he take the sawdust away if he wants it without having to pay for it? Has the man who takes logs to a saw-mill any right to the slabs? J. W.

Ans.—1. The symptoms indicate catarrh. A remedy is to keep the sheep in dry, comfortable, well-ventilated quarters; give 4 to 6 ounces of raw linseed oil; steam the nostrils. If the appetite be lost, drench three or four times daily with boiled flaxseed, or milk and egg. Place one dram of nitrate of potash well back on the tongue four times daily.

2. It is customary for the owner of the saw-mill to retain sawdust and slabs.

**Water System.**

We have been thinking of installing a bathroom in our house on the farm. We are rather handicapped for water facilities, except for a well and a large cistern in the cellar. Have you any suggestions to offer whereby we may proceed with the work in the best manner. C. E. W.

Ans.—Farmers are beginning to install running water and bathrooms in their houses. One system of securing water for bathroom purposes would be to have a tank in the attic, to which the water is pumped by windmill or gasoline engine, or any other power which might be on the farm. The water will then flow by gravity to where it is wanted in the house. Another method and one which is gaining in favor is the pneumatic pressure tank which may be located in the cellar. Several firms are advertising these tanks or water systems in our columns. Water is pumped into the tank and air pressure is used to force the water to various parts of the house. One beauty of these tanks is that being in the cellar there is no danger of the water freezing and they give pressure to the water flow. The septic tank is found to be one of the best means of sewage disposal on the farm. This consists of a concrete tank divided into two parts, the dimensions depending upon the size of the family, but about 4 feet square and 4 feet deep for the first tank and possibly a little narrower compartment in the second tank would be plenty large enough for the average household. The tank must be placed so that a tile drain from 15 to 18 inches in the ground will take the water from it. The tank and drain may be put in by anyone and the remainder of the plumbing is similar to that used in the city home.

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**Imperial Mica Axle Grease**

—smooths the axle spindle and hub socket by filling the tiny surface pores with powdered mica. The acid-free grease defeats friction. Makes axles last longer and loads easier to haul. Sold in sizes from 1 lb. to barrels.

**Imperial Eureka Harness Oil**  
—keeps traces and harness straps pliable, soft and strong. Weatherproofs leather and keeps it from drying out and cracking. Sold in convenient sizes.

**Imperial Eureka Harness Oiler**  
Makes harness oiling, quick, and thorough. Simple to operate and saves work.

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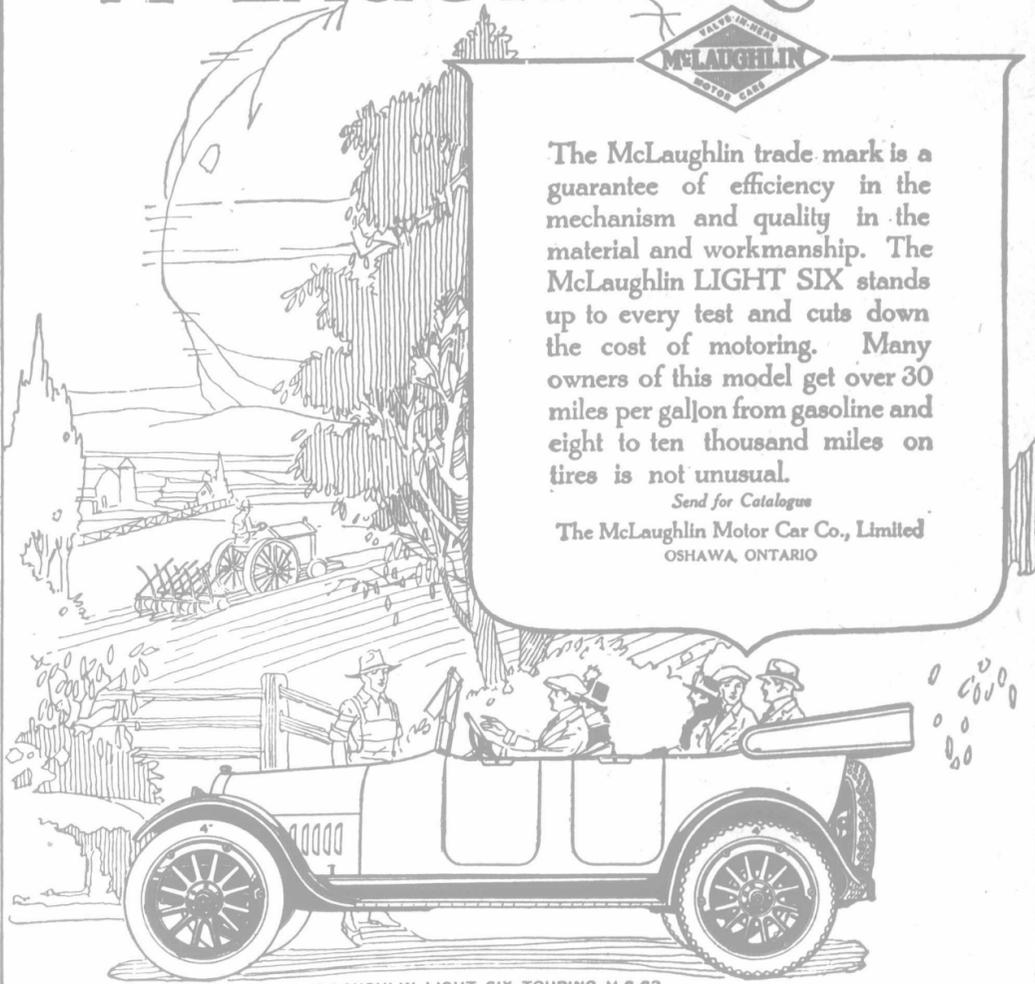
**I HAVE FOUR RED BULLS**

Two imported, also a few females for sale.

J. T. GIBSON

DENFIELD, ONT.

**The Light Six—  
A GENUINE  
McLAUGHLIN CAR**



The McLaughlin trade mark is a guarantee of efficiency in the mechanism and quality in the material and workmanship. The McLaughlin LIGHT SIX stands up to every test and cuts down the cost of motoring. Many owners of this model get over 30 miles per gallon from gasoline and eight to ten thousand miles on tires is not unusual.

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OSHAWA, ONTARIO

McLAUGHLIN LIGHT SIX TOURING H-6-63

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OR PAIN KILLER FOR THE HUMAN BODY

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IT HAS NO EQUAL

For the Human Body

It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

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REMOVES THE SORENESS—STRENGTHENS MUSCLES  
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OTTO A. BEYER.  
Price \$1.75 per bottle. Sold by druggists, or sent by express prepaid. Write for Booklet E. The LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

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*Get the most out of your Crops*

LET men experienced in the planning of Barns, and in the science of Rural Landscape Architecture—show you how to have Farm Buildings and Farm Fields that will provide the most efficient lay-out for your particular needs. A lay-out which will enable you to get the most out of your crops.

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The low prices we quote for Barns, Implement Sheds and Garages are the result of a buying-capacity so great that we take the entire output of 3 large lumber mills in Northern Ontario. The price quoted you on a Preston Barn will buy "a barn to fit your farm"—no waste space, yet space enough.

The barn here shown is the sturdiest and best protected you can buy at any price—large enough to hold all the crops of a 50-acre farm. We make Preston Steel Truss Barns in 286 Standard Sizes. The price, includes our Lightning Protection System—also galvanized iron for roof, steel trusses, doors, windows, track and complete hardware—everything but the foundation. Our lowest price barns have wood "sides"—the more expensive ones have "sides" of galvanized iron.

You may buy from us the entire group of buildings shown below—Barn, Garage, and Implement House—or you can obtain just one at a time for the same price per building.

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### RURAL LANDSCAPE ARCHITECTURE

For years we have been helping farmers to lay out their farm buildings on the most convenient and economical plans. Now we go a step farther and show you how to lay out your entire Farm—furnishing plans that indicate the most efficient lay-out of Fields, Lanes, Fences, Gates, Wind-breaks, Orchard, and Shrubbery. This service is designed to aid you in handling crops and stock economically, and includes approved directions for "Crop Rotations" on the whole farm. By utilizing our service, you not only obtain an ideal barn, but you also secure expert assistance in raising the produce that is to fill your Barn, with lightened labor and increased profits.

Send for our big Barn Book, giving detailed information about the Preston Service to Farmers and showing the complete line. With the book we'll send you, free, our set of Standard Designs of Rural Landscape Architecture.

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MONTREAL, 86 De Lorimier Ave.

All the Farm Buildings For A 50 Acre Farm



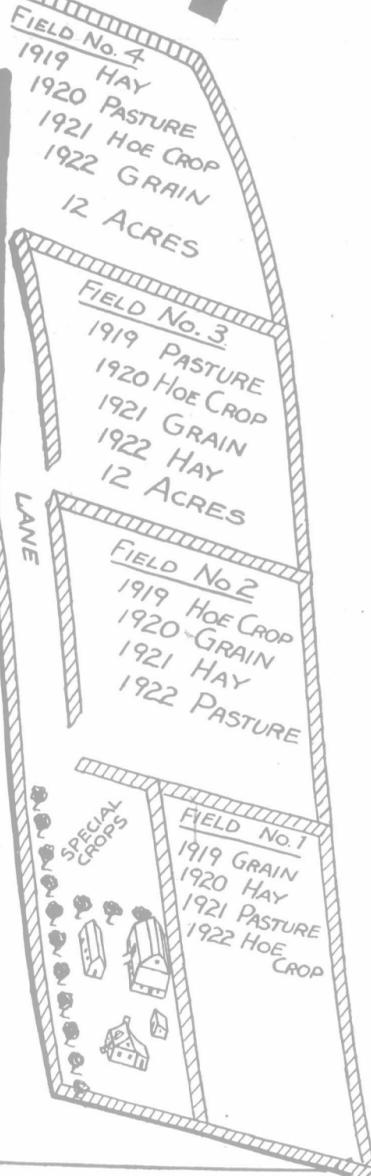
Please send me full particulars of your Stable Plans, Rural Landscape Architecture and a copy of Barn Book

Name

Address

R.R. No.

F.A.



### Questions

#### Flax

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**Questions and Answers.**  
Miscellaneous.

**Flax With Spring Grain.**

1. Is it good practice to sow flax with the spring grains; if so, in what quantity?

2. Do you advocate the growing of sunflowers with silage corn. How is this handled? E. W.

Ans.—1. We would prefer growing the flax by itself and mixing it with the grain when feeding, although some favor sowing about 10 lbs. of flax per acre along with the grain. The biggest objection is the coarse, wiry fibre of the flax straw in with the other straw making it less desirable for both feed and bedding.

2. A number have recommended sowing sunflower seed with corn for silage purposes. We have never tried growing these two plants together. The sunflowers being of an oily nature would possibly increase the nutritive value of the corn silage. The sunflowers and corn could be cut together with the binder.

**Beet Pulp.**

Where can I obtain information about beet pulp as a feed for dairy cows? How does it compare with corn silage? Where can it be obtained and how much should be fed? A. P.

Ans.—A number of sugar beet factories are equipped with drying the beet pulp. Compared with cornmeal, it gives almost equal results and produces larger gains with growing animals. In some countries the dried beet pulp is rated at ten per cent. below corn or barley. The pulp will absorb a great deal of water and when moistened with two or three times its weight of water before feeding it compares favorably with corn silage. Dairy men with stock on test like the beet pulp as it seems to keep the animals in good condition. In an experiment at New Jersey Station, 9 lbs. of dried beet pulp and 5 lbs. of mixed hay replaced 45 lbs. of corn silage and the cows gave eleven per cent. more milk and butter. We believe that some of the sugar beet factories have this substance for sale, and that it is being advertised in our columns.

**Cow With Cough—Feeding Pigs.**

1. Is formaldehyde which is two years old good for treating for smut, or would you advise using new stock?

2. I plowed a 10-acre field of sandy loam last fall and disked and harrowed it three times. Would this be satisfactory for spring wheat; if not, what kind of grain would you advise sowing?

3. I have a cow which has a dry cough, especially in the morning. Since I dried her the cough appears a little better. What is wrong with her?

