

7, 1918
PUBLISHED EVERY WEEK. \$1.50 PER YEAR.

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE
AND
SUCCEED
FOUNDED 1880

Director General Exp. Fair
Dec. 31, 1918

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

ENTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1917.

Vol. LIII.

LONDON, ONTARIO, MARCH 14, 1918.

No. 1329



THERE are four important things that should be considered by every person when buying fencing this season.

- 1st—The reputation of the manufacturer.
- 2nd—The quality of his product.
- 3rd—The value.
- 4th—The length of service.

The higher the manufacturer's reputation the more jealously he guards against anything that would tend to injure it. A manufacturer with a continent-wide reputation for integrity, square dealing and the honest quality of his products, such as has been attained by the Frost Steel and Wire Company, is always eager to maintain his position as the leader in his line. The Frost reputation and leadership insures a safe fence investment to the buyer.

No other fence-maker in Canada or any other country puts more downright quality into his fence than the Frost Steel and Wire Company. Frost Fence is not made of ordinary commercial wire. We buy the raw material and draw it

into Frost Full Gauge No. 9 Hard Steel Wire. We put that elastic "give-and-take" into it that has made Frost Woven Fence famous for the strains it will bear. We also put that coat of pure zinc spelter on the wire that makes Frost galvanizing stand the Canadian weather as no other fence has ever been able to do.

Frost Fence has always been sold at a price that is eminently fair considering its superior quality. Frost Fence could be sold for less money if we used ordinary commercial wire and ordinary fence locks, and rushed it through the factory instead of weaving it slowly on our special machines, so that every stay stands up straight and true and the spacing between wires is always absolutely accurate. Every dollar invested in Frost Fence is a dollar wisely invested—one that buys years of service.

Many thousands of Frost Woven Fences have been erected in Canada. If you could see a Frost Woven Fence that has been doing service for several years and note how little it has been affected by the stress of weather and the strains of leaning cattle, you would have conclusive proof of the enduring quality that the name "Frost" stands for. Write and ask us for dealer's name and a copy of our fence catalogue showing styles for every farm fencing purpose, including ornamental fence and gates.

A style for every purpose.

107

Frost Steel and Wire Company, Limited, Hamilton, Canada

THIS ENGINE WILL COST YOU NOTHING
GILSON



Write for our new easy payment, free trial, plan.—We will send you an engine complete without a payment of any kind to test out on your own farm. Just try it—you'll wonder how you got along without it. You'll be surprised how quickly it will pay for itself.

Write us TO-DAY for particulars of this "Help the Allies" Grinding Outfit and special proposition.

GILSON MFG. CO. LTD.
425 YORK ST. GUELPH, CAN.

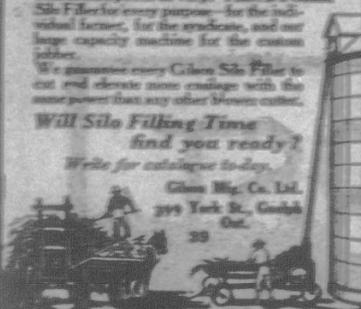
GILSON
SILO FILLERS

THE GILSON SILO FILLER is a blower which can be successfully operated with as little power as 4 h.p. There is a Gilson Silo Filler for every purpose—for the individual farmer, for the syndicate, and our large capacity machine for the custom jobber.

We guarantee every Gilson Silo Filler to cut and elevate more ensilage with the same power than any other blower cutter.

Will Silo Filling Time find you ready?
Write for catalogue to-day.

Gilson Mfg. Co. Ltd.
295 York St., Guelph, Ont.



HYLO SILO

Sweet Fresh Ensilage down to the last forkful

THE HYLO SILO is perfectly air-tight. No insects or spoiled ensilage around the walls. Convenient and perfect feeding doors, adjustable without hammer or wrench. Made of Guaranteed Long Leaf Yellow Pine. Built to last a life-time. Stands rigid when empty.

Write for prices and catalogue. AGENTS WANTED.

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GILSON TRACTOR



THE STANDARDIZED TRACTOR

—is a business machine designed along sound mechanical lines of proven worth, with no frills or features. 15-30 h.p.

Write for free catalogue and rock bottom prices.

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279 YORK ST. GUELPH, CAN. 27

THE MARTIN DITCHER AND GRADER
DIGS YOUR DITCHES
GRADES YOUR ROADS

EASILY QUICKLY CHEAPLY

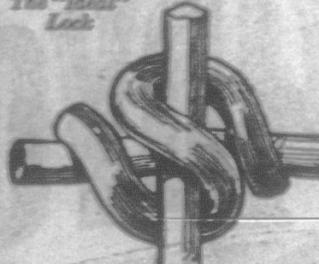
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DOES THE WORK OF 50 MEN
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THE PRESTON CAR & COACH CO. LIMITED
67 DOVER ST. PRESTON CANADA

The "Ideal" Lock



"Ideal" Fence Prices
Freight Paid to Your Station

Below we give the freight-paid prices to any station in Old Ontario (except electric) on only a few of the many styles of "Ideal" Fence. The "Ideal" Catalogue and Freight Paid Price List—sent free on request, a postal will bring it to you—shows and describes fully, and gives prices, freight paid to your station on—

25 Styles Heavy "Ideal" Fence
Made throughout of full gauge No. 9, evenly galvanized Hard Steel Wire, from a 4-wire fence 33 inches high to a 15-wire, 57-inch fence. A style for every purpose.

12 Styles Medium Heavy "Ideal" Fence
Made with No. 9 gauge wire for top and bottom, all other wires No. 12 gauge.

2 Styles "Ideal" Poultry Fence—Made with No. 9 gauge wire for top and bottom, all other wires No. 13 gauge. All Size Farm and Stock Gates—with improved features found on "Ideal" gates only. 6 Styles "Ideal" Lawn Fence and Gates. Barb Wire Coiled Wire, Stretchers, Steel Posts, Diggers, etc.

Send today for "Ideal" catalog with Freight-Paid Prices

<p>No. 7400 HORSE AND CATTLE FENCE 7-line wires, 40 inches high, stays 22 inches apart. Spacing 5. 6. 7. 7 1/2. 8 1/2. Made throughout of full gauge No. 9, evenly galvanized hard steel wire. Price, per rod 50c</p>	<p>No. 1048 GENERAL STOCK FENCE 10-line wires, 45 inches high, stays 16 1/2 inches apart. Spacing 3. 3 1/2. 4. 5. 6. 7. 8. 8 1/2. Made throughout of full gauge No. 9, evenly galvanized hard steel wire. Price, per rod 75c</p>
<p>No. 7480 HORSE AND CATTLE FENCE 7-line wires, 48 inches high, stays 22 inches apart. Spacing 5. 6 1/2. 7 1/2. 9. 10. 10. Made throughout of full gauge No. 9 evenly galvanized hard steel wire. Price, per rod 51c</p>	<p>No. 1150 GENERAL STOCK FENCE 11-line wires, 50 inches high, stays 13 inches apart. Made with top and bottom wires No. 9 gauge, all other wires No. 12. Price per rod 55c</p>
<p>No. 831 HOG FENCE 8-line wires, 31 inches high, stays 16 1/2 inches apart. Spacing 3. 3. 3. 4. 5. 6. 7. Made throughout of full gauge No. 9, evenly galvanized hard steel wire. Price, per rod 60c</p>	<p>25-lb. bundle No. 9 galvanized brace wire \$1.60 25-lb. box (any size) galvanized fence staples 1.85 4-point galvanized barb wire per 80-rod spool 5.50 "Ideal" stock gate, 14 feet long x 61 inches high. Each 6.50 "Ideal" farm gate, (close mesh) 12 feet x 48 inches. Each 7.00</p>

Send today for complete prices on "Ideal" fence, gates, lawn fence and all fence supplies freight paid to any station in either Old or New Ontario.

Quebec and Maritime Provinces

We have opened a warehouse and office in Montreal to handle Eastern shipments and correspondence. Ask our Branch, 14 Place Royale, Montreal, Quebec, for "Ideal" prices, freight paid to any station in Canada east of Montreal.

OUR GUARANTEE

"Ideal" fence is guaranteed to be made exactly as represented, to be made as the best fence should be made and to give you THAT VALUE you expected to receive when ordering.

We have a large stock of all styles of "Ideal" fence on hand and will ship all orders the same day as received, while stock lasts.

The McGregor Banwell Fence Co., Limited Walkerville, Ont.

NORTHERN ONTARIO

Millions of acres of virgin soil, obtainable at 50c. an acre in some districts—in others, free—are calling for cultivation.

Thousands of farmers have responded to the call of this fertile country and are being made comfortable and rich. Here, right at the door of Old Ontario, a home awaits you. For full particulars as to terms, regulations and settlers' rates, write to:

M. A. MACDONELL, Director of Colonization, Parliament Buildings, Toronto, Ont.
HON. G. H. FERGUSON, Minister of Lands, Forests and Mines.

Gasoline and Kerosene Engines

Saw Frames, Saw Blades, Grain Grinders, Straw Cutters, Belting, Scales, Farm and Lawn Fence. Write for price list.

A. R. Lundy, 251 West King Street, Toronto

O. A. C. 72 OATS

which is the best variety and most approved variety now grown in Ontario. Our supply was grown on choice land and is guaranteed to be clean and true to name. Price \$1.00 per bushel. Bags free.

JOHN ELDER & SONS, SEED GROWERS
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PERFECTION Seed & Grain Separator
(Patented 1901)

The best and latest mill for cleaning and grading all kinds of Seed and Grain.