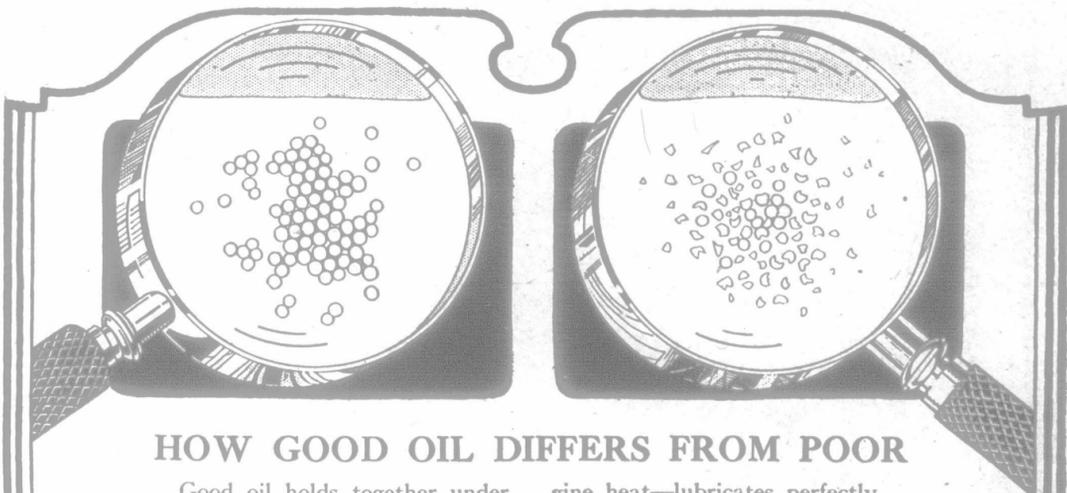
4. I have a bunch of young pigs which I intend fattening. What proportion of barley and oats would you advise feeding? L. M. D.

Ans.—1. If the formaldehyde was kept in a tightly-stoppered, dark colored glass bottle it should be all right; otherwise we would advise using new material.

2. As to whether wheat would be satisfactory or not will depend somewhat on the season and also the fertility of the soil. For a good yield of wheat the soil must be in good heart and we have found that it does exceptionally well following roots or corn. With a good season, wheat might give you a good yield provided you can get it in early; otherwise use mixed grain.

3. The cough somewhat indicates tuberculosis. However, a cow that is affected with this disease to the extent of having a cough will very often be losing in flesh. It is possible there may be a little bronchial trouble, and that opening up the stable in the mornings affects it. To determine definitely whether or not the cow has tuberculosis we would advise having your veterinarian test her with tuberculin. She may have the disease and be spreading it to other individuals in the herd.

4. For starting young pigs we have found equal parts of shorts and finely-ground oats, with skim-milk, to be an ideal ration. As the pigs get older a little barley may be introduced into the ration. When they are four and a half months old equal parts barley and oats may be fed. The pigs will finish very well on this and produce a good quality of pork. We would not care to feed much heavier on barley than the amount mentioned.



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Good oil holds together under severe pressure and varying temperature. Its particles resist wear. Poor oil soon breaks down, separates, gums and lets down the bars to friction, wear and resulting breakdown.

Good oil burns cleanly, expels the carbon with the exhaust. Poor oil leaves carbon in cylinders, on piston heads and spark plugs. Good oil seals in power—poor oil lets power escape.

Use good oil in your tractor, truck or automobile. Polarine is more than good oil—it's the oil. Holds its body under en-

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**CLYDESDALE STALLION FOR SALE**

Dunshinnoch [I9478] born April 23, 1916, foaled property of and owned by N. S. Rothwell, Navan, Ont. His sire is the good "Premium" breeding horse and many times Champion stallion Dunnottar (imp) [13906] (16964), Dam Princess Lucy Bella (23930) is sired by the high-class stallion Baron's Treasure (imp.) [7233] (11615) by Baron's Pride [3067] (9122).

Dunshinnoch was first in amateur and second in open class of Canadian bred stallions at Ottawa Winter Fair 1919. This is a rare good horse and breeding the best. Enrolment No. 5259. Write now.

N. S. ROTHWELL, R.R. No. 2, Navan, Ont.

**Clydesdales and Percherons**

I have 15 Clyde Stallions, 10 Percheron Stallions and 10 Clydesdales Fillies. The best collection I have ever had at any one time of prize winners and champions, all for sale at prices second to none. A visit to my stables will convince you.

T. H. HASSARD MARKHAM, ONT.

**Imported Clydesdale Stallion FOR SALE**

Hartington (imp.) 19655 a four-year-old by "Signet" winner of the Highland Society's prize and one of the best breeding sires in Scotland to-day. Hartington was first at the Provincial Winter Fair, Guelph, 1917. First, Canadian National Exhibition, Toronto, 1918. Second at the Provincial Winter Fair, Guelph, 1918. He has both size and quality.

J. M. Gardhouse Phone 121 Weston, Ontario

**CLYDEDALE STALLION For Sale**

"Pride of Warwick" [12119], Sire—Milton Hill (imp.) [3199] (10381), Dam—Bonnie Bess [25597]. This horse weighs 2,000 lbs. and has a very gentle disposition. Also been very successful in getting good foals. Inspection Form 1. Address—

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**HORSE SICKNESS**

When unclipped horses get overheated on warm spring days their long, sweaty coats of hair clog the pores and prevent them from throwing off perspiration. This often causes colds, pneumonia, asthma and similar troubles. They dry off quickly, keep well and do better work when clipped with a Stewart No. 1 Machine. If dealer can't supply you send us his name. Write for catalogue.

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**PERCHERON STALLIONS For Sale**

Three young American bred Percheron Stallions of serviceable age and out of imported stock, sound and right every way—the big drafty kind—have passed inspection in form 1—quality—good feet and legs—black and greys. Are priced right for quick sale. Will sale also a few young mares. H. C. SOLDAN, Hensall, Ont.

Saskatchewan Hereford breeders recently met and formed a Provincial Association, adopting the same constitution as that used by the Alberta and Ontario Hereford Breeders' Associations. A number of new herds of the White-faces have been started in Saskatchewan during the year. W. H. Gibson, of Girvin, Sask., was elected President; C. J. L. Field, of Moosomin, Vice-Pres., and W. H. Harrison, of Montmartre, Secretary-Treasurer.



**Questions and Answers.**  
Miscellaneous.

**Warts.**

What is a cure for warts on cattle? I have applied oil and sulphur without results. L. M.

Ans.—If the warts have constricted necks, tying a silk thread tightly around will remove them. The spots may afterwards be touched with caustic. Castor oil will sometimes remove the warts. Touching the flat warts with caustic or butter of antimony will remove them.

**Hens Ailing.**

We had a disease among our hens last fall which took seven of them. It began as a black diarrhoea. I have never seen the disease described and I fear some symptoms are in our flock again. Is there some kind of soda which is good to put in the drinking water? The birds have laid well all winter. J. D.

Ans.—The matter has been submitted to different authorities on poultry diseases, but they are not able to diagnose the trouble from the symptoms given. It would be advisable to send a diseased bird to the Bacteriological Department, O. A. C., Guelph, for a definite diagnosis of the trouble. We do not know that soda would be beneficial, but potassium permanganate sufficient to color the water is recommended by some poultrymen as a disinfectant.

**Building a Dam.**

Could you build a dam about 30 feet long and 6 feet high which would dam the water back about 20 rods and about 10 rods wide? What would it cost to dam the water back and what is the best way to do it?

2. What size wheel would it take to furnish power for a thresher? Could it be run in the winter or would it freeze? J. B.

Ans.—1. It would be necessary to have more definite information about quantity of water and fall available before a satisfactory answer could be given.

The dam could be constructed on materials on the farm and by farm labor, hence estimate of its cost could not be given. Suitable materials would be timber, stone, earth or concrete.

2. You would need about a 20-h.-p. water wheel to assure you of enough power for threshing. Size of wheel would depend upon the type, fall and amount of water.

Other uses to which water-wheel power could be put are running electric light plant, sawing wood, grinding grain, silo filling, etc. R. R. G.

**Material for Horse Stable.**

Which would make the warmer, drier and cheaper wall for a horse stable, stone 2 feet thick or cement one foot thick? or would it be better to put studding on a cement foundation and then side it up, give a coating of cement and then shingle and board up on the inside? Will second-growth pine shingles last with cement paint put on?

2. How does buckwheat straw compare with other straw for horses and cattle? T. W. S.

Ans.—1. Both cement and stone walls would be more or less damp and the cheapness would depend upon the distance the material would have to be hauled and the price on the local market. A cement wall can be built cheaper from a labor standpoint than can stone. Putting a 2-foot cement wall and running boards from there up would give you much the dryer stable. The amount of material which you mention should make it particularly warm; in fact, you will find that boarding up on the outside of the studding, and then shingling, will make it about warm enough. Second-growth pine should make fair shingles.

2. Buckwheat straw is not rated very highly and is seldom used to any great extent for feed. However, it is a little higher in crude protein than oat straw but considerably less in carbohydrates.

R. M. Holtby, of Port Perry, writes that the cow Riverview Pontiac Hopeful, owned by J. A. Caskey, has recently dropped a better calf by that noted bull, Rag Apple the Great, a son of a 50-lb. cow. The two nearest dams of this calf averaged 119 lbs. butter in seven days. It is doubtful if this has been equalled by a cow of any breed of any age in Canada.

**PLOW TO THE FENCE LINE**

Because of the present high price of living and farming, every farm owner should utilize every available foot of ground to the best possible advantage. You cannot do this with the old rail fence. You are bound to have a lot of waste land in the fence corners, growing obnoxious weeds, infesting the whole farm and making an unnecessary expense and a waste that should be obliterated. You are interested in making money—not wasting it. A farm to bring a return for the money invested and the labor expended must be farmed thoroughly—all of it farmed thoroughly. There must be no waste fence corners and no weeds to contaminate the land. A farm to be profitable must be clean.

When you plow to the fence line, as is shown in this illustration, you reach a maximum efficiency. A full hundred per cent fence satisfaction is realized. These are all important considerations. A good fence must be well made. Not only must the material—the wire that is used—be of the best, but the knot that ties the stays and lateral wires together must be of the best. Then you have a fence that stays where you put it. Same even tension winter or summer—strong—durable. There is great satisfaction in constructing a good fence like the

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Fence for these reasons. The strong line wires have a wave or crimp which gives elasticity and spring to the fence and also provides for expansion and contraction caused by heat and cold. Great care is given to a uniform tension on each wire, so that there will be no long wires to make the fence sag, nor any short wires to take up all the strain and break. The strain is evenly distributed on each wire. The Sarnia Knot fastens the stay wires to the line wires in such a manner that they cannot be slipped in any direction. At the same time permits easy erection over rough or uneven ground without kinking or bending either the lines or the upright wires.

We sell direct; prepay freight on all shipments in Old Ontario, New Ontario, Quebec and Maritime Provinces, 4 cents per rod extra. Our office at Winnipeg takes care of all Western Canada business, quoting F. O. B. Winnipeg, thus effecting a splendid saving in that part of the Dominion. Sarnia Fence is made in Canada for Canadian farmers. Sold direct on our "save-you-money" plan. Order now. Have your fencing on hand when you need it and at our exceedingly low prices. Send for descriptive literature, price list and order blank.

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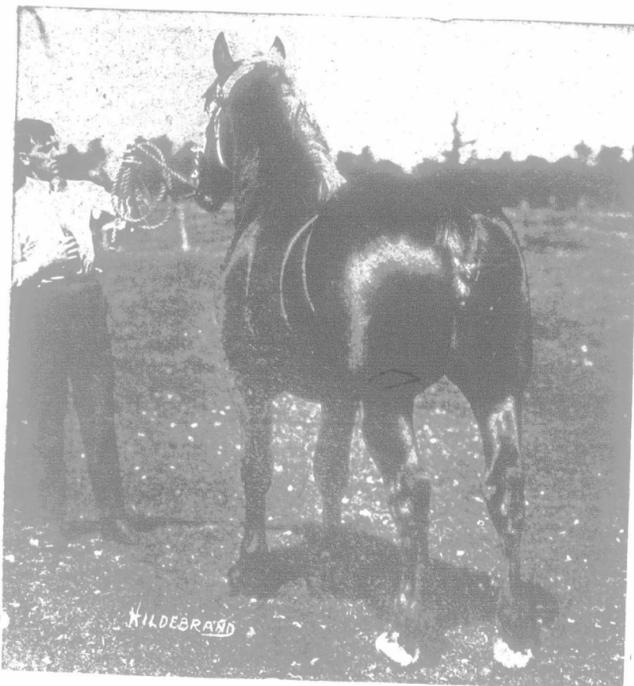
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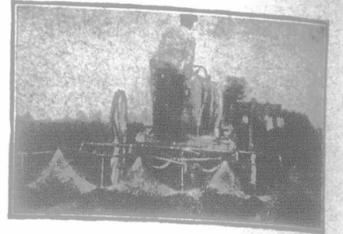
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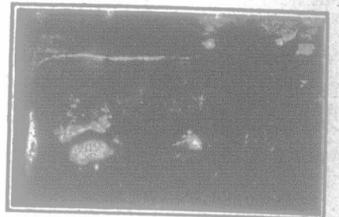
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Yearling bulls  
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A Shorthorn bull is a profitable investment.