See nearest Agent or write for Catalogue to
THE TEMPLIN MFG. CO., FERGUS, ONTARIO

LONDON CONCRETE MIXER No. 4

Capacity, 40 cu. yards per day. Price, complete, with gasoline engine, \$240.00. Pays for itself in fifteen days use. Built to last a lifetime.

Send for catalogue No. 1 K.

LONDON CONCRETE MACHINERY CO.
Dept. B., London, Ontario
World's Largest Mfrs. of Concrete Machinery.





A BIG CAPACITY OUTFIT EASILY MOVED ABOUT.

A Big Output of Maple Sugar for 1918 is Urged by the Canada Food Board

MAPLE syrup and maple sugar possess very high food value, and they can be produced by thousands of Ontario farmers. The demand is larger than ever, and high prices for the producer seem sure to prevail this spring. In February, 16c. per pound was offered by buyers in the Ottawa Valley and the Eastern Townships of Quebec.

The Canada Food Board, Ottawa, ask the hearty co-operation of the Ontario maple syrup producers and all who could be producers this year, and hope for a fifty per cent. increase in the output for 1918.

This increase will tend to release huge quantities of cane sugar for later shipment to Great Britain and our European allies, where the lack of sugar is being severely felt, both on account of its own great food value and the general scarcity of food stuffs. England is on a ration of two pounds a month per person, France one and one-tenth pounds, Italy one pound. Canadians use two or three pounds a week! The submarines sank 100,000 tons of last year's sugar crop.

Every bucket, every spile, every maple tree should be set to work this spring—the children can help—every pound produced adds to our food supplies and strengthens us for the winning of the war.

Ontario Department of Agriculture

Parliament Buildings

TORONTO



ONTARIO

Sir Wm. H. Hearst
Minister of Agriculture

Dr. G. C. Creelman
Commissioner of Agriculture

PERFECTION
ed & Grain
eparator
patented 1907
heat and later
for cleaning
Grading at
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r. 40 cu. yards
Price, com-
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\$40.00. Pays
in fifteen days
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INERY CO-
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Artistic and Economical

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

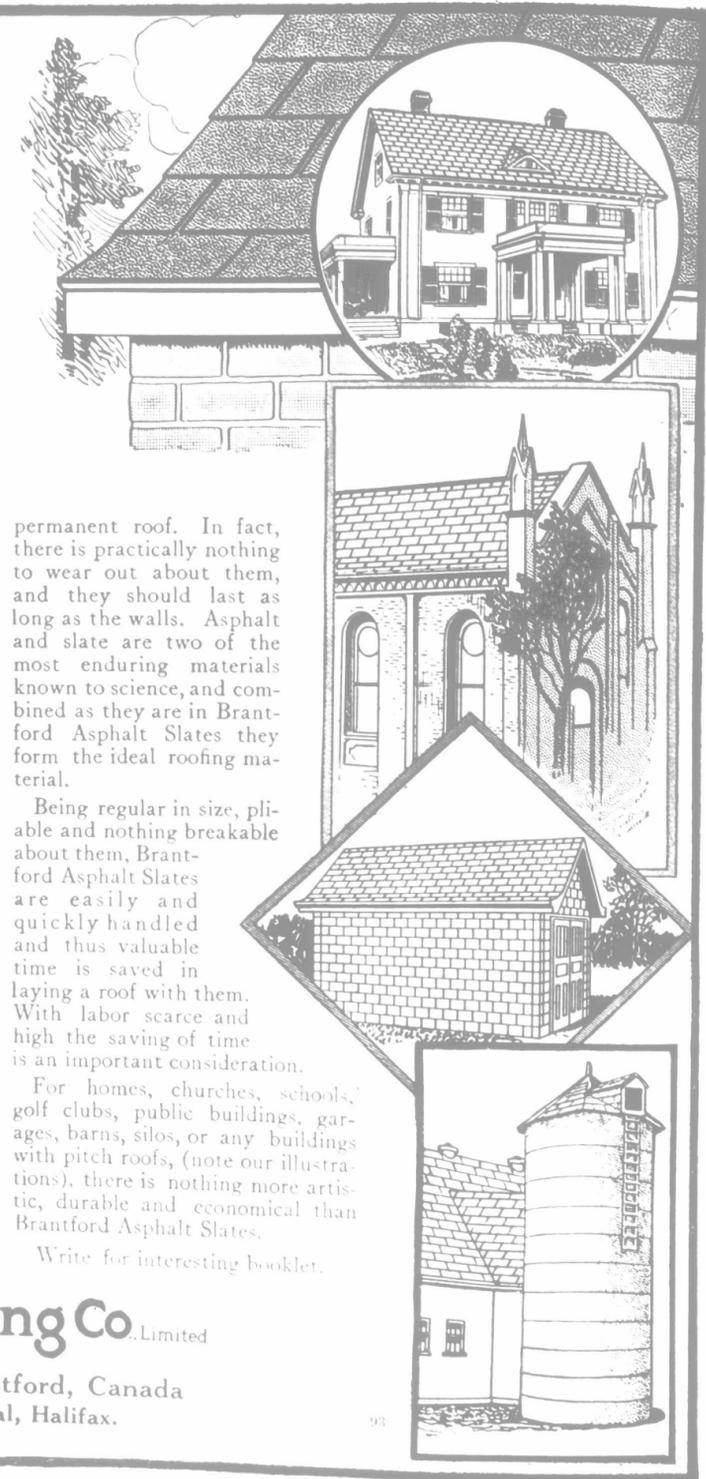
are made of a special grade of long fibred felt thoroughly saturated and coated with asphalt, on top of which is a surface of crushed slate.

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.

Brantford Asphalt Slates are absolutely water-proof. They do not absorb moisture, therefore are not alternately swelling and drying out.

They are wonderfully fire-resistant. There is no record of a fire ever starting on a roof of Brantford Asphalt Slates. You can put a whole shovelful of red hot coals on a roof of Brantford Asphalt Slates and, while the heat from it might melt some of the asphalt, the slates would not ignite.

The cost of these slates is very moderate—and if you have an old, leaky roof you can reroof it with Brantford Asphalt Slates without requiring any additional braces. And the slates will make a completely watertight and



permanent roof. In fact, there is practically nothing to wear out about them, and they should last as long as the walls. Asphalt and slate are two of the most enduring materials known to science, and combined as they are in Brantford Asphalt Slates they form the ideal roofing material.

Being regular in size, pliable and nothing breakable about them, Brantford Asphalt Slates are easily and quickly handled and thus valuable time is saved in laying a roof with them. With labor scarce and high the saving of time is an important consideration.

For homes, churches, schools, golf clubs, public buildings, garages, barns, silos, or any buildings with pitch roofs, (note our illustrations), there is nothing more artistic, durable and economical than Brantford Asphalt Slates.

Write for interesting booklet.

Brantford Roofing Co. Limited

Head Office and Factory, Brantford, Canada
Branches at Toronto, Montreal, Halifax.

Luxurious Couches At Low Prices



Only \$20

The handsome Couch is made of genuine leather, quarter cut, oak, in lined or golden finish. It is covered with a soft, tufted top and full size cushions. The grade Morocco line, either black or brown, is available. The top is plain, tufted, or pleated.

Photo-Illustrated Catalogue No. 7

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100,000 FREE FARMS OF 160 ACRES EACH



IMMENSE WEALTH IN WESTERN CANADA

Send for FREE Book

"Home-Seekers' and Settlers' Guide"

ENTERPRISE and ENERGY—One Alberta farmer has a last season's crop of new land that he plowed last fall for crop this year. His neighbors now and three seasons ago are still under way. The reason—1917 wheat, oats, barley, and flax. The prairie provinces are \$13,885,700,000. Start now, share it this year.

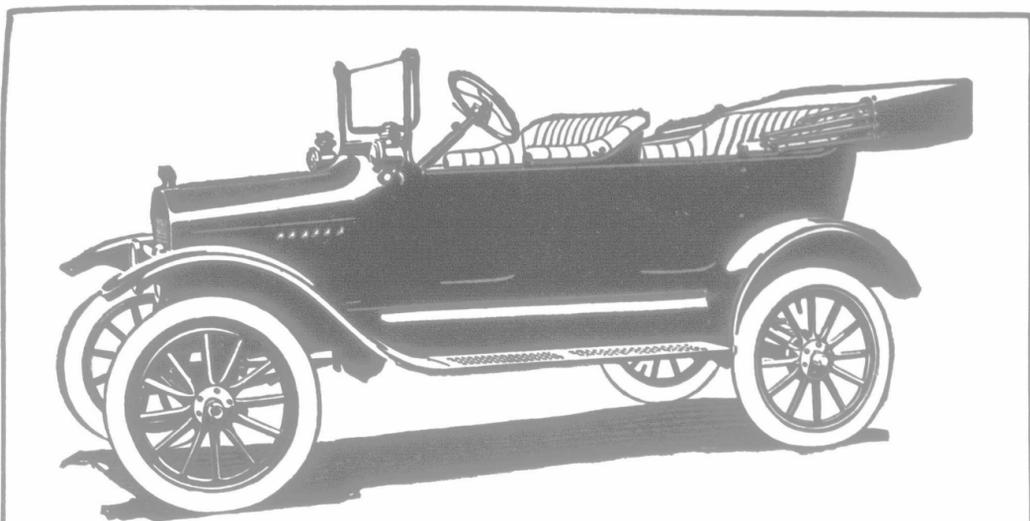
THOUSANDS OF FREE FARMS—Whether you have a few dollars or a few hundred, you can get a farm for you along the Canadian Northern Railway and ready for entry. Past and present values are there.

Improved Lands from \$15 UP PER ACRE

Low Fares Comfortable Trains Interesting Features Through tickets everywhere to-day; any agent, Dept., Montreal, Que., Canada.

Order M





A Ford Car Takes the Place of all These Things

WHEN you own a Ford you can do away with many articles that are a source of continuous expense to the man who still drives a horse. For instance, not only your driving-horse and buggy, but the single harness, blankets, whips, currycombs, brushes, horse-shoes, pitch-forks, feed-bins, etc.

In their place you have a speedy, dependable, dignified, roomy Ford Car—complete in itself. It is vastly superior to the narrow, cramped buggy that travels so slowly. And when a Ford is standing idle it does not eat three meals a day, and it requires no "looking after."

A Ford will save you time, trouble, and money. It is the utility car for the busy farmer and his family.



Ford
THE UNIVERSAL CAR

- Touring - - \$595
- Runabout - - \$575
- Coupe - - \$770
- Sedan - - \$970
- Chassis - - \$535
- One-ton Truck \$750

F. O. B. FORD, ONT.

Ford Motor Company of Canada, Limited
Ford, Ontario



HAULING BIGGER LOADS

without extra spanning is easily accomplished when you use

MICA AXLE GREASE
"Use half as much as any other"

Axles are rough and porous, causing friction. The mica flakes fill the pores and the grease keeps them there. Mica Grease prevents locked wheels and hot boxes, gives sure relief for unnecessary strain on horses and harness.

EUREKA HARNESS OIL
"Lengthens leather life"

replaces the natural oils that dry out of the leather and puts new life in old harness. It penetrates the leather leaving it soft and pliable, and overcomes the worst enemies of harness—water and dirt.

Sold in standard sized packages by live dealers everywhere.

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Investing by Small Payments

¶ The growth of the periodical payment plan for making safe investments is one of the most notable features of recent years in finance on this continent.

¶ The plan was introduced to Canada by this firm which is now helping investors throughout the country to invest while they save.

Ask for booklet 43. It will be sent free on request.

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IMPERIAL TREES

will save you money this spring. Send for our low-priced catalogue. You will never regret planting Imperial Stock.

The Imperial Nurseries
Ridgeville, Ont.

Order Nursery Stock



direct from our nurseries and save agents' and middlemen's profits.

Write at once for our free descriptive catalogue and price list of fruit trees, small fruits, ornamental etc. Address:

J. H. McCOMBS NURSERIES
L. B. 818 Fonthill, Ont.

ARE YOU BUILDING OR REPAIRING?

OUR CATALOGUE OF BUILDING MATERIALS AND TOOLS WILL SAVE YOU MONEY. WRITE FOR FREE COPY.

THE HALLIDAY COMPANY, LIMITED, HAMILTON CANADA
FACTORY DISTRIBUTORS

Cut this ad. out and save it

Cotton Seed Meal and Cracked Cake

OUR BRANDS:

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| JAY
39% Protein | DOVE
48 1/2% Protein | OWL
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18% Protein, 4% Fat, 55% Carbohydrate | |

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F. W. BRODE & CO., MEMPHIS, TENNESSEE
ESTABLISHED 1875 INCORPORATED 1915. Branch Office: DALLAS, TEXAS
Distributors for Over 40 Years.

OUR BRANDS ARE STANDARD WE TAKE PRIDE IN THEM

When writing advertisers will you kindly mention The Farmer's Advocate.



"There was never a time when the benefits of Life Insurance meant so much to the home-makers of the country as they do to-day. In this crisis, when the future is uncertain, it is the duty of every father to see to it that the home he is establishing for his family is made secure."

—PETER McARTHUR,

What Life Insurance Means to Canadians

"A FRIEND in need is a friend indeed." Life Insurance has proven a friend to the Canadian people passing through the dark and anxious days of the war. The Canadian people have shown their appreciation.

During the past year new insurances to the amount of \$20,124,563 were placed on the books of the Mutual Life—an increase of thirty per cent. over the previous year.

The Savings Banks have never before held such heavy deposits. This makes Life Insurance possible to many who previously thought they could not afford to buy.

Many people are putting to good use their share of the immense amount of money in Canada to-day available for investment—for they feel safe in investing money in insurance, knowing it is a "sure thing." They feel that, as Peter McArthur says—

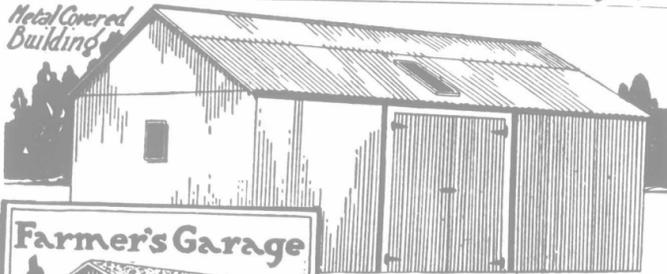
"In this crisis, when the future is uncertain, the home should be made secure."

Write for booklet entitled "Ideal Policies."

The Mutual Life
Assurance Company of Canada
Waterloo, Ontario

531

Metal Covered Building



Farmer's Garage

Frame Building

PRESTON
Implement
BUILDINGS

Erected in a Few Hours!

NEVER was the farmer in greater need of the best buildings and equipment. For everything that helps increase production will make tremendous profits for the farmer to-day. And never was the farm better able to stand the cost of improvement.

Here are two PRESTON buildings. The hard work, the time-killing job of figuring and cutting, is done on both at the factory.

They come to you ready to erect—all pieces cut and marked, windows made and mounted, doors ready built, all hardware complete. For the larger buildings, the trusses are assembled. A handy man can do the job in a few hours—to last.

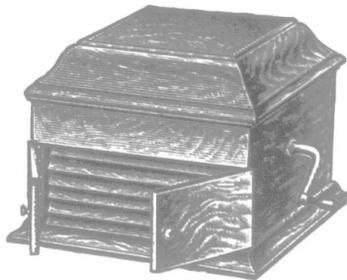
The Metal Shingle & Siding Co., Limited - - PRESTON
Makers of Preston Barns, Storage Buildings,
Garages and Implement Sheds

Think of the big saving in materials and labor!

And remember building is cheaper to the farmer now than before the war. A fine, sturdy, good-looking Preston Implement Building covered with "Acorn" Corrugated Iron costs \$259 (20 feet x 24 feet—10 feet to the eaves). That means 117 bushels of wheat will buy it. Or 170 bushels of potatoes. Before the War it would have cost 224 bushels of wheat or 336 bushels of potatoes.

Get the book about PRESTON buildings—pictures, prices, sizes. Learn how factory service and farm building experts will save you time and worry in building and planning. Write to-day.

Every Family Can Afford a Phonola



MODEL B
Double Spring
Motor. Quiet,
Smooth Running

\$45

Anyone can afford to pay \$45 for this genuine "Phonola."

This is not a toy, but a good size machine—17¼ inches wide, 18¾ inches deep and 12⅞ inches high.

It has a surprising volume of tone and plays all makes of disc records full and clear. Compare this Model B "Phonola" with other makes selling at \$10 higher and we are sure you will prefer the "Phonola." The beautiful cabinet of this

Phonola
REGISTERED

was made in our own special cabinet factory. We have another factory in which we make our own reproducers, tone arms and motors. Making these Phonolas complete we are able to offer exceptional values.

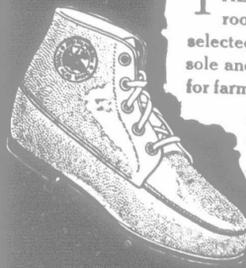
Other Phonolas from \$18 to \$250

DEALERS The "Phonola" agency is becoming more valuable every day. Has any one the agency in your locality?

The Pollock Manufacturing Co., Limited,
Kitchener, Canada

32

Palmer's Summer Packs



THE shoes for aching feet—light in weight, durable, roomy, comfortable and waterproof. Made from selected Skowhegan leather with water-proofed leather sole and heel and solid leather insoles. The ideal shoe for farmers or others working on the land.

Also specially suitable for woodsmen, trackmen, millmen, sportsmen, laborers—all who require strong, easy fitting footwear.

Get a pair of Palmer's "Moose Head Brand" footwear from your dealer. They will give you foot comfort and great wear.

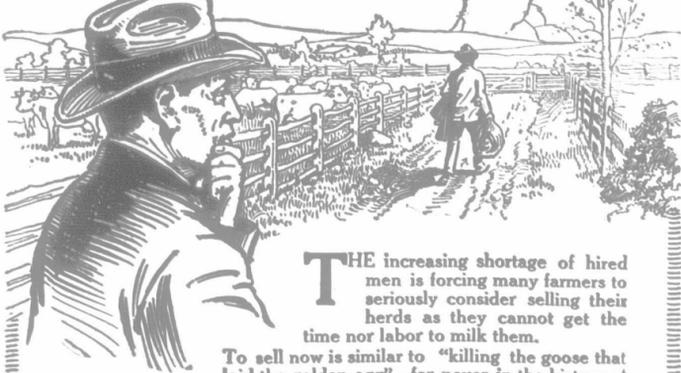
JOHN PALMER CO., Limited
Fredericton, N. B., Canada 31

Interprovincial Pressed Brick

Red Buff and Fire-flashed Colors

WRITE FOR FREE SAMPLES TO-DAY
INTERPROVINCIAL BRICK CO. OF CANADA, Limited
Office: 154 SIMCOE ST., TORONTO Plant: CHELTENHAM, ONT.