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F. Wallace Cockshutt Brantford - Ontario

### SHORTHORNS

Present offering, 6 choice young bulls and a few females, their dams are good milkers and best of breeding. Prices moderate.

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### The Hawthorn Short horns

Just one extra good red bull left, 11 months, by our herd sire. Priced to move. Females all ages, Clydesdale fillies and Leicester Sheep.

ALLAN B. MANN, The "Hawthornes," Peterboro, Ont., R.R. 4.

### R. O. P. SHORTHORNS

Yearling bulls all sold. Could spare a few calves of either sex, two to four months old.

S. W. JACKSON Woodstock, Ont.

Short horn Bulls for Sale - Eight vicable age. Sired by the imp. bull Donside Prince 101809.

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Short horns and Clydesdales - We have a number of Short horn bulls which are pure Scotch and Scotch topped, extra good quality, out of high-record cows. Also a few females, and one extra good yearling (heifer) Stallion; also a good two-year-old mare. P. CHRISTIE & SON, Port Perry, Ont.

## Gossip.

### The Canadian National Two-Day Sale.

Before the passing of another week, the Canadian National Holstein Sale, Canada's first great two-day sale, will have become history. Whether this sale will establish some new high averages for club sales in the Dominion remains to be seen, but the management in selecting the 125 lots listed had this in mind while going their rounds. That they were successful in getting so much high record material augurs well for the success of their plans. It is certain that five 30-lb. cows, seven 100-lb. cows, four 20,000-lb. cows and their descendants were never before brought forward for one Canadian sale ring. In reviewing the catalogue it is apparent that these, and not the large number selling, are the outstanding features of the sale and while the lists are far too extended to allow individual mention, there are in each of the consignments several deserving individuals which have sufficient importance to make a short reference quite necessary. Beginning with the largest contribution, Joseph O'Reilly of Peterboro, we might add that the forty lots listed by this breeder comprise his entire herd. Mr. O'Reilly has sold his farm and not one animal in his great herd of champion producers will be retained. One need only to glance at the list of good record sires used in this herd to know the offering is worthy. May Echo Prince, a son of May Echo and 3/4 brother to May Echo Sylvia, came to the herd as sire No. 1. In the catalogue will be found 15 daughters of this bull including the second highest junior 3-year-old, 7-day heifer in Canada "Burkeyje Hengerveld May Echo" with 563.4 lbs. of milk and 29.68 lbs. of butter. Following May Echo Prince, came Hill-Crest Ormsby Count a son of Sir Admiral Ormsby and "Rauwerd" Canada's first 29,000-lb. cow. There are four daughters of this sire selling. The third sire to be used was another son of "Rauwerd," Rauwerd May Echo Champion. This bull was got by May Echo Champion, the only full brother to the great May Echo Sylvia. Bull No. 4, "King Segis Pontiac Posch" is the present herd sire. All the females in Mr. O'Reilly's offering are bred to this sire, and this season's calves selling by the side of their dams are also sired by him. As twenty of his daughters will feature the Gooderham consignment a line or two here, regarding this choice breeding sire, may well be in order. Individually, he is one of the most noted show bulls in Ontario, having been junior and reserve champion at Toronto and London as a yearling; and in breeding, he has almost every thing to make his pedigree fashionable. His sire, King Segis Pontiac Alcartra in 1913, enjoyed the honor of being the highest-priced bull of the breed; while Fairmount Netherland Posch, his dam, held at that time the junior 4-year-old 7-day world's record. Thus it will be seen that King Segis Pontiac Posch has a combination of individuality and production which is unexcelled. All of Mr. O'Reilly's long-distance cows are bred to him and the same is also true of their offering. Toitilla of Riverside, Canada's first 24,300-lb. cow and her 30-lb. 4-year-old daughter; Helena Hengerveld Keyes 3rd, a 19,753-lb. 4-year-old; Burkeyje Hengerveld May Echo, a 29,68-lb. 3-year-old (second highest in Canada) and others of equal note will be in the ring on April 10 and 11 and passed to the highest bidder.

Of the 28 lots selling in Mr. Gooderham's consignment twenty are daughters of King Segis Pontiac Posch and as seen recently by a representative of this paper no sire has had twenty more prominent daughters listed for a public sale ring in any country. With two exceptions these heifers are rising two and three years of age, and in reviewing the list of those that have already been tested it will be noted they make an average of slightly better than 20 lbs. of butter in 7 days as two-year-olds. In addition to those that have been listed there are six that will freshen with their first calves around sale time and all are bred to the junior sire at Manor Farm, King Korn-dyke Saddle Keyes. This bull is a son of the noted 36.05-lb. cow, Lulu Keyes

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WORLD food conditions are such that high prices will likely stand for some time to come. Dairy Farmers do not need to figure whether it is most profitable to sell cheese and butter, or raise their calves. They do both when they use

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Every Collar Guaranteed. Every collar is sold upon the guarantee that galled horses get well while working in Lankfords. If your dealer cannot supply you, send us \$2.50 (state size wanted), and we will send you a collar, charges prepaid. (8-2c)

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Established in 1868 and consist of 1,250 registered Oxfords. For many years have been won shows. At the last Royal Show won for a single Ram Lamb and a pair of Ram Lambs. Rams, Ram always on sale.

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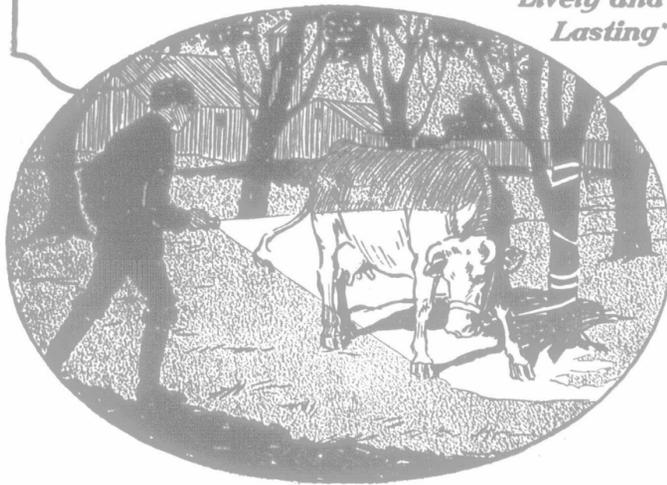
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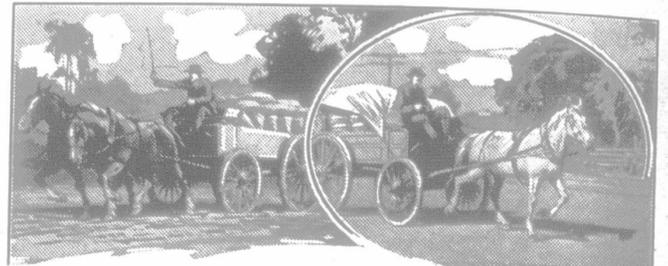
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**"WHAT do you mean by 'two horses from town'?" you ask.**

We mean: Is yours a "two-horse road" like the one shown on the left—full of mud, ruts, holes and bumps?

Or have you a firm, smooth road—mudless, rutless and dustless—like the one shown on the right, that one horse can roll a load over with ease?

You know, of course, that the one-horse road is much cheaper.

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It isn't theory; It's a proved fact; We don't ask you to take our word for it. Read the report of an authority, Mr. C. H. Claudy, recently published in a well-known magazine:

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All the more reason for a good road. Bad roads ruin automobiles.

Good roads not only save

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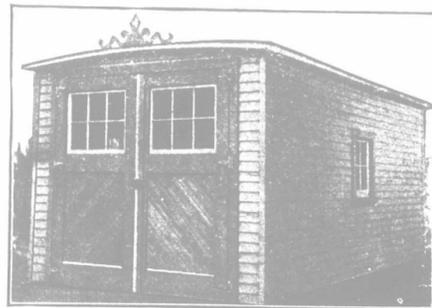
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with 785.4 lbs. of milk in the 7 days and his sire, Sir Saddle Korndyke Segis, is a brother to Mabel Segis Korndyke 40.32 lbs. This is getting into breeding that is seldom equalled and never excelled. The twenty daughters of King Segis Pontiac Posch bred to this great young sire is one of the many big features of Canada's first two-day sale. Of the mature cows in Mr. Gooderham's offering the 30.68-lb. cow, Aggie Fafortit Johanna, is the highest. She is also one of eight cows listed in the sale that have given over 100 lbs. of milk per day. Three other granddaughters of King of the Pontiacs, and several smaller record cows of good individuality complete the offering.

L. H. Lipsit, Straffordville, strengthens the sale with several of the highest seven-day record cows listed. Netherland De Kol Princess, a choice five-year-old is one of the youngest 30-lb. cows selling. Her official figures being 31.72 lbs. of butter and 708 lbs. of milk in 7 days, 2,750 lbs. of milk and 119 lbs. butter in 30 days—highest day 103.5 lbs. Her bull calf is also one of five 30-lb. bulls selling. Two other mature cows in this consignment are Sunnybrook Niner Segis 28.39 lbs. and Molly De Kol May 28 lbs., and both are still on test at this writing. Forest Ridge Segis Nancy by King Segis Pietertje a son of King Segis, and Fayne Segis Maud and Forest Ridge Nancy Fayne, two daughters of King May Fayne, have 28.50 lbs. and 26.45 lbs. respectively. Still another worthy of note is Correct Axi, a 9-months show heifer by Correct Change, and her two nearest dams average over 31 lbs. of butter in 7 days.

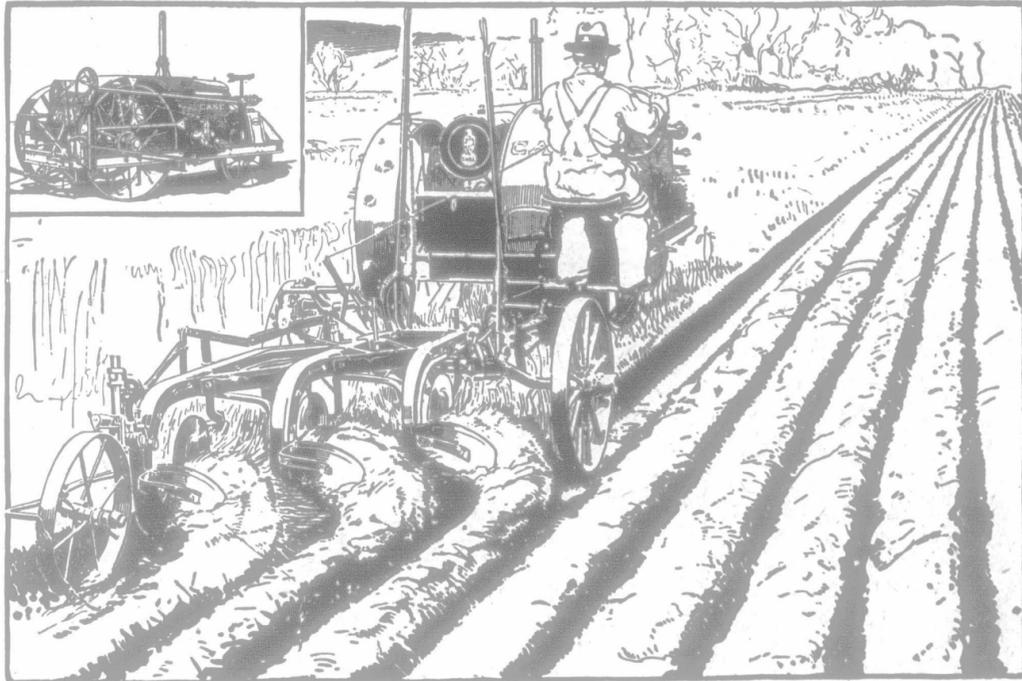
Oak Park Stock Farm, Paris, (H. H. Bailey, Manager) consigns fifteen head, a splendid offering throughout—two lots in particular are really outstanding. The two referred to bring the 9 months son of Albino Josie King and a 7-year-old untested sister of the great May Echo Sylvia. The latter is perhaps the best individual daughter of Inka Sylvia Beets Posch and she will be fresh, and if possible, tested before sale time—look for her at the sale. The 9-months son of Albino Josie King is also a choice individual with his three nearest dams averaging over 35 lbs. of butter in 7 days. His dam, Lakeview Hengerveld Wayne, is also the dam of that undefeated Canadian champion bull, Lakeview Dutchland Hengerveld 2nd. For a combination of production and showing performance this calf offers many advantages.