Don't Sell Your Cows



THE increasing shortage of hired men is forcing many farmers to seriously consider selling their herds as they cannot get the time nor labor to milk them.

To sell now is similar to "killing the goose that laid the golden egg"—for never in the history of farming have the prices of milk and cream been higher, nor the necessity of their production so vital to the Empire's needs.

Your herd is a source of rapid growth in your yearly income—a source of rapid increase in productive value of your land itself. Why cut off that income and increased productivity, when you can save it and get better results from your cows?

EMPIRE MILKING MACHINES

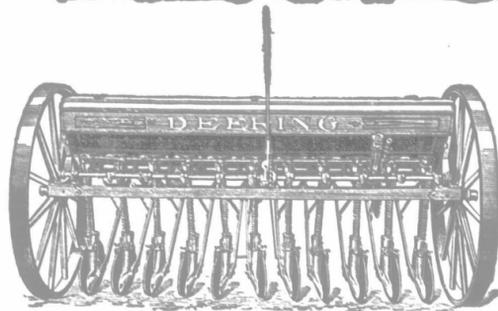
have solved the problem of saving time and labor in milking—and have freed the hired man for work in the fields.

Mr. J. H. Grisdale, B. Agr., Director of Dominion Experimental Farm says: The real drudgery of the dairy farm is eliminated by the use of the milking machine. ONE man with a milking machine can do the work of three hand milkers in the same length of time. They take the place of the extra hired men so hard to obtain at this time and are recognized as a good investment.

The most exacting tests by Experimental Farms and Stations prove that Empire Machines milk without injury to the cow, with speed, ease, economy and thoroughness. Cows and heifers take readily to being milked by an Empire Milking Machine and benefit by it. An Empire will save money for you in labor and soon pays for itself. Space prohibits giving full information about this labor saver; Our booklets, however, have the whole story and valuable testimonials from other dairymen just like yourself. Write us for them.



Address Dept. J.
The Empire Cream Separator Co. of Canada, Limited
TORONTO MONTREAL



Deering Drills for Good, Quick Planting

DEERING drills do away with delay at planting time. They have a workman-like way of sticking steadily to business until the job is done that does away with most of the terrors of our short planting season.

Deering drills first make a furrow just deep enough, then plant the kernels regularly, according to the quantity per acre you want to sow, and then cover them thoroughly to an even depth. They are light-draft machines with strong frames, large, easily-filled grain and fertilizer boxes, and accurate double run feed. They are made in single disk and hoe styles with 11 and 13-furrow openers.

The Deering local dealer is the man to see when you are ready to look at drills. See his sample drills, or write to us for a catalogue showing all the good features of Deering drills.

International Harvester Company of Canada, Limited

BRANCH HOUSES
WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.
EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N. B.

Registered Fertilizers

Analysis Guaranteed

"Best-by-Test" Fertilizers are registered and identified by a number. The analysis is guaranteed by us, and any purchaser is allowed to submit samples for Government examination. If you want any crop to give big returns, feed it Fertilizer. Whatever soil you have, needs some addition to its plant food constituents. If you will tell us the kind of soil and the kind of crop, we will tell you if they are suited to each other, and what kind and how much Fertilizer to use. Write us fully; we shall be glad to help you. Special rates when farmers club together and order in car-load lots. Agents Wanted.

"Best-by-Test" FERTILIZERS

Write for our FREE BOOK ON PLANT FOOD
CANADIAN FERTILIZER CO., Limited
12 Market Chambers - Chatham, Ontario



Power for the Big Pull

Power measures the amount of work done, time consumed, and cost of operation—and power depends on piston rings.

To get maximum power and get it continuously requires a set of

McQUAY-NORRIS LEAK-PROOF PISTON RINGS

The rings that check compression losses and turn wasted fuel into power for automobile, draw-bar or belt work. Their light tension causes least friction loss—more power gained. They reduce carbon—higher engine efficiency. Economical in fuel and oil.

Your dealer can get you any size or over-size quickly. Over 300 jobbing and supply houses in all parts of the country carry complete size assortments. If you have any difficulty getting them, write us.

SEND FOR FREE BOOKLET

"To Have and to Hold Power"—a simple, clear explanation of piston rings, their construction and operation.

Manufactured by McQuay-Norris Mfg. Co., St. Louis, U. S. A.
Canadian Factory: W. H. Banfield & Sons, Ltd., 374 Pape Ave., Toronto



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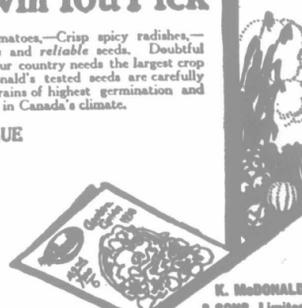
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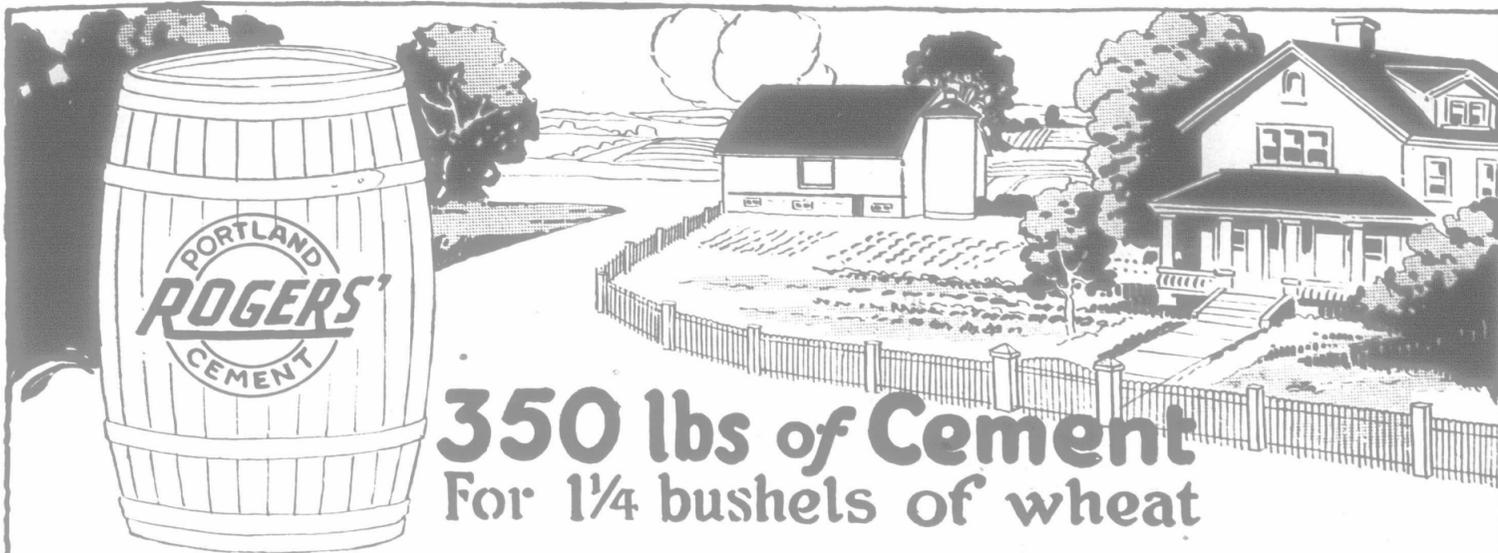
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Aside from the urgent needs of our Government for more food, the self-interest of every man should make him exert every energy and invest every dollar needed to produce a greater crop this year.

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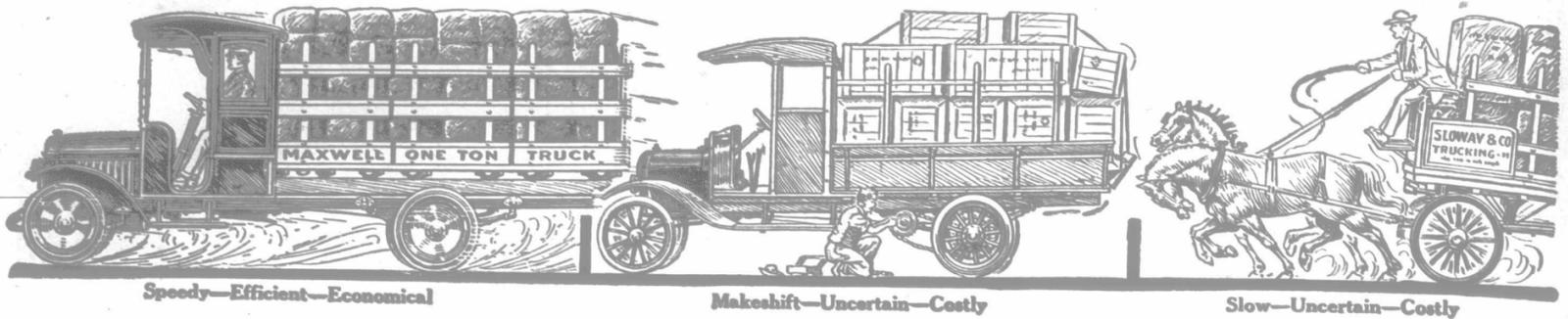
Every farmer who realizes the wisdom of going ahead this year with the necessary buildings and improvements on his place should get in touch with the man in his locality who sells Rogers Cement.

He is a man worth your while talking to. He may be able to give you valuable help and advice about farm buildings. And he can certainly tell you all the ways in which Rogers Cement can be economically used on your farm.

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LIII.

LONDON, ONTARIO, MARCH 14, 1918.

1329

EDITORIAL.

A mild March is generally hard on the fall wheat for it will freeze nights after the sunny days.

The results of the soldier vote indicate that the men in the army were almost unanimous for union.

It isn't the heaviest producers in the herd that are fed at a loss. Keep your eye on the culls.

It may be that the Russo-German Peace Treaty will ere long be considered only a scrap of paper.

Continue to make veal of the calves which could only grow into inferior stock, regardless of the agitators.

Germany forced the Allies to take up arms, but she is finding it more difficult to force them to lay them down again.

Save every pig in the spring litter. Too large a percentage of the pigs farrowed are lost before they are a week old.

Electricity will solve many problems in Ontario, but before we have much more electrification of railroads and industry more power development is necessary.

Do not sow the clover seed too early on the fall wheat. If an unfavorable spring kills the wheat then early-sown clover seed would be lost. Better sow later and if necessary harrow.

We draw the attention of our readers to the excellent article by Prof. J. E. Howitt, on another page of this issue. Every known potato disease is discussed and methods of prevention fully gone into.

Daylight saving is being discussed again. City folk might well leave the clock as it is and get up, go to work, and stop work one hour earlier. We still fail to see how changing the hands of the clock makes any more daylight.

When Canadian boys at the front are slandered by statements based on hearsay, it is time to take action. Those at home want to know the truth, but they demand proof when statements derogatory to the boys in uniform are made.

Hatching time is near. Read the special article on the subject in the Poultry Department this week. Get your chicks out early if you would have eggs from the pullets next winter, and it is the pullets that produce most of the eggs.

Most of the farmers who are disposing of their farms and retiring or going into other work mention the shortage of help as the determining cause. Some also say there is not enough in farming in comparison with other occupations.

Premier Hearst was right when he told a deputation asking for stronger beer that public opinion was behind the Ontario Temperance Act. Howling down public speakers and "boohing" public men will never scare the thinking people out of their wits. Mob rule and cat calls are weak arguments, no matter what the cause.

According to the Census and Statistics Office, the average monthly wage of male farm hands in Canada in 1917 was \$63.63, and for female helpers in the house or on the land, \$34.31. These figures do not look as though the farmer was not willing to pay a fair wage, and even with high wages he is not able to compete with the city in the labor market.

Wages and Farm Returns.

In the past few years it has been stated time after time that the farmer, regardless of the higher prices he is receiving for his produce, is not able to compete with the city employer in the labor market. As proof of the correctness of the statement, the fact remains that men and women work in the cities and towns rather than on the farms—they leave the farms for the cities and towns. It has also been stated through the press and from public platforms that the farmer is too mean to pay fair wages and extend fair treatment to those whom he hires. We have always contended that the farmer was willing to pay hired help for the work done in so far as the returns from farming as an occupation warrant. True, there are men on farms who still like to hire help at half wages, but this same class of employer exists in cities as well, and there he keeps certain classes of his employees, who are not in a position to better their condition, on very small pay. In any discussion of the problem we should forget the few who are so selfish and misguided and think only of the rank and file of employers in city and country who are willing and ready to pay fair wages for good work, and who show their appreciation through kindly treatment as well as in fair pay checks. To prove that farmers are paying fair wages in so far as lies within their power, the information recently sent out by the Census and Statistics Office, Ottawa, regarding wages paid last year is rather illuminating. The average monthly wage for male farm laborers for all Canada totalled \$63.63, and for female help on the farms, \$34.31. For men hired by the year \$610.60 was the average, and for women \$364. All these figures included board at \$19.44 for males and \$14.79 for females per month. The monthly wage showed an increase over 1916 of over \$20 per month for men, and over \$12 per month for women. It should be remembered that these are averages and that Canadian farmers were called upon to make use of a larger percentage of inexperienced help last year than ever before.

Let us see how these figures compare with the wages the farmer got for his own efforts. According to the Ontario Government farm survey, carried on in a good township in Peel County, Ontario, practically one-third of the farms in the survey were found to be small farms with less than 85 acres. The labor income of the farmer on these was \$507. On the larger farms the labor income was \$1,581. This would represent the work not only of the farmer himself, but of his wife and children. Managing a business with over ten thousand dollars invested, which represented the average of the eighty-farms surveyed, is a big enough job to be paid something for managing alone. And these are figures for the best year the farmers in Caledon Township ever had. A hired man and his wife in Canada last year at the average wage, according to the Census and Statistics Office, received \$974.60. According to the survey of Caledon Township, one-third the farmers and their wives got \$507 as an average, and the average of the best was \$1,581 as a labor income as manager of a business with thousands invested.

In a speech recently delivered by the President of the Canadian Manufacturers' Association, this statement was made: "It is a belief held very widely by men of lengthened and varied experience that the average farmer in Canada, over a series of years, makes as large returns upon his invested capital as does the average trader or manufacturer." Five per cent. on investment was allowed in figuring to arrive at the labor income on the farms in Caledon Township. And yet farmers, as managers of individual businesses capitalized at an average of over ten thousand dollars, got wages as low as previously stated.

It should be remembered, too, that in comparison with the total capital invested in agriculture the value of the product has been going down over a period of years—this previous to the war. According to the report of the Board of Inquiry into the Cost of Living,

the percentage gross return on capital invested in agriculture in 1901 was 20.4, but in 1911 it was only 15.7. These figures represent the comparative value of the agricultural products in these two years with the capital invested in agriculture. In 1910, according to the same report, gross returns on manufactured products of all kinds averaged 93 per cent. of the capital invested, and while the gross returns from the farms dropped 25 per cent. in the previous ten-year period those from manufacturing dropped only 13 per cent. True, these are not net returns, but we contend that it is a better guess to say that manufacturers in Canada make on the average from two to four times 5 per cent. on their invested capital (5 per cent. being the figure at which Government officials figured in the Caledon farm survey) than it is to say that the average farmer in Canada makes as large a return on capital as does the average trader or manufacturer. War conditions have enhanced the value of farm products, but they have also given the manufacturer and trader an opportunity of making a higher return on articles made or sold at a higher price. Ten per cent. profit on turnover amounts to more when the article sells for \$200 than it did when the same article sold for \$100. Cost of production has gone up on the farms as well as in the factories. While prices of wheat, pork, beef, etc., have more than doubled, still, as shown by the farm survey, farmers cannot pay wages to compete with city business, and yet we contend they are paying a fair wage in comparison with what they make. The man who believes that farmers over a series of years make as large returns on their investment as do traders and manufacturers has no money invested in farming. If money-making were the chief object in life, farming would not be in it, but there is real life if not big returns on the land.

Register Pure-breds Promptly.

There are several good reasons for keeping pure-bred live stock recorded up to date, and all breeders will find it to their advantage to be very diligent in this regard. In days when sales came slowly and the owner of animals was not sure whether certain members of the herd would be sold to other breeders or go to the block, there was some excuse for tardiness in this regard; but now when the demand is so keen and everything of tolerably good quality and conformation meets with ready sale, no reasonable apology can be offered. Procrastination is more common on the part of some than the more experienced and extensive breeders realize. In fact, many of the latter class might expedite matters at the Record Office by being a trifle more regular and prompt in their demands. However, the unwise policy of neglecting to record offspring is a fault which exists more particularly in districts where small and scattered herds or flocks are found. How frequently is it heard that "this animal is not registered but eligible", and the same expression often appears on sale posters and in catalogues. A live-stock breeder's word is usually good, but a certificate of registration is far more acceptable to the average buyer and particularly so to the stranger. The advertising of animals as eligible, but not registered, represents extreme negligence on the part of the breeder or vendor. In many cases a certificate of registration sells an animal when others, perhaps, better in quality, are left in the herd, simply because that assurance which the document carries cannot be advanced. So it is at auction sales, the contributor of unrecorded stock must expect a smaller price than he would otherwise receive. "There is many a slip twixt the cup and the lip," and a certain allowance is always made for it. The reduction, too, is almost without exception far in excess of the cost of registration. Local co-operative live stock associations have, in their endeavors to make up an offering for sales, unearthed many cases where pedigrees have been allowed to lapse. In herd after herd are found animals which are undoubtedly pure-bred but

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particulars are lacking in regard to sires, dates, owners, etc., which now make registration impossible. Thus the use of valuable animals is lost to the pure-bred industry. These are extreme cases, of course, but true nevertheless.

When a certificate of registration is desired some delay is liable to occur and this will cause more or less inconvenience. Fifty per cent. of the applications for registration received at the Record Office are returned for corrections or more data. The Record Office, from time to time, experiences rush periods when it is impossible, with the regular staff, to give as prompt service as the breeders were accustomed to receiving in pre-war times. This all tends to delays that are frequently disconcerting to both buyer and seller. Unquestionably the wiser policy is to keep recorded up to date and such should be the motto of every progressive breeder.

Plenty of Room For More Organization.

The atmosphere now seems permeated with the spirit of organization. Industrial life has been in pretty full accord within the family for some time and it has made itself a factor in determining policies, national and otherwise. Agriculture, too, has done something in this regard and the present Minister of Agriculture, now sitting at Ottawa, is a constant reminder of a movement in Western Canada grown to significant proportions. Co-operation, in the past, has found more fertile fields in the Prairie Provinces and there its root development is most pronounced. However, when a strong representation of wool producers from the West came to Toronto, the first week in February of this year, to organize an all-Canadian co-operative institution for the marketing of their product, the Ontario delegates met them with the remark: "We are ready to go as far as you wish to." Representatives from the Eastern Provinces expressed the same enthusiasm and a Dominion-wide organization, made up of strong men, was born. The United Farmers of Ontario are beginning to have a say in things and the live stock record associations are powerful so far as they go, but a feeling now exists that commercial live stock is not being fostered or protected by organized effort. On a recent occasion when a representative of the industry was submitting

certain claims in behalf of all classes of live stock, it was brought to his attention that he could represent the record associations only, or pure-bred interests, for there was no organization embodying the commercial animal enterprise. This elicited the following comment: "I wish I could have said that I represented every hoof and hair in Canada." This suggests the kind of organization we must have before the farmers' argument can be presented in full force, and shows to what length agriculture must go in the direction of unity before it can at all compete with the strength of industry and big interests.