W. C. Houck, Llenroc Farms, Chippawa, Ontario, is the next largest consignor with six head, five females and one bull. The latter is from a 24.25-lb. cow and his sire, Superba King Rag Apple, Llenroc's chief sire, is sired by that great bull, Rag Apple Korndyke 8th. Superba King Rag Apple is the third highest record bull in service in Canada to-day, and four of the five females consigned by Mr. Houck will be carrying calves to his service. Carnation Lass of Willoabanks a 24.17 lb. six-year-old cow is the highest; Miss B. B. De Boer, a 21.07-lb. 3-year-old daughter of Butter Barron comes in second; Korndyke DeKol Artis Prilly, a 20.05-lb. 3-year-old daughter of King Prilly Konigen, third; and Llenroc Pontiac Ormsby a two-year-old daughter of Rag Apple Pontiac Korndyke De Kol, fourth. The calves they are carrying to the service of Superba King Rag Apple should increase their value three-fold.

A. E. Hulet, Norwich, a breeder who is in the habit of strengthening any club sale in which he takes part, is sending the 29.51-lb. show cow Fairview Posch and her October heifer. This cow also has 708.9 lbs. of milk for the 7 days. These, with a 27-lb. 3-year-old heifer from J. B. Hanmer's herd gives Oxford county the only representation in the sale.

K. M. Dagleish, Kenmore, consigns a 22-lb. 2-year-old daughter of his great sire, Fairview Korndyke Boy; a 20.76-lb. 2-year-old daughter of Woodcrest Sir Clyde; a 21.73-lb. daughter of Pontiac Artis Canada; a 26-lb. 4-year-old daughter of Sir Echo, 3/4 brother to May Echo Sylvia and last, a two-year-old heifer from a daughter of Fairview Korndyke Boy, one of the strong consignments to the sale and one that will meet with favor on sale day.

Sunnybrook Farm, Eglinton, has five head: four females and one bull. The latter is by a son of the great King Segis and his two nearest dams average 29.38 lbs. of butter in 7 days. The females include three cows above 25 lbs. of butter in 7 days, one of which is only a 3-year-old heifer. They are selected from one of the



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Herd sire Golden Duke (Imported), dam's official record 12,400 pounds milk and 595 pounds butter-fat. Hand-milked cow's daily records, Lellurias, Lavinias, Strawberries, Emils, Etc.  
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**Good Shorthorn Bull**  
I have a few imported ones ready for service, as well as several of my own breeding. The price is not high.  
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Herd headed by The Duke, the great, massive 4-year-old sire, whose dam has 13,599 lbs. of milk and 474 lbs. of butter-fat in the R. O. P. test. I have at present two exceptionally good, young bulls ready for service, and others younger, as well as females all ages. Some are full of Scotch breeding, and all are priced to sell. Write or call.  
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**GRAHAM'S SHORTHORNS**  
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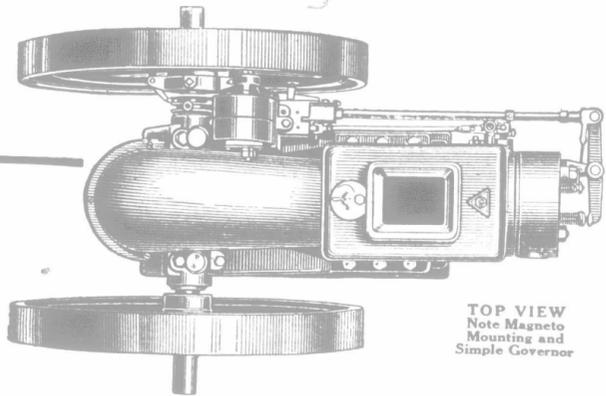
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It is much more carefully made—you can see that at once—every part is carefully machined to fit. That means long life.

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Two young bulls of serviceable age. Sired by a son of Roan Chief 60865. He is also for sale.  
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We are offering a large selection in imported females with calves at foot or in calf. A few home-bred females, 19 imported bulls and 8 home-bred bulls, all of serviceable age. If interested, write us, or come and see the herd.  
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For Sale: Two extra good (30-lb.) thirty-pound bulls ready for heavy service. Priced to sell. Also younger ones by a son of May Echo Sylvia.  
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Has EIGHT of the best young bulls that he had owned at one time, good ages and beautifully bred. Also several cows and heifers, some of them with calves at foot, others in calf to Rosemary Sultan, the Grand Champion bull at head of the herd. Everything of Scotch breeding. The prices are very reasonable, and though the freight is high, it will be paid.

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We have several choice young bulls of the best of breeding and ready for service. Two are by Raphael (imp.), one by Right Sort (imp.), one by Strathmore (imp.), and several by our present herd sire, **R. M. MITCHELL**.  
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Mysies, Rosemarys, Clementinas, Missie, Miss. B. and Miss. C. all good pedigree and all good breeding cattle in calf to some of the best bulls. Also a few bull calves. Write for particulars.  
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Some choice young cows with calf at foot, also some open heifers and heifers in calf to Gainford Supreme.  
We have also for sale some choice young bulls.  
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Herd headed by Dominator 106224 whose two nearest dams average 12,112 pounds of milk in a year. Cows in the herd with records up to 13,891 pounds of milk. To make room for the natural increase in the herd several cows and heifers in calf to Dominator must be disposed of, and are priced to sell. Inspection of herd solicited.

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A son of the famous Right Sort (imp.). All are ready for service and priced to sell. We have others younger and could spare a number of young cows calving early to the service of the same sire. Write, don't delay.  
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A select lot with the choicest of breeding, (reds and roans). Several of these are bred to my present herd sire Gainford Count a Stamford-bred son of the great Gainford Marquis (imp.). The prices quoted on these are right. I have only two bulls left that are old enough for service.  
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**Shorthorns Landed Home**  
My last importation of 60 head landed at my farm most popular families of the breed. There are 12 yearling bulls, and includes representatives of the best of each of such noted strains as Princess Royal, Golden Drop, Broadhocks, Augusta, Miss Ramsden, Whimble, etc. Make your selection early.  
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large herd sort that... From comes and also a and sired to May E latter calf sale. Mr. I hold good to Ormsby Ormsby J. Mr. Peel four female just at sal his 30-lb. months sor W. F. E least, has a cows; a 19 latter two a daughter's Cornucopia great young strong in the Sylvia.

**Quest**

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Ans.—l lowing, good tonic iron, gentia Feed the ho 2. If th bathing m should be l a two per If the lun apply a lin of iodine an ounces each 3. The inflammation cold. If no covered w ight will b disease of rumination the animal the eye ulcers may ary blinthe weeks. Im permanent animal with antiseptic ment from acid and a twice daily effective to the sheep other than

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25 bushels per thousand threshed  
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Separators never overloaded.  
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the Great Gainford

heifers and heifers

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**Orns**

ounds of milk in a year.  
or the natural increase in  
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**Orns**

young bulls of his get  
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choice heifers.  
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e 7,850 as 3 yrs. old in  
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(imp.). The prices  
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landed at my farm  
representatives of the  
daves at foot. 24 heif-  
Augusta, Miss Rams-  
Cobourg, Ontario

large herds of the province and are of the sort that make them worthy of the herd.

From R. N. Holtby of Port Perry, comes another bull from a 30-lb. dam, and also a bull from a 22-lb. two-year-old and sired by a three-quarter brother to May Echo Sylvia. The dam of the latter calf will again be tested before sale. Mr. Holtby's females are all young, hold good official records and all are bred to Ormsby Jane Burke, grandson of Ormsby Jane Segis Aaggie, 46.33 lbs. Mr. Peel from the same district brings four females, three of which are freshening just at sale time, all to the services of his 30-lb. herd sire. He also lists a 14-months son of May Echo's Prince.

W. F. Elliott, last but by no means least, has an offering of three good young cows; a 1918 heifer and a 1918 bull. The latter two are sired by May Echo Sylvia's daughter's son, May Sylvia Pontiac Cornucopia. The cows are all bred to this great young sire which makes this offering strong in the blood of the great May Echo Sylvia.

**Questions and Answers.  
Miscellaneous.**

**Stopping Bleeding.**

I wish to castrate a 2-year-old bull what will stop bleeding? B. B.

Ans.—Bleeding may not be serious if the operation is properly performed. Bleeding may be stopped by using clamps or cobwebs and flour will sometimes stop the blood flow.

**Sweet Clover for Pasture.**

Will sweet clover stand the second year for pasture? H. S.

Ans.—Sweet clover is a biennial plant and will give you some pasture the fall it is seeded, and may be pastured the following year. The old plants die, but if allowed to go to seed a crop of young plants will be produced the following year.

**Shorthorn Families.**

1. To whom should I apply to find out if certain Shorthorns are Scotchbred or not?

2. Is it against the law to allow a bull to run at large or to turn him out to pasture with your other cattle. W. S.

Ans.—If the name and number of the animal were submitted to this office or to Prof. G. E. Day, Secretary of the Shorthorn Breeders' Association, Guelph, information regarding the breeding of the animal would be furnished.

2. According to law a bull is not allowed to run at large. It is generally understood that a bull is not allowed to run with the herd on pasture.

**Condition Powder—Lotion.**

1. What is a good powder to put a horse in condition?

2. Horse has a hard swelling on the breast, caused by rubbing on the manger. What would be a good lotion to apply to this? What should I put in the water to syringe out the wound?

3. Sheep go blind. What has caused it? L. D.

Ans.—1. A teaspoonful of the following, three times daily, makes a very good tonic: Equal parts sulphate of iron, gentian, ginger and nux vomica. Feed the horse well and give daily exercise.

2. If the swelling is hard, frequent bathing may bring it to a head, when it should be lanced and syringed out with a two per cent. carbolic acid solution. If the lump is more or less calloused apply a liniment made of 4 drams each of iodine and iodide of potassium and 4 ounces each of alcohol and glycerine.

3. The blindness may be caused from inflammation set up by irritation or cold. If neglected the eye may become covered with a scum and in time the sight will be lost. There is an infectious disease of the eye which occurs among ruminants. The first symptoms are that the animal is feverish and tears run from the eye; the eye becomes clouded and ulcers may form on the surface. Temporary blindness may occur for two or three weeks but it is seldom that there is permanent blindness. Drenching the animal with salts and then applying antiseptic lotions to the eyes is a treatment recommended. Equal parts boracic acid and calomel dusted into the eyes twice daily with a powder blower is effective treatment. It is possible that the sheep have gone blind from causes other than those above mentioned.

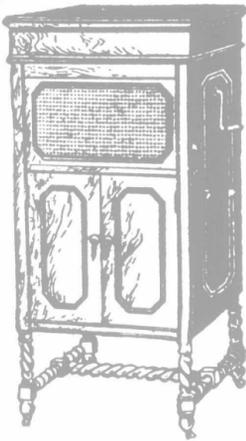
**Compare!**

*The*  
**Pathephone**



**DON'T** believe everything you hear—without the *proof*. Do not permit mere sales talk to influence you in purchasing a phonograph.

When you are planning the purchase of the greatest of all musical instruments let your EARS, EYES and BRAIN compose the jury that will return the verdict as to which is the best phonograph for you. Compare the Pathephone with any other phonograph and in your comparison note particularly the following:—



"JACOBÉAN" PATHÉ  
Price \$215.00  
in Jacobean Oak, Mahogany and Walnut

**TO NE** *Rich, full, musical and natural—a true reproduction of the original.*

**CONVENIENCE AND ECONOMY OF OPERATION** *Reproduction being by means of a sapphire ball, there are no needles to change and no wear on the record.*

**PERFORMANCE** *It will play any record. Do not knowingly limit yourself to only one kind of record.*

**CABINET DESIGN** *Beautiful reproduction of classical furniture instead of ugly boxes.*

**CONSTRUCTION AND FINISH** *Note with what care and expert workmanship the Pathephone is built and the extra fine finish not only on the front but all over,—the quality goes right through.*

**PRICE** *Although the Pathephone is better built, better finished, better designed and better value than any other phonograph it costs no more money than the ordinary phonograph.*

The Pathe dealer will show you how easy it is to own a Pathephone, how a small cash payment—probably less than you expected to pay—will bring to your home the greatest entertainer ever invented.

**PATHÉ FRÈRES PHONOGRAPH SALES CO.  
TORONTO**

Montreal Office: 1004 New Birks Bldg.