Never was it more important than now that fruit growers from one end of Canada to the other get together and unite for their common good. They have different ideals and conflicting requests at present, but these can be compromised and a policy adopted that will be applicable to the whole Dominion. Until this is effected the fruit industry will lag. Vegetable growers, too, who handle a perishable product, act independently to their own disadvantage and, in season, are constantly on an ever fluctuating market regarding which they individually know practically nothing. So it is with agriculture pretty generally, but, as stated in the beginning, organization is in the air. The sentiment is coming home that co-operation, not competition, is the life of trade and big men with modern ideas are concerning themselves with this matter. This is the most promising feature of the times for when the leaders in the various lines of agriculture realize that team work is necessary, there will be an upheaval and a new star will appear in the heavens.

World Benefactors.

ROBERT BAKEWELL.

Among the many celebrated improvers of live stock in Britain during the eighteenth century, Robert Bakewell stands out as the first systematic breeder. In Bakewell's day, early in the eighteenth century, shrewd and capable tenant farmers were carefully selecting foundation stock from the motley herds of cattle found in England, their idea being that of producing an early-maturing, thick-fleshed beef animal by selective mating of unrelated stock. In these more puritanical days, however, in-breeding, even in the lower animals, was regarded with great abhorrence, and any suggestion of improving breeds of live stock by practicing it was condemned. Robert Bakewell was a man of considerable means and education. He resided at Dishley Grange, Leicestershire, England. He was a great lover of live stock, appreciated the great opportunities for improving the various breeds, and he set out boldly to practice his theory of in-breeding. His critics were loud in denouncing him for his revolutionary procedure of breeding, and many a cautious supporter of the system of breeding he discarded, predicted failure as the reward of his bold efforts. By many of his friends and critics he was regarded as "daft," and his efforts were the butt of no little amount of ridicule.

Bakewell, however, had more than a superficial knowledge of the fundamental law of breeding that "like begets like." He differed from his critics in that he had more faith in their time-honored law than they had themselves. He was willing to test the law further. He felt confident that if the law was sound it would apply to related stock just as truly as it applied to unrelated stock.

He practiced his theory in the breeding of Leicester sheep, Long-horn cattle, and Black-Cart horses. In his sheep and cattle he set out to secure a large proportion of choice parts in the carcass, a higher quality of flesh, earlier maturity, and the power to transmit qualities. From all accounts, it appears pretty certain that Robert Bakewell was an exceptionally keen judge of live stock. Also, he had imagination, and as his work progressed he made systematic observations on the results of his efforts. As his experience widened, his faith in his aims grew stronger, and with an artist's skill he persevered in his attempts to produce animals, by judicious mating, which possessed the characteristics he desired. History dimly records the fact that he met with many setbacks, but he was the first breeder to blaze the trail that led to the many different breeds of English live stock, each one differing definitely from the other, and each one possessing valuable and constant characteristics.

The following example of his method of breeding indicates the ideal he had in mind. He selected the most completely distinct lines of blood to be found among Long-horn cattle. The individuals he selected were the best representatives of the breed that he could find. He purchased two heifers from Mr. Webster, of Canley, in Leicestershire, who owned the best Long-horn herd in England, and then he bought a young bull in Westmoreland. With this trio he began his work. He crossed and inter-crossed the produce of these three animals, and as his stock increased he was able to avoid the injurious effects of excessive in-breeding. He mated his animals with great skill, and as his herd grew numerically he made the relationship of his animals as distant as possible, within the family limits. By this method he produced a family of Long-horns, all possessing certain desirable characteristics, and all tracing back to three original animals. The blood of certain animals had, therefore, been carefully preserved and concentrated, and Bakewell "in-bred" with a vengeance

in order to produce a select family of Long-horns. The celebrated bull, Shakespeare, is an example of his daring in-breeding. The Westmoreland bull, the original bull which he purchased, was bred to one of the Canley heifers, known as Old Comely, the cross producing the bull Twopenny, a noted bull. Twopenny was then bred to his own dam and produced a heifer, known as the "Dam of D.," and also to the other of the two original Canley heifers, called the "Canley Cow," twice in succession, getting the "Son of Twopenny" and the "Daughter of Twopenny." Then the Twopenny cow out of Old Comely, being bred to the Son of Twopenny, produced the noted bull "D," and then "D" being bred to the "Daughter of Twopenny" produced Shakespeare. And what of this in-bred bull? According to the authority, Marshall, he scarcely inherited a single point of the Long-horn breed, his horns excepted. With the exception of his horns he had every point of a Holderness or Teeswater bull. He raised the Long-horn breed to a degree of perfection which without so extraordinary a prodigy, they might never have reached. A significant fact, too, was that Shakespeare was a very prepotent bull. Youatt says, in describing him, "that every cow and heifer of the Shakespeare blood could be recognized at first sight, as a descendant of his."

Thus the skilful breeder demonstrated that families could be segregated and kept pure. Bakewell, it can be truly said, laid the foundations of animal breeding. Other breeders followed his teachings, and the skilful ones lived to see the great breeds of live stock, with their magnificent characteristics, emerge from the conglomeration of inferior native stock. The founding of every breed in England, is a tribute to Robert Bakewell; the establishment of such families as the Duchess, Nonpareils, Broadhooks, Clarets, Butterflies, Orange Blossoms and Lancasters, followed on the heels of his demonstrations. He was succeeded by such men as the Collings, Bates and Cruickshanks, who build well on his great foundation. Bakewell came into his own before his death. There was no doubting the success and far-reaching effects of his experiments, and the hard-headed breeders who at first ridiculed his efforts began to show their appreciation of his efforts by emulating his methods. All England knew about him, and breeders of live stock in all parts of the country were deeply interested in the results of his work. King George, himself a lover of live stock, evinced a keen interest in Bakewell's method of breeding. Constructive breeding in England was begun by Robert Bakewell, and thenceforth, through in-breeding good and bad, the great breeds went forward by leaps and bounds. The "Father of Live-stock Breeding" lost his fortune in demonstrating the possibilities of constructive live-stock breeding, but surely, if it is better to judge the worth of men by their services to mankind, Robert Bakewell left a great legacy.

"What We Expect We Get."

BY ALLAN MCDIARMID.

It strikes me, when I look around on the world in general and at farmers in particular, that almost all of us are getting just about what we expect or are looking for in this life. The man who expects to make a great success of his business, instinctively and sometimes almost unconsciously, makes the preparation necessary for the achievement of that success. Take the city businessman for instance. If he is looking forward to the day when he will have the power that money brings with it his every act is likely to have in it the driving power of this idea and in the nature of things it will carry him, to a greater or lesser degree, on towards his goal. A remark I heard recently is an illustration of this. It was that "a bank never becomes very successful until it gets a president that takes it to bed with him." In other words we might say that he expected to make the bank a paying institution and forgot to notice the difficulties that were in the way.

As another instance of this we might take the case of the soldier in battle. The reason that one victory so often leads to another is because it leads those engaged in the fight to expect similar results every time. One reason that Napoleon was so generally successful in his campaigns was that he had inspired his troops with the idea that he couldn't fail and that victory would follow wherever he might lead them. These rules all have their exceptions of course. Napoleon was finally defeated but all that we are interested in proving is the fact that "what we expect we get" is a rule, and one that holds good in such a large majority of cases that we can safely build on it. And if it's true that a happy expectant frame of mind has a tendency to bring us the best there is going, it is just as true that the discouraged, hopeless, pessimistic persons will be apt to get what they are looking for and consequently remain failures in any line of work in which they may be engaged. There is a natural law at work in the world with which we are as yet not very well acquainted. When we understand it better we will probably make more use of it than we are doing at present. It is the law connected with the effect of mind on matter. The result of the working out of this law is expressed in the saying, "As a man thinketh in his heart so is he." And not only is a man's thought given expression in himself, but through himself it appears in his surroundings. The country is where this can be noticed particularly. The city man in his office or factory cannot advertise himself to the world in the way that the farmer does, whether said farmer wants to or not. In driving along our country roads any of us who are of an observing habit are continually forming impressions of the men who own the farms we are passing. We may be doing it almost unconsciously but by a sort of force of habit we divide them into three classes, the energetic, successful men, the ordinary make-a-

living me kitchen, pigs has not yet And every living in ex live in when the farm. T career and th farmer expect while the farr his lifetime pr own thoughts were good ex bring out. A different in ch One was an o pertaining to thing he had he did was the ding to his o good. Wheth to live up to h made a financ one of the nea He was a man that this was a

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Canada



Prairie Hare.

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living men and finally the shiftless, chickens-in-the-kitchen, pigs-in-the-door-yard sort of farmer that has not yet become extinct in "this Canada of ours." And every one of these men are, in all probability, living in exactly the conditions they expected to live in when they started in to make their living on the farm. The ordinary farmer expected an ordinary career and that was all he worked for. The successful farmer expected the best that was going and he got it, while the farmer who made a failure of his job was all his lifetime predicting that failure, if not in words in his own thoughts. I was acquainted with two brothers who were good examples of the idea we have been trying to bring out. Although so nearly related they were as different in character as it was possible for two men to be. One was an optimist, especially in regard to everything pertaining to himself, his family and his farm. Everything he had was just what it should be and everything he did was the right thing done at the right time, according to his own opinion of it. Prospects were always good. Whether it was the necessity he felt he was under to live up to his high ideals or something else, he certainly made a financial success of his business and his farm was one of the neatest and best cared-for in the community. He was a man of "great expectations" and I always felt that this was at the bottom of all his achievements.

His brother, on the other hand was one of these men who seem to look at all their accomplishments through the wrong end of the telescope while at the same time magnifying their neighbor's successes as much as possible. It may show a good spirit in a way but it doesn't bring a man in much money. And that was the result in the case of our friend. He seemed to have hypnotized himself into the idea that he couldn't do anything right and that he would always be poor and that there was no use in fighting against fate. The result was that he lived in poverty and died in the same uncomfortable circumstances, although he had at the beginning the same chance as his brother to make his life of some value to himself and the community in which he lived. The trouble was that he got into the wrong attitude of mind in regard to himself and as a consequence success was impossible. He had no hope or "expectations" of anything good coming to him and he got just what he was looking for. He probably didn't know that pretty nearly everything we have in this world comes to us through the door-way of our thought and what we get in any other way is more in the way of an accident than anything else. An uncle may die and we may become wealthy but if our changed financial condition hasn't the effect of changing our mind attitude we will soon be back in the same old rut of poverty that we were in before. It seems to be a sure thing that if we want to realize prosperity, in a financial way and every other way, we've got to think prosperity, talk prosperity and act prosperity till our mind is educated to the condition that makes poverty and all other forms of evil next thing to impossible. It can be done. We see it being done in the world every day. In fact it was never intended that man should be anything else than prosperous and happy. It makes him able to do things. And that is what he is here for.

Nature's Diary.

A. B. KLUGH, M. A.

Canada From Ocean to Ocean.—XI.



Prairie Hare.

Another animal which is characteristic of the prairies is the Badger, *Taxidea taxus*. This species belongs to the weasel family and has a thick, heavy body, short legs and very powerful front feet with long claws adapted for digging. It is about 28 inches in length with a tail 5 inches long. Its general color above is silvery gray, each hair being yellowish-white at the base, then blackish with a white tip. The neck, crown and upper part of the muzzle are brown, and the cheeks, chin, and a stripe from the nose over the head to the shoulders, white. A bar on each cheek, the back part of the ear and the feet are black. "When seen alive" says Seton, "it looks like a small bear that has been flattened somehow, colored silvery-gray, and adorned with black and white marks on the head."

The Badger is carnivorous its main food consisting of mice and gophers, which it digs out of their burrows.

The amount of travelling that is done by this species depends altogether on the abundance or scarcity of food. If food is abundant it does not go farther than a few hundred yards from its home-burrow, but if food is scarce it ranges over considerable territory, sinking a burrow wherever it needs one for protection. The females, however, early in the spring prepare a nest-burrow which they line with grass, and here in late May or early June the young are born. The young vary from two to five in number, three being the most usual.

Another common and characteristic animal of the prairies is the Prairie Hare, also called the White-tailed Jack-rabbit. This species is about twenty-eight inches in length, and attains an average weight of from seven to eight pounds. In summer it is pale brown above, mottled with dark brown, turning clear silvery gray behind the hips. The under parts and the tail are pure white, and the tips of the ears are black. In winter it is white with black tips to the ears.

The Prairie Hares mate at the end of April and the young are born in June. The young are from three to six in number, usually four. The "nest" in which they are born is a collection of leaves or dry grass under a clump of grass or a small bush. When the mother leaves them she covers them with a quilt made of grass and down plucked from her own breast. In about a month the young begin to follow the mother.

This species, is with the exception of the Antelope, the speediest Canadian mammal. It can travel at the rate of 30 miles per hour, and it is able to cover from eighteen to twenty-one feet at a bound. Even when hopping leisurely along it covers twelve feet at a hop.

Writing of this species Dr. E. C. Coues, one of the ablest observers of North American wild life, says, "The first sign one has of a hare which has squatted low in hopes of concealment, till its fears force it to fly, is a great bound into the air, with lengthened body and erect ears. The instant it touches the ground it is up again, with a peculiar springy jerk, more like the rebounding of a rubber ball than the result of muscular exertion. It does not come fairly down and gather itself for the next spring, but seems to hold its legs stiffly extended, to touch only its toes, and rebound by the force of its impact. The action is strikingly suggestive of the "bucking" of a mule—an affair with which people in the West are only too familiar. With a succession of these high, jerky leaps the animal makes off, generally in a straight course, there is nothing of the dodging or scuttling about that marks the running of the smaller rabbits. As it gains on its pursuers, and its fears subside, the springs grow weaker, just as a flat stone 'skipped' on the water diminishes in length of the rebounds, and finally the animal squats in its tracks on its haunches with a jerk to look and listen. The attitude at such times is highly characteristic. One fore-foot is advanced a little before the other, and the ears held pointing in opposite directions. A hare in such an attitude as this is always upon the watch, and the slightest stimulation of its fear is enough to start it on its bounding course. It is a beautiful example of timid watchfulness."

While the Prairie Hare is not at all fond of the water it proves a strong swimmer when forced to take to it. It does not swim in the manner of most mammals but progresses through the water in a succession of bounds—that is by essentially the same motions which it uses on land.

The food of this species consist of the leaves of many plants, of seeds of grasses and grains, and in winter of the bark of shrubs.

The Coyote, with which we dealt in some detail in a recent article, is another characteristic prairie species.

Among the birds most characteristic of the prairies are the ducks, shore birds, the Western Meadowlark and several species of sparrows. The sloughs of the prairie region are the breeding ground of many species of ducks, such as the Mallard, Blue-winged Teal, Green-winged Teal, Pin-tail, Shoveller, Greater Scaup, Lesser Scaup, Red-head, Canvas-back, etc., and of many shore-birds such as the Western Willet, Yellow-legs, Avocet, Long-billed Curlew and others.

(To be continued)

finer points that mark with success the efforts of the older and successful men.

It is well known that knowledge comes mostly from experience and close observation. A celebrated Greek philosopher two thousand years ago wrote as follows: "Not to know at large of things remote from actual use, but that which most concerns us in our daily life is the true wisdom." This old maxim cannot be disputed or improved upon. A man who aspires to be a successful breeder or exhibitor must concentrate his material activities in the business he has chosen and stay in the same whether success crowns his early efforts or not.

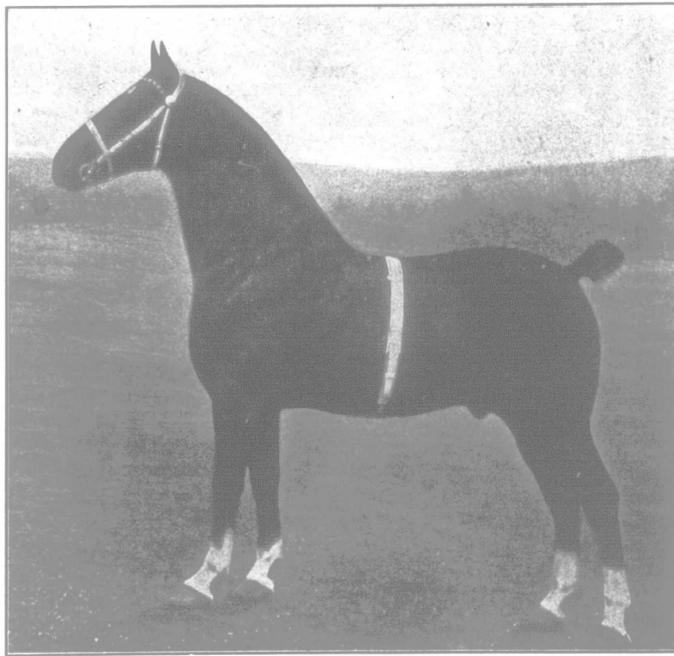
In selecting an animal for the purpose of making a show animal of it, it is highly desirable to know the pedigree or direct ancestry as there is usually a tendency for development along lines similar to that of the parents or grandparents. Like may not always produce like but the natural tendency is strongly in that direction, and inherited defects may be guarded against when such possible defects are known. All breeders recognize the value of desirable ancestry and in my opinion this is especially the case on the female side. Its importance in view of show-yard honors cannot be overlooked.

The pedigree should be studied in the light of experience. Certain lines of breeding or certain blends will be found to have produced better results than other combinations. The youthful breeder should make this a study but in doing so he must avoid and keep himself clear of all prejudices. He should take lessons wherever possible from older breeders and especially more successful ones. He should observe as far as possible their ideas and methods closely and perhaps silently. He should visit the larger fairs and horse shows wherever he can and watch every minutest detail. Much really useful information may be obtained from successful men in little details that have become to them so common that they would never think to mention them as of importance. There are little secrets in regard to the finishing of show-yard animals externally and internally that are of real value but on the other hand the beginner should always beware of false doctrines, the getting of erroneous or misleading alleged tips, some of them dangerous and most of them worse than useless. Nearly all so called specifics for success in the show-ring are simple frauds. Nothing really counts in the long run but absolute merit and close attention to the recognized rules of the game.