**33-LB. GRANDSONS OF LULU KEYES**

I have at present ten young bulls all sired by my own herd sire, King Korndyke Sadie Keyes, a son of Lulu Keyes, 30.05 lbs. of butter and 785 lbs. of milk in 7 days. These youngsters are all first-class individuals, and their dams' records run as high as 33.28 lbs. of butter in 7 days. Several of them must go quick to make room.

D. B. TRACY (Hamilton House Farms) COBOURG, ONT.

**Sunnybrook Holsteins!**

**The Bull is the first consideration!**

We have a few for sale highly strained in the blood of the World's Record cows, all sons of Sir Lyons Hengerveld Segis (one of Canada's greatest bulls). Nothing offered that is not from high testing dams. Inspection invited. Write for particulars.

Jos. Kilgour, Eglinton P.O., North Toronto

**Young Bulls for Sale** from R.O.P. champions and dams and sisters of R.O.P. champions, sired by Canary Hartog, and some by a son of Queen Butter Baroness, the dam of two champions in 7-and-30-day tests. We invite inspection, and will meet prospective buyers at G.T.R. or C.P.R. stations—Woodstock or Ingersoll.

**A Few Select Holstein Bulls**—Priced right—These youngsters are exceptionally good individuals; all from good dams and sired by May Echo Prince, a 3/4 brother to May Echo Sylvia. Five are old enough for service. Can also spare a few heifers bred to our 30-lb. sire, Gipsy's Pontiac Cornucopia.

**Walnut Grove Holsteins**—I am offering a choice lot of bull calves, all sired by world's champion, May Echo Sylvia. All are from R. O. M. dams and good individuals. Also having usual offering in Tamworth Swine.



**NO SUPER SPARK**  
For motorcars, tractors, stationary and marine engines.  
more engine missing  
more new plugs  
more cleaning plugs  
more carbonized plugs  
Anyone can put them on.  
Approved by university engineers and motorists.  
\$2.25 each; \$9 for set of 4.  
Super Spark Co. of Canada  
30 Simcoe St., Oshawa, Ont.  
**SPECIAL OFFER**  
This ad and \$1.50 entitles you to one Super Spark.

**Holstein Bulls**

15 ready for service, 1 younger. From dams with 32.7 lbs. butter in 7 days to those priced for the most conservative buyer. Females also.

**R. M. HOLTBY**  
R.R. NO. 4, PORT PERRY, ONTARIO  
The Advocate Advts. Pay.

# Manor Farm Consigns to the Canadian National Holstein Sale

EXHIBITION GROUNDS

## Toronto, Ontario, April 10th and 11th, 1919

### TWENTY DAUGHTERS OF KING SEGIS PONTIAC POSCH

#### KING SEGIS PONTIAC POSCH.

**Sire**—King Segis Pontiac Alcartra. (The \$50,000 sire.)  
**Dam**—Fairmont Netherland Posch.  
**At 4 years**  
 Butter..... 26 days.  
 Milk..... 32.54 lbs.  
 Average per cent. fat..... 5.11  
**At 3 years.**  
 Butter..... 29.62 lbs.  
 Milk..... 461.50 lbs.  
 Average per cent. fat..... 5.13  
 (World's record when made.)

#### BESIDES THESE GREAT HEIFERS.

I am selling among others

**Aaggie Favorit Johanna.**  
 Butter..... 30.68 lbs.  
 Milk..... 656.00 lbs.  
 Milk highest day..... 100.2 lbs.  
**Artis Fockje Pontiac, a 23-lb. 3-year-old daughter of Pontiac Artis Canada.**  
 Two daughters of Manor P. H. Belle, a 28.01-lb. granddaughter of King of the Pontiacs.  
 An untested daughter of Pietje Inka De Kol, a 28-lb. junior 4-year-old, etc., etc., etc.

#### A FEW OF THE TWENTY DAUGHTERS.

K. S. Ingals (2-year-old)..... 22.01 lbs.  
 Segis Vincent (2-year-old)..... 21.71 lbs.  
 K. S. Segis (2-year-old)..... 21.39 lbs.  
 Segis Car Bom (2-year-old)..... 19.72 lbs.  
 K. S. Princess (2-year-old)..... 16.37 lbs.  
 Manor K. S. Ingals (3-year-old)..... 22.15 lbs.

A number of these heifers are from granddaughters of King of the Pontiacs. There are six others freshening around sale time with their first calves—all to the service of our junior herd sire.

#### KING KORNDYKE SADIE KEYES

**Sire**—Sir Sadie Korndyke Segis, brother to Mabel Segis Korndyke (at 4 years).

Butter..... 40.32 lbs.  
 Milk..... 610.20 lbs.  
**Dam**—Lulu Keyes.  
 Butter..... 36.05 lbs.  
 Milk..... 785.40 lbs.  
 Butter (30 days)..... 144.39 lbs.  
 Milk (30 days)..... 3,191.80 lbs.  
 Highest day's milk..... 122.80 lbs.

Our females are all bred to this great young sire. His dam, Lulu Keyes, was perhaps the most perfect high-record cow of the breed.

The Greatest Consignment Ever Selected From One Herd For a Canadian Auction

LOOK THEM OVER BEFORE THE SALE

Gordon S. Gooderham

MANOR FARMS

Clarkson, Ontario

### Questions and Answers. Miscellaneous.

#### Seeding Down the Farm.

As I cannot get help would you advise me to seed down the farm and buy cattle, or sell outright and move to town?

A. B.

Ans.—It will depend a good deal on conditions and circumstances. Some men can content themselves in town, while others are very unsettled, and the inactivity after years of hard labor shortens their lives. If help cannot be secured, and you have things convenient on your farm, would it not be better to crop what you can and pasture the rest? Of course, if your financial circumstances are such that you could live comfortably in town, it might be all right to dispose of the farm. However, comparatively few retired farmers are contented with town or city life; they would be happier doing a little around the farm.

#### Wall Under Barn.

I wish to put a wall under my barn, which is preferable, stone or cement? Which would be the cheaper, stone at \$7 per cord or gravel at 40 cents per yard; cement at current prices? How thick should a cement wall be, and how much would it take under a barn 40 by 70 feet? How many cords of stone would it take for a stone wall? How thick should the wall be? How much gravel and cement would it take to put a floor in full size? How high should the ceiling be?

J. A. R.

Ans.—Either stone or cement makes a very satisfactory wall; as to which would be the cheaper would depend a good deal on the distance the material would have to be hauled. Then, too, the cost of

## HOSPITAL FOR INSANE

HAMILTON - ONTARIO

Present herd sire is one of the best sons of King Segis Alcartra Spofford. We have three of his sons born during May and June last, and also a grandson of Lakeview Lestrange. Apply to Superintendent.

## AVERAGE 114.1 LBS. OF MILK

Premier Middleton Keyes, No. 38052; born Nov. 12, 1918, and about 75% white; a perfect individual and great size. His two near dams and sire's sister average 30.97 lbs. butter and 793.4 lbs. of milk in 7 days and 114.1 lbs. of milk in a day. Sire—King Sylvia Keyes—5 sisters and dam average 115 lbs. of milk in 1 day, a brother to King Echo Sylvia, world's greatest cow. Dam—Princess Julian of Middleton, with 611 lbs. of milk and 23.71 lbs. of butter in 7 days, with 91 lbs. on her best day. He is priced to sell. Write at once, so that I may tell you more about him.

H. H. BAILEY, Mgr., Oak Park Stock Farm Paris, Ontario, Canada

## Raymondale Holstein-Friesians

A herd sire of our breeding will improve your herd. We have sons of our present sire, Pontiac Korndyke of Het Loo (sire of \$12,750 Het Loo Pieterje) and also sons of our former sire, Avondale Pontiac Echo. Several of these are of serviceable age, and all are from good record dams. Quality considered, our prices are lower than anywhere else on the continent. These youngsters should not remain long.

RAYMONDALE FARM Write to-day. D. RAYMOND, Owner, Vaudreuil, Que. Queen's Hotel, Montreal

#### 6 BULLS BY KING SEGIS PONTIAC DUPLICATE

Brother to the \$50,000 bull. Three of these are ready for service and all are show calves. Write us also for females. We are pricing a number of heifers, bred to our own herd sire, Sylvius Walker Raymondale, a grandson of the great May Echo Sylvia. We now have bull calves a few months old by this sire. Let us know your wants. R. W. WALKER & SONS, Manchester Station, G. T. R. Port Perry, Ont., R. R. No. 4.

## ELDERSLIE FARM HOLSTEIN-FRIESIANS

I am offering for immediate sale several young sons of my senior herd sire Judge Hengerveld De Kol 8th, who is a 32.92-lb. grandson of De Kol's 2nd Butter Boy. The dams of these bulls all have R.O.P. records running up as high as 195.26-lbs. of milk for the year. Write for pedigrees. A. MUIR (Take Kingston Road Radial cars from Toronto, Stop 37) Scarborough P.O., Ont.

**Silver Stream Holsteins**—Special offering: One bull fit for service, a fine individual. Dam a daughter of King Lyons Hengerveld, six nearest dams average 31.31 lbs. butter in 7 days. Sire a son of King Lyons Colantha, his or better come and see them. Priced to sell. We also have others younger. Write at once for prices.

JACOB MOGK & SON, R.R. 1, Tavistock, Ont.

## CLOVERLEA FARM HOLSTEIN-FRIESIANS

Offers for sale some choice young bulls ready for service from tested dams. Priced right for immediate sale. Phone or write.

GRIESBACH BROS.

COLLINGWOOD, ONTARIO

building would have to be taken into consideration. Almost anyone can erect a form and build a cement wall, but it takes a stone-mason to build a stone wall. A 12-inch wall would be thick enough for cement, but for stone it would be 20 or 24 inches. It will require about 70 cubic yards of gravel and 60 barrels of cement, using it in the proportion of one to eight and building the wall 9 feet high. The floor will require 35 cubic yards of gravel and 28 barrels of cement. It will require about 31 cords of stone. The amount of sand and lime will depend somewhat on the class of stone. Round stone will take more mortar than will flat stone.

#### Sheep Unthrifty.

I have a flock of sheep which I have pastured in the same lot for twelve years. They are healthy during the winter but when put on summer pasture, which is mostly high and rocky, the lambs take scours and quite a number die. All of them are stunted and unthrifty. I have this trouble for the past three years. Will keeping the sheep on the same pasture year after year prove detrimental?

J. R. B.

Ans.—The pasture sometimes become infected with the tapeworm, and sheep will take it from pasturing on infected ground. The worm causes the sheep and lambs to become stunted and it very often causes death from emaciation. It is possible that the diarrhoea is caused from something which the lambs get to eat. It may be that there is not sufficient feed on the pasture to sustain the number of sheep and lambs which you have on it. The symptoms would indicate lack of proper feed, or worms. After having experienced this trouble for three years, it would be advisable to put the flock on fresh pasture and see if the trouble continues to persist.

# Sale

1919

**DAUGHTERS.**

..... 22.01 lbs.  
 ..... 21.71 lbs.  
 ..... 21.39 lbs.  
 ..... 19.72 lbs.  
 ..... 16.37 lbs.  
 ..... 22.15 lbs.  
 Daughters of King  
 freshening around sale  
 of our junior herd

**KEYES**

Mabel Segis Korn-  
 ..... 40.32 lbs.  
 ..... 610.20 lbs.  
 ..... 36.05 lbs.  
 ..... 785.40 lbs.  
 ..... 144.39 lbs.  
 ..... 3,191.80 lbs.  
 ..... 122.80 lbs.  
 young sire. His  
 perfect high-record

**tion**

, Ontario

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## The records of his grandam and great-grandam average—!!!

There are no such excuses necessary in the pedigrees of the 125 lots selling in the Canadian National Holstein Sale—Canada's first great two-day sale—at the Exhibition Grounds, Toronto, Ontario, on April 10-11. The dam—the sire—and the individual in the ring will be of first interest in so far as this offering is concerned. It is a pretty good plan to see that the ANIMALS YOU BUY have those high records—and then, those high averages right close up; keeping in mind, of course, something more than a sprinkling of good breeding, back even to the fourth and fifth generations. It's Holsteins of this sort that deserves the appreciation of all. You can buy them, Mr. Breeder, at the

## Canadian National Sale, Toronto, Ontario, April 10-11, 1919

**H. H. BAILEY, Secretary**  
 Oak Park Farm  
 PARIS - ONTARIO

**Auctioneers:**  
 B. V. Kelly R. E. Haeger  
 T. S. Wood

**Sale Directors:**  
 G. S. GOODERHAM  
 L. H. LIPSIT

### Premier Holsteins

OAK PARK FARM AT THE

## Canadian National Sale

EXHIBITION GROUNDS

Toronto, Ont., April 10th and 11th, 1919

**16 CHOICE SELECTIONS INCLUDING**

The best individual daughter of Inka Sylvia Beets Posch. This young cow by the same sire as the World's greatest milk producer May Echo Sylvia, is one of the greatest individuals ever listed for a Canadian sale ring. She will be fresh and if possible will be tested before sale time.

Our other females are mostly young cows, freshening around sale time. They are a choice lot throughout, combining the blood of the breeds best sires, viz., King of the Pontiacs, King Segis, Colantha Johanna Lad, Brookbank Butter Baron, Cornelius Posch, Grace Fayne 2nds Sir Colantha, Prince Abberkerk Mercena, Sir Pietertje Posch DeBoer and Victor DeKo Pietertje. And such dams as Blanch Lyons DeKol 33.31 lbs. and Tweed White Lady 37.43 lbs., etc.

**IN BULLS**

Our offering is limited to one only, in the 9 month's son of Lakeview Hengerveld Wayne, the dam of the undefeated Champion, Lakeview Dutchland Hengerveld 2nd. This youngster is a perfect individual and his sire Albino Josie King is a son of the 41.14 lb. \$25,000 cow Albino Josie. His three nearest dams average 35.02 lbs. of butter in 7 days and he is worth his weight in Victory Bonds at the head of a good herd.

Look up the Premier Consignment the first day of the sale.

OAK PARK STOCK FARM H. H. BAILEY Manager PARIS, ONTARIO

## Sow Sweet Clover

EVERY year adds to its prestige as a fodder and pasture plant. Current prices for other clovers are testimonies not to their popularity, but to their wider and more persistent failure. Sweet Clover is a surer crop, a bigger producer of splendid feed, and a wonderful soil builder as well. Solve this year's clove problem by sowing it. You will eventually, anyhow.

As a better plant than the others, finer and of better quality, with higher food qualities, we recommend our own strain, known as Canadian Albotrea. To our hundreds of customers of last year we wish to intimate that, while sales have been enormous, we have still a reasonable supply left. Orders given at once will be filled. Three weeks of business at present volume will clean us out of that strain. Send in your order at following quotations:

Canadian Albotrea, First Grade	- - -	\$25.00 per bu.
" " Second Grade	- - -	20.00 " "
" " Third Grade	- - -	17.50 " "
White Blossom Sweet Clover, First Grade	- - -	13.50 " "

In comparing the prices, please note that while it requires 20 lbs. or so per acre of White Blossom, you may get a seeding with 12 lbs. or so of our own select strain of Yellow Blossom, Canadian Albotrea. Prices are F.O.B Listowel, Ont.

### Canadian Albotrea Clover Company, Limited

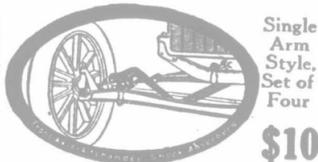
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Easy to attach. No holes to bore. Weight, 20 lbs. per set. This is the original cantilever shock absorber, Canadian Patent 172892. No other can have the same efficiency or give the same easy riding and freedom from jolts, jars and side-sway.



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Style,  
Set of  
Four

\$10



Twin  
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Style,  
Set of  
Four

\$12

Make your Ford ride like a limousine. Over 200,000 in use to-day. Remit by Money Order or Postal Note. Put a set on and try them for 30 days. Money back if you are not satisfied.

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Limited  
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CENTRAL CHAMBERS, OTTAWA, CANADA.

JUST JERSEYS  
**Baldwin's**  
REGISTERED  
COATICOOK, QUE.

**Will Sell Few Fresh Jersey Cows**  
Jersey Bull one year, dam Mabel's Poet Snowdrop, 1st prize as calf, 1st Junior Champion as yearling, 2nd prize two-year-old Toronto, four times 1st Woodstock, four times shown. Pull six months, dam Oxford's Silver Bell, milked 38 lbs. day, score 172 points at Guelph, 149 days in milk. First calf 1915. I developed and was breeder of Beauty Maid Champion four-year-old butter cow of all breeds in Canada, also Woodstock Pat. Champion Berkshire Boar Eastern Prov. 1916-17.  
IRA NICHOLS, R.R. No. 2, Burgessville, Ont.

Twenty-five Years Breeding Registered  
**Jerseys and Berkshires**  
We have bred over one-half the world's Jersey champions for large yearly production at the pail. We bred, and have in service, the two grand champion Berkshire boars. If you need a sire for improvement, write us for literature, description and prices.  
HOOD FARM - LOWELL, MASS.

**Selwood R. O. P.**  
**Ayrshires**  
Prize winners that are producers. Two choice young bulls ready for service, and a few heifers. Write for description and prices.  
**J. L. Stansell, Straffordville, Ont.**  
Our policy: Satisfaction or money refunded.

### Questions and Answers. Miscellaneous.

#### Ownership of Fox.

A party were out fox hunting and started a fox, and another man goes out and shoots it. Who can claim the fox, or how should it be divided?

Ontario.

READER.

Ans.—We do not think that it can legally be taken from the man who has it, or that he is obliged to divide it, or the proceeds of sale of it, with anyone.

#### Distributing Hay in Mow.

Can any of the readers of "The Farmer's Advocate" suggest a device for putting the hay on one side of the mow as it falls from the hay-fork? I only desire to fill one-half the mow. J. S. C.

Ans.—An extra track might be put in, or the hay-fork rope may be attached to the purline and the hay drawn up over the beam. The hay will draw up all right if boards are placed up the side of the mow. If desirous of using the track in the centre of the barn, it might be possible to nail boards near the centre of the barn, roof sloping into the mow, and brace there by scantling or poles secured to the purline.

#### Varieties of Mangels.

1. Where can rope-making machines be obtained, and what is the price of same?

2. What is the best variety of mangels to sow for pigs and cows? M. R. D.

Ans.—1. We have been unable to obtain the information regarding a rope-making machine.

2. At the Experimental Farm, Guelph, such varieties as Yellow Leviathan, Ideal, Sutton's Mammoth Long Red, Tankard Cream, Giant White Feeding, and Colossal White are among the heaviest yielding varieties of mangels and sugar mangels. All give very good yields, are firm and grow fairly well out of the ground, which makes harvesting easier than where they grow deep in the soil.

#### Millet.

How many pounds of millet are there to a bushel? When is it advisable to sow millet for pasture? How many pounds to the acre should be sown? If used for winter feed, when should it be sown and how much to the acre? Would you advise cutting it with the mower or binder? Will it mature along Lake Huron sufficiently to be used for next year's seed? Is it good feed for horses, cows and hogs? A. P. S.

Ans.—Weight per measured bushel is around 24 pounds. The crop is not extensively used for pasture but may be sown around June 1st, sowing about 25 pounds of seed. It is sown about the same time and same rate for hay. It is advisable to cut it with the mower. Millet should mature along Lake Huron. Millet hay has had an injurious effect on horses. If fed in moderation and mixed with other roughage it is fair fodder for cattle. Millet meal has been fed to hogs, but it does not compare with wheat or barley in matter of gains and produces a somewhat softer pork.

#### Soil Tonics.

1. Is carbonate of lime sold by some firms good for crops, and what crops is it best applied to?

2. To what crop should basic slag be applied?

3. Is it advisable to spread lime and stable manure together?

4. What is the best way to sow lime? E. G. C.

Ans.—1. The carbonate of lime should be particularly valuable where the soil is in any way acid. It is very often applied to sweeten the soil for clover. It may also assist in liberating plant food in the soil.

2. Basic slag is particularly good for pastures. Beneficial results have been obtained on fall wheat, roots, hay, and in fact with all crops. The results will depend on the nature of the soil and as to the constituents in which the soil is lacking.

3. There is danger of the lime liberating the ammonia in the manure, thus allowing the escape of a valuable plant food.

4. Lime has been spread off the wagon with a shovel. The lime drill or fertilizer drill is the best way to sow it.

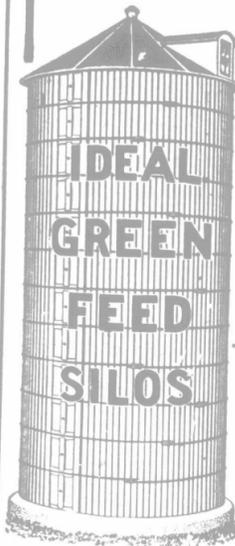
## There's no use crying over lost milk

If you had had an Ideal Green Feed Silo this last winter, your cows would have given 25 per cent more milk and your feed bills would have been 20 per cent less, in the bargain.

From this you can figure how much bigger your profits would have been, with milk at such high prices.

You can't remedy your oversight now, but you can prepare now to get all the milk you are entitled to, next winter.

NOW is the time  
to install an  
IDEAL GREEN FEED SILO



Summer will soon be here, and the first thing you know another winter will come around and you'll have no silo.

Write today for our catalogue, which not only shows why the Ideal is the best silo you can buy, but contains much valuable information about silos and silage.

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### FIELD TILE

If considering draining your farm or orchard, we can supply all sizes best quality Hard Burned Clay Tile and will guarantee prompt shipment. Write for prices.

### NATCO IMPERISHABLE SILO

Don't consider purchasing a Silo until you let us tell you about the Silo which lasts for generations.

**NATIONAL FIRE PROOFING COMPANY OF CANADA, LIMITED**  
Agriculture Dept., Dominion Bank Bldg. TORONTO

### Brampton Jerseys at National Dairy Show

At the National Dairy Show at Columbus, Ohio, in October, Brampton Jerseys won among other major awards first for the best five females of the breed, which is, perhaps, the greatest award which can be won at this, the World's Greatest Dairy Show. Among these was Beauty Maid, the champion four-year-old R.O.P. butter cow for Canada. We also bred and owned the dam and imported the sire of the mature champion R.O.P. butter cow for Canada. Why not make your selections from the Brampton herd?

**B. H. BULL & SONS**

BRAMPTON, ONTARIO

The **Woodview Farm** CANADA'S MOST BEAUTIFUL JERSEY HERD  
**JERSEYS** Herd headed by Imported **Champion Ronner**, winner of first prize with five of his daughters on the Island of Jersey, 1914, second in 1916, and again first in 1917. We are now offering for sale some very choice bull calves, ready for service, sired by imported bulls and from Record of Performance imported prize-winning cows. Also some cows and heifers. Prices right. We work our show cows and show our work cows.

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We still have a few select young heifers for sale from our excellent herd sires, Netherton King Theodore (imp.) and Humeshaugh Invincible Peter. All from R.O.P. dams. We also have four choice young bulls under 9 months of age. Inspection solicited.  
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I can price females with records up to 12,000 lbs milk, and have two young bulls aged 12 and 16 months, with rich breeding at attractive prices for quick delivery. Correspondence and Inspection invited. **DAVID A. ASHWORTH, Denfield, R. 2, Middlesex Co., Ont.**

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How to run it,  
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Complete practical  
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THE ARN  
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this last winter, more milk and less, in the

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but you can prevent, next winter.

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BRAMPTON, ONTARIO

SEY HERD winner of first prize with five calves in 1916, and again first prize bull calves, ready for export. Imported prizefighter. We work our show

young bulls—dropped June on Prince Stephen, dam sired by Edgeley Bright

(R.), Edgeley, Ont.

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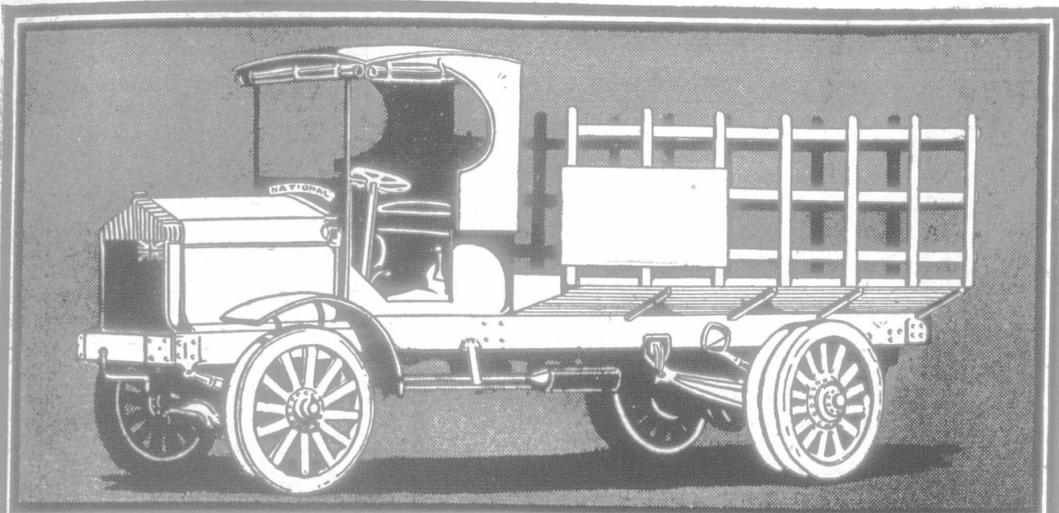
UR, Manager, Esbjerg, Ont.

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bulls aged 12 and 16 and Inspection



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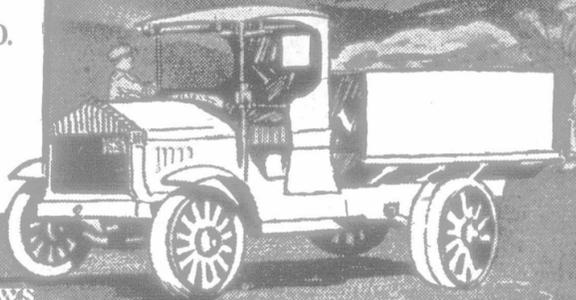
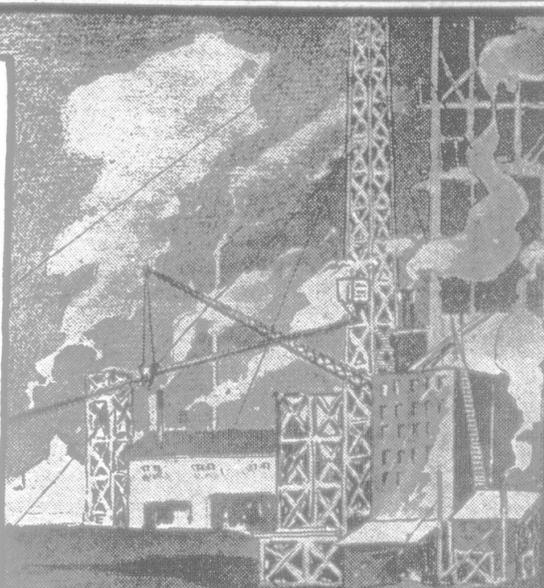
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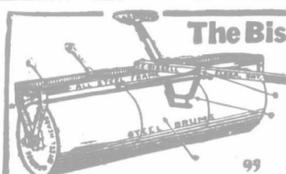
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Large roller bearings and strong 2" axles insure durability and great strength. The Bissell is a 3-drum Roller of good weight, built to stand hard usage and give great service. Write Dept. W for free catalogue.  
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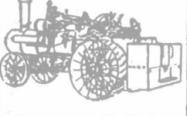
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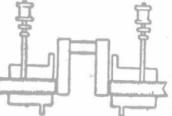
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**Smut of Oats.**  
The oat crop of Canada is estimated at about 400,000,000 bushels. The average loss from oat smut, usually placed at four to six per cent., means the destruction of about 20,000,000 bushels, a loss which can easily be prevented by seed treatment.

Oat smut is easily recognized as it destroys the kernel and hull and sometimes the chaff, changing them to a black dusty powder composed of millions of spores, which are scattered by the wind and which lodge on the sound oats in the vicinity. When this grain is sown the smut spores germinate and infect the young seedlings. The smut develops inside the growing plant and reduces the kernel to a mass of spores instead of sound grain.

The object of seed treatment is to kill the spores lodged on the grain. The safest and best method is to treat the seed with a solution of formaldehyde by one of the following methods.

**Dipping method.**—Mix well one pint of formaldehyde (formalin) in forty gallons of water, putting the solution in barrels or casks. Put the seed in coarse bags that the solution will readily pass through and dip into the casks allowing to soak for about five minutes till every grain is wet. Remove the bags and allow to drain on slats into the casks as the solution may be used several times. Then pile the grain on a clean floor and cover with sacks or canvas for two or three hours. Dry the grain by spreading on a clean floor and stirring now and then. Sow the grain as soon as it will run freely or if necessary to store, dry thoroughly as damp seed will mould or sprout.

**Sprinkling Method.**—Pile the grain on a clean floor or grain wagon and sprinkle the grain with the solution, using a sprinkling can shovelling the seed from one pile to another so that each kernel will be thoroughly wet. About a gallon of solution will be required for each bushel of grain. Cover the grain as in the dipping method and dry.

Do not allow the wet grain to freeze as it might injure germination. When the grain has been treated and is damp and swollen the rate of seeding should be increased about three-fourths of a bushel per acre. Any bags or receptacles used for holding the treated grain should be disinfected in the solution of formaldehyde.

**Dry Method.**—This method has been recently introduced but requires more care. A solution consisting of one pint of formaldehyde to one pint of water is sprayed on the grain while it is being shovelled over a clean floor on canvas. A sprinkling can must not be used as a sprayer that will deliver the solution in the form of a mist is necessary. In this method there is no danger of freezing and no drying is required. It should not be used for wheat except in an experimental way. One quart of the solution will treat about fifty bushels of seed.—*Experimental Farms Notes.*

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"Holland, in harboring the kaiser, is being loyal, she says, to her best traditions. But isn't she being too loyal?"

The speaker was an official of the shipping board. He went on:

"Holland in her loyalty reminds me of a story. A certain man went out in his automobile, and failed to turn up for dinner. Bedtime came, and still he hadn't turned up. The small hours—and no sign of him.

"Then the man's wife, frantic, sent off telegrams to his six best friends, all worded the same, namely:

"Is George passing the night with you?"

"Well, George turned up at breakfast in a farm wagon. He had had an accident in the depths of the wilderness. Oh, George had had a horrible time, truly.

"As he recounted his adventures and devoured ham and eggs, the maid brought in on a silver plate six telegrams that had arrived simultaneously. George's wife opened and read them one by one. They were all worded alike. Each said:

"George passed the night here."

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the night here."

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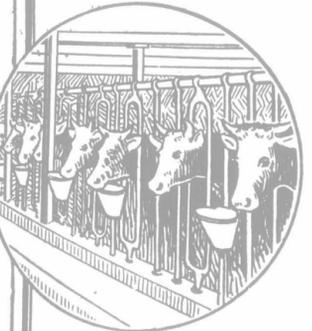
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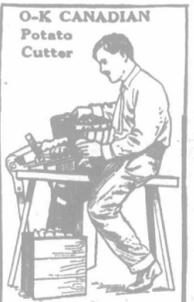
The endless cup system picks up and deposits seed on revolving plate with a compartment for each seed in full sight of operator on rear seat. It does not pick or bruise the seed.

This machine has extra large fertilizer equipment. Two shoes open up the furrow. One makes trench for the fertilizer; the other mixes up the fertilizer with earth so that it cannot touch the seed. Yet the seed gets the full benefit of the necessary plant food. It also makes the trench deeper for reception of the seed. Fourteen-inch discs are easily operated, working the covering earth into any desired shape.

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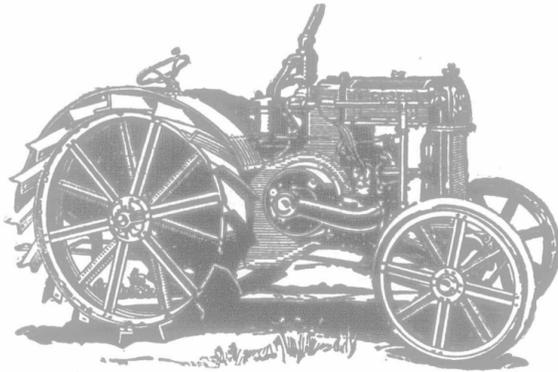
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### Questions and Answers.

Miscellaneous.

#### Gapes.

My hens started to breathe through their mouths and have a rattling noise in their throat. What is the cause and remedy?

G. S.

Ans.—The symptoms indicate gapes, which is caused by the presence of thin, thread-like, reddish-colored worms in the bronchial tubes. Sneezing and coughing usually accompany this trouble. Keep the troughs, drinking fountains and feeding ground clean; provide fresh runs, and use potassium permanganate in the drinking water. Dip a feather in turpentine and introduce into the trachea, or put a loop in a horse-hair and pass it down the windpipe, twist around and withdraw—the worms come with it.

#### Improving the Fowl.

What breeds of birds should I cross to produce Rose-combed Rhode Island Reds? I have a fine pen of Rose-combed pullets. How could I improve them and still keep the Rose-comb strain?

E. B.

Ans.—The Rhode Island Reds are natives of Rhode Island, in the United States, from which they derived their name. Native, European and Asiatic stock were used throughout the Eastern States, and the Reds were developed as the common fowls of the district. The red color was preserved and single-comb, rose-comb and pea-comb were common. Breeders have selected for single-comb and for rose-comb strains. By careful selection and mating the two strains have been perfected. An advertisement in our Poultry column would no doubt put you in touch with breeders who have rose-comb cockerels for sale.

#### Calf Meal.

What kind of meal, commercial or home-made, would you recommend for best results in feeding calves that are raised on separated milk? I notice many commercial calf meals mention feeding with water as a substitute for whole milk. I wish to use them with skim-milk. How would linseed meal, oil-cake meal, cornmeal or low-grade flour do as a substitute. Is it necessary to scald the meal when fed with warm, fresh separated milk?

G. A. W.

Ans.—Some of the commercial meals on the market give good results and while they may be fed with water, they will be considerably better if fed with skim-milk. It is well to scald them first, but they should first be stirred into cold water, and then the scalding water poured on so as to prevent the meal from going lumpy. A mixture of linseed meal, cornmeal and oats makes a very good concentrate ration for calves. The amount to use depends a good deal on the size of the calves, but at the rate of a half pint of meal to a young calf gives results. The amount might be increased as the calf gets older. The linseed meal, cornmeal and oats may be fed dry.

#### Spring Rye—Bees do not Store Honey.

Is it advisable to sow spring rye? When should it be sown? Is it advisable to seed down with such a crop?

2. For three years I have received no honey from several skips of bees, although conditions seem normal except scarcity of water in the vicinity during the summer. Would that be a serious detriment?

W. A. E.

Ans.—Spring rye will not give as heavy a yield as will some of the other spring grains. However, it is very often sown on light soil and gives a fair yield. Of course, the better the soil the larger the yield, as a rule. It may be sown as soon as the land is fit to get on. It is a very good crop to seed down with.

2. The following answer to a similar question was given by an authority on bees in the issue of November 21, 1918. Scarcity of running streams or watering-places is hardly likely to affect the bees. Assuming that the bees are receiving proper attention so that the colonies are strong and ready for the flow, there can be only two conditions which prevent the harvesting of the crop; the first is that the bloom may have been insufficient, and the second that the nectar secreting conditions in the soil may not have been present. There have been several instances where fields of alsike in full bloom were not yielding a drop of honey.

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Questions and Answers. Miscellaneous.

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A model last for women who prefer a long vamp with narrow or medium narrow toe. Made in all leathers 8" or 9" height, Louis or Spanish heels.

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Advertisement for Peerless Perfection Canadian Farmers wire fencing. Includes illustration of a fence and a dog. Text: PEERLESS PERFECTION Canadian Farmers are loyal to the colors; loyal to their citizenship; loyal to business enterprises of the Provinces; every patriotic appeal finds a ready response in a Canadian's heart. We are Canadian manufacturers; we have been doing business in Canada for many years, making Canada's fence, and we are grateful for the patronage accorded us during these years from our Canadian friends. Now is the time to stand by Canada's interests. We are doing our part to maintain a business regularity, and are manufacturing such a good line of fencing that it is worthy of special mention in connection with Canada's future relations to the nations of the world. Observe the illustration, and then ask yourself this question: "Is not a fence made of material good enough for such an important purpose—up hill and down hill work—the kind that should be used by every Canadian?" There is but one answer—Peerless. Made of heavy Open Hearth steel galvanized wire with all the impurities taken out and all the strength and toughness left in. Every wire is crimped making the fence into one continuous spring. Top and bottom wires are extra heavy. Will not sag. Requires less posts than ordinary fence. That means a saving in real money. Absolutely guaranteed. Don't buy a rod of fencing until you get our illustrated Catalog—describes our big line of farm, poultry and ornamental fencing—also Peerless farm gates. Agencies almost everywhere. Agents wanted in all unassigned territory. Write tonight—save a day. THE BANWELL-HOXIE WIRE FENCE CO., Ltd. Winnipeg, Man. Hamilton, Ont.

Advertisement for Simmers' Seeds. Includes illustration of a seed packet. Text: Successful Since 1856 A splendid Guide to Success in Garden or Field. Our 1919 catalogue is yours for the asking. Write today—it is Free. SIMMERS' SEEDS MEAN SUCCESS. Faith in your seeds means faith in your seedsman. Our 64 years of unbroken success speaks for itself. J.A. SIMMERS LIMITED, TORONTO.

Advertisement for 130-Egg Incubator and Brooder. Text: 130-Egg Incubator and Brooder Both For \$17.50. If ordered together we send both machines for only \$17.50 and we pay all freight and duty charges to any R. K. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. K. station. Hot water; double walls, dead-air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under egg tray. Especially adapted to Canadian climate. Incubator and Brooder shipped complete with thermometers, lamps, egg testers—ready to use when you get them. Ten year guarantee—30 days trial. Incubators finished in natural colors showing the high grade California Redwood lumber used—not painted to cover inferior material. If you will compare our machines with others, we feel sure of your order. Don't buy until you do this—you'll save money—it pays to investigate before you buy. Remember our price of \$17.50 is for both Incubator and Brooder and covers freight and duty charges. Send for FREE catalog today, or send in your order and save time. Write us today. Don't delay. WISCONSIN INCUBATOR CO., Box 222 Racine, Wis., U. S. A.



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**Our School Department.**

**A Departure From the Ordinary.**

WHEN visiting rural schools one finds considerable difference in the way the teacher handles the work, and also in the discipline of the school. It seems to be natural for a boy or girl in the early 'teens to want to be into mischief, if given a chance. In many cases it requires a good deal of diplomacy on the part of the teacher to command the respect of the pupils. Some teachers are firm, are good disciplinarians and command the undivided respect of the pupils as well as of the parents in the section. Pedagogically, the teacher in the next section may be equal to the one above mentioned and yet fail to maintain discipline. It is quite possible to so gain the respect of the pupils that there will be perfect order whether the teacher is in the room or not. We well remember visiting a school in Middlesex County where there were boys in attendance who were considerably larger than the teacher, and yet this teacher handled the school in such a way that these boys behaved and progressed under her tuition. The teacher had rather a novel way of handling the school, and it was discountenanced by some of the ratepayers. However, she had a well disciplined school and the pupils passed their examinations. The boys and girls were put upon their honor; if they wished to borrow a book or to get a drink, they were allowed to leave their seats without asking permission. They were expected to do so quietly, however, and without disturbing the pupils. If they transgressed there were forms of punishment which were more effective than the strap. Sometimes the different scholars were given charge of the class, and, while some might think the teacher was shirking her duty, it was giving the different boys and girls an opportunity of standing before their classmates and directing the lesson. If the day was bright it was not an uncommon thing for the teacher to take the nature study class out in the yard, or under a neighboring tree, for the lesson period. The geography class was frequently taught on the banks of the nearby stream. While the teacher and one class were thus engaged, the remainder of the school were supposed to be working with their regular studies, and it was to their credit that they seldom betrayed the trust which their teacher placed in them. This method of teaching might not prove so successful in another section, but the pupils in the school referred to made more rapid progress than they had done with previous teachers. So far as possible the lessons were related to what the pupils were familiar with at home; for instance, instead of taking a question out of the arithmetic referring to the number of cords of wood in a pile of certain dimensions, the boys were sent out to measure the woodpile at the school and estimate the number of cords in it. If the arithmetic question was on mensuration, the schoolyard or the nearby field was measured and the area calculated. This brought the problem to the minds of the pupils more forcibly than if it had been taken out of the book, and the lesson was more easily remembered. The teacher in the school referred to was born and raised on the farm. She was insympathetic with farm life and endeavored so far as possible, to acquaint the boys and girls with problems pertaining to the

farm. The pupils learned to ask questions and intelligent questions they were, too. The writer well remembers the afternoon on which he gave a talk to the pupils on poultry. After the address there was a continuous volley of questions for fully one-half hour which went to show that the pupils had been thinking and were paying attention to the address. Such things may not be on the curriculum, but they bring results.

In another section the teacher was equally enthusiastic regarding agriculture, and so far as possible endeavored to instill into the youthful minds the dignity of farm work. With the assistance of breeders in the neighborhood, stock judging classes were conducted and the boys were trained for competition at school fairs. How many teachers would think of having their scholars estimate the weight of a load of pigs or drove of cattle which were being driven along the road? Yet that is what one teacher did. The class was taken to the road to look over the stock and estimate the weight. The farmer called on his way back to give the actual weight of the animals. Little things like these produce gratifying results. These scholars would no doubt be estimating the weight of their cattle and pigs on the home farm, which would lead to them taking more interest in the work. While the curriculum laid down by the Educational Department must be followed, there is nothing to prevent the teacher deviating from the hard and fast rules sufficiently to inject into the routine of the day's studies a little of the practical which the boys and girls are confronted with in the work at home. It seems that something along this line will help create interest in the farm. Instead of lauding the accomplishments of financiers and business men, it might be well to speak more frequently of what some of the tillers of the soil have achieved on the side-roads and concessions.

**Pointers for Pupils.**

There is something about the atmosphere of spring which makes the school boy and girl less attentive to lessons and more interested in the birds, flowers, brooks and the great outdoors. You should know all these things intimately but don't neglect your studies. While young the difficult little problems met with in school life are more easily solved than when you get older, and the grounding you get in the lessons taught help you in every phase of life when you grow up. Harry, Jim or Nellie may be leaving school for good and you may think you would like to join them and say good-bye to the little school house. We know there is a feeling of freedom when school days are over but the pupil makes a sad mistake when he leaves before learning every thing taught in the public school. Many think they are young men and women when they quit school; such is not the case. The unlearned and uneducated will never be able to compete with you and merit the same respect if you remain at school and get a better education than they. Stay attentively with your studies and in later years you will be glad you did not sacrifice a good education for a little more freedom. Quitting school will not add one inch to your size or make you a young man or a young woman.



Team-work in the School Flower Garden.

Department.

The pupils learned to ask questions intelligent questions they were, too. He well remembers the afternoon when he gave a talk to the pupils. After the address there was a volley of questions for fully an hour which went to show that the pupils had been thinking and were paying attention to the address. Such a result may not be on the curriculum, but it brings results.

In another section the teacher was enthusiastic regarding agriculture, and as far as possible endeavored to appeal to the youthful minds of the neighborhood. With the assistance of the stock classes were conducted and the pupils were trained for competition. How many teachers would estimate the weight of a load of pigs or drove of sheep which were being driven along the road that is what one teacher did. The weight was taken to the road to look at the stock and estimate the weight. The teacher called on his way back to the actual weight of the animals. The results like these produce gratification. These scholars would not estimate the weight of a pig and pigs on the home farm, but lead to them taking more interest in the work. While the curriculum is being followed, there is no prevent the teacher deviating from the routine of the day's work and fast rules sufficiently into the routine of the day's work. The girls are confronted with in the work. It seems that something new will help create interest in the work. Instead of lauding the achievements of financiers and business men, it might be well to speak more of what some of the tillers of the soil have achieved on the side-roads of life.

Teachers for Pupils.

Something about the atmosphere which makes the school less attentive to lessons and more interested in the birds, flowers, and the great outdoors. You find all these things intimately connected with your studies. While the difficult little problems met in life are more easily solved when you get older, and the ground in the lessons taught help you to see life when you grow up. Nellie may be leaving school and you may think you would say good-bye to the schoolhouse. We know there is a freedom when school days are over, but a pupil makes a sad mistake when he leaves before learning every lesson in the public school. Many are young men and women who leave school; such is not the unlearned and uneducated are unable to compete with you in the same respect if you remain in school and get a better education. Stay attentively with your studies, later years you will be glad to sacrifice a good education for more freedom. Quitting school adds one inch to your life, you a young man or a

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There is a beauty and individuality to a roof covered with Brantford Asphalt Slates that appeals to all lovers of the artistic. There is an economy in their low cost per year of service that appeals to all seekers of a sound roofing investment.

# Brantford Asphalt Slates

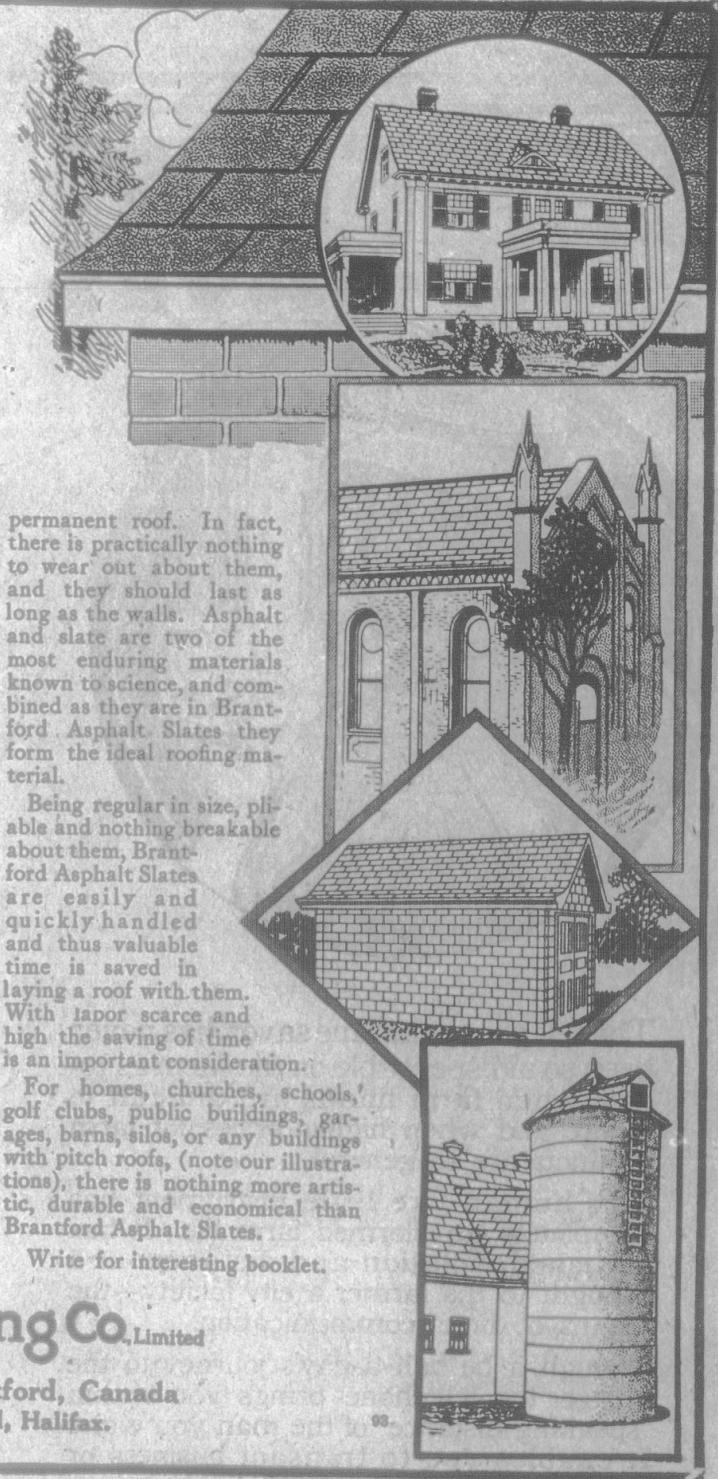
are made of a special grade of long fibred felt thoroughly saturated and coated with asphalt, on top of which is a surface of crushed slate.

The asphalt is a blend of soft and hard asphalts, tempered to resist the extremes of the Canadian climate. The slate is the real quarry slate and its colors of reddish brown and dark green are the natural colors of the slate and are therefore unfadeable. Brantford Asphalt Slates never require painting. It would be hard to imagine a more durable roofing, let alone make one.

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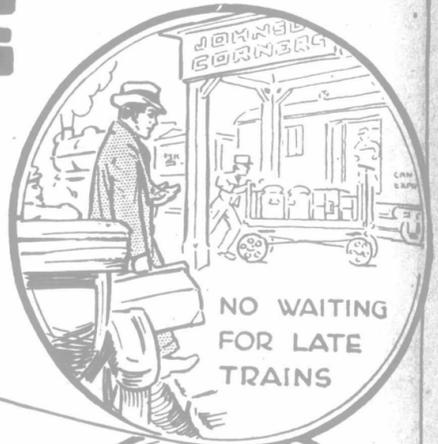
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