Before developing a horse with the view of showing him some day in strong competition it is absolutely imperative that the candidate for show-yard honors be absolutely sound and of sufficient merit to warrant the owner in bestowing unusual time and pains in the work of improvement. So many men of imperfect or immature judgment get hold of animals that are in no sense suited for the special purposes of exhibition and then when the fatal day arrives that they are turned down by the judges as unworthy of a prize, these men are very apt to throw the blame for their failure on everybody else except themselves. The motto of "be sure you're right then go ahead" is most applicable to the would-be horse exhibitor.

Assuming, therefore, that you really have a worthy specimen for the purpose, his general health is of next importance to you. If he is in thin flesh you must know that he cannot be fattened in a few days or a few weeks and if you try to do so you will certainly injure him. Considerable time is required to fit a horse for any show-yard and especially a thin horse. It may take three months or it may take six months according to conditions. If the horse is thin on account of hard work or scarcity of feed he is in better condition for fitting than if he is thin from imperfect digestion, has intestinal worms, infested by lice or any similar cause. His teeth ought to be examined and treated professionally if necessary. If out of condition he may require physic such as an aloes ball or a quart of raw linseed-oil and followed by a simple tonic which can be had from any qualified veterinarian.

I may be permitted to repeat at this point part of what I wrote a short time since for the "Field" of New York on a similar subject. "Nothing but harm can come from an attempt to fatten a horse or colt unless he is in good health and his blood in good condition. When he is in good vigorous health his daily grain ration should be gradually increased. Oats, bran and good timothy hay can hardly be improved upon. In increasing the ration, the groom should see that the horse responds from day to day to the more generous feeding. Because no two animals are quite alike in their capacity to dispose of liberal rations, it is difficult to give advice in regard to qualities or even kinds of feeds to use. The amounts to be fed should be left entirely to the judgment of the caretaker, assuming of course that he is a man of intelligence and some experience.



A Champion Hackney.

THE HORSE.

Developing Horses For the Show-Yard.

It is not given to every breeder or horse owner to attain the very highest position in the show-ring, but it is possible for almost every man of ordinary intelligence to improve his position very materially, and with patience and persistence to get close to it not to reach the top rung of the ladder. Just as there is no royal road to learning, neither is there any royal or easy path to the top of the class unless perhaps with the expenditure of great sums of money in the purchase of successful winners. Dogged perseverance and determination to succeed are essentials, while along with these qualifications must be combined the ability to observe the

"A few carrots or other roots daily, not many, are an excellent alterative or tonic. Avoid by all means all kinds of dope, including arsenic or other so-called assistants to the digestive organs. Years ago we all used cooked barley or oats daily and thought it was economical and indispensable but experience proved the reverse. Many horses are foundered annually from a free use of this unnatural system of horse feeding. The only time when cooked feed is safe and beneficial for horses in my opinion is when an animal is in a thin run-down condition and his appetite and digestion impaired. A daily feed of steamed barley mixed with bran and cut hay or chop for a few weeks at this stage will produce wonderful results, but it should not be continued too long or it may produce indigestion and colic or other stomach and bowel disorders."

In England I have seen horses fed enough so-called chop at one meal that would suffice any ordinary horse for a week, while in Illinois I have been amazed repeatedly to see certain importers give a stallion in hot weather, enough green corn to kill three horses and as a rule "get away with it" too. But such practices are decidedly unwise and dangerous.

Good sound Canadian oats and bran, the quantity depending on the capacity of the horse, is a feed which cannot and probably never will be improved on for horses.

The groom or attendant should always be most watchful of his charge. He should observe closely and constantly the actions of the horse and especially the condition of his bowels. He should immediately or gradually increase or reduce the amount of his ration as circumstances dictate. If the horse fails in his appetite, reduce at once or eliminate the grain part entirely but continue or increase the amount of bran.

If the horse responds with alacrity and his spirits are high the grain ration may be increased gradually but the groom must always be watchful of any indication of surfeit or over-feeding. The horse should, if possible, be weighed every week or two and the weight jotted down for comparison with the previous weight. In good health a mature animal ought to gain from fifteen to twenty-five pounds weekly and in some cases still more. He ought to receive a sharp daily walk of three to five miles independent of the weather.

The attendant should train the horse to stand promptly and obediently, to refrain from chewing the rope or biting or nipping at him or unduly lowering his head. If stretched too far the back will appear low. If the feet are too close together awkwardness is the result. He should be made to appear dressy as the soldier on parade. In walking, he should be taught to move actively and cheerfully and always in a straight direction with the head slightly elevated but not too high. People who accustom their horses to take exercise by a ten or twenty yard circular route are injuring the animals for show purposes. They should invariably be moved in a straight line both at the walk and the trot and pains must be taken to see that the horse understands what is expected of him when the show day arrives. Many a time a really good horse is relegated to a much lower place in his class than he otherwise would be, solely on account of his awkward performance, for a judge must take him as he appears before him and can make no allowance for lack of preparation and defective manners.

In trotting his horse the attendant should start slowly until the animal has gained his proper balance and gradually increase the speed but always keep him under perfect control and see that on no account is he allowed to run or "get off his feet". It should, of course, be remembered that while the owner or attendant is thoroughly familiar with all the actions or peculiarities of the animal at other times, the judge only sees him a few minutes and if the horse performs badly at that particular time, either from lack of preparation or any other cause, the judge is not to blame if the punishment seems to more than fit the crime and the animal occupies a lower place than was expected.

Another important thing is the shoeing of the horse. Blacksmiths have it in their power to assist or mar any candidate for show-ring honors. The skilled smith at once detects any inclination of the horse to move irregularly, to "paddle" or to "toe out" or to "toe in" or to "go wide behind" or "plait" his front feet or in fact, any kind of irregularity and he alters the horse's shoes accordingly with surprisingly beneficial results.

The man whose horse is shod by a novice or careless or unskilled blacksmith is placed under a very serious handicap which in strong competition may lose him his rightful place in the awards. Of course, whether shod or not a horse's feet should always be kept perfectly level otherwise he will certainly travel crookedly and suffer accordingly before the experienced judge.

Again I quote from the *Field* article. "The show horse must be regularly and very thoroughly groomed so that his coat shines with lustre and every hair is in its proper place.

"Men may say, what is the importance of a clean skin or of action so delicately balanced that careless shoeing may make such an important difference? These things are important because perfect health is manifested by high spirits, bright eyes and shining coat and the mechanics of draft demand absolutely straight front action and tolerably close hind action in either a carriage horse or a draft animal. Therefore, the action of the show horse is of primary importance. No animal, however perfect in conformation or refined in quality, can properly be designated a first-class animal for the purpose if faulty in his walking or trotting action, while with structural perfection he must show that vitality, that life and quality which can be brought to its best outward manifestation by careful grooming."

In the final analysis of the show business, the things that really count besides actual merit are bloom, careful training and skilful shoeing. This is the combination

that wins and without this combination the candidate's chances in hot competition are always slim. Opportunities for young men learning the finer points of the competitive business are far greater now than at any former period and the benefits arising from keen friendly rivalry at fairs from year to year are simply enormous.

In addition there are the Agricultural Colleges Farmers' Institutes, Short Course Schools, articles in farm papers from time to time, and other sources of instruction, all more or less valuable to every one desirous of improving his knowledge of this interesting and important branch of live stock husbandry.

In closing I would impress upon every intending exhibitor the duty of accepting cheerfully whatever position, prize or no prize, is awarded him by the judge. Sometimes, for reasons perhaps unknown to him at the time, he will receive a lower place than he expected, but the probability is that it is correct or nearly so. But whether correct or not the poor loser never gains anything by grumbling. Let him determine to try again and the chances are all in his favor.

A Scotchman who felt badly disappointed one year at Chicago show declared that although he lost the prize he felt thankful that they had left him his horse and not deprived him of that also. Accept the judge's decision gracefully and remember that

It's easy enough to look pleasant
When life goes on like a song
But the man worth while is the one who can smile
When everything goes dead wrong."
ALEX. GALBRAITH.

Veterinary Prescriptions For Farm Use—II.

Absorbents.

Absorbents are medicines or mixtures that increase the activity of the absorbent system and tend to reduce chronic enlargements. Their action is especially marked in cases of enlarged glands, but they usually give good results in most cases of chronic enlargements, as enlarged joints, tendons and, in some cases, even bone; in bursal enlargements, as bog spavin, thoroughpin, puffs at fetlocks, or other joints, etc. They are sometimes (especially in cases of enlarged glands) administered internally and applied locally. The active principle in most if not all absorbents is iodine, or some of its compounds. When internal absorbents are given, iodide of potassium is generally used, and given in one-half to one dram doses two or three times daily. If given in too large doses it causes a loss of appetite, hence in such cases the dose must be reduced. The average-sized horse can usually take one dram doses without danger of untoward results. There are many different combinations of drugs used for external applications, to produce absorption, but all contain a considerable percentage of iodine or its compounds. Any of the under-mentioned mixtures act well.

1. Binioidide of mercury.....	2 drams
Iodide of potassium.....	2 drams
Water.....	8 fluid ounces
2. Tincture of iodine.....	2 fluid ounces
Iodide of ammonium.....	1 ounce
Water to make.....	1 pint
3. Iodine.....	4 drams
Iodide of potassium.....	4 drams
Alcohol.....	4 fluid ounces
Glycerine.....	4 fluid ounces

A little of whichever mixture is used should be applied with smart friction, and, as the action is slow, the daily application should be continued for a considerable length of time. If a blistering action is produced, the application should be discontinued for a few days, and a little sweet oil applied daily in the meantime, and, when the parts again become smooth, the absorbents should be again applied.

Anodyne Lotion.

An anodyne lotion is used for the purpose of allaying local pain and inflammation. In cases of sprains, bruises, acute inflammation of a joint, etc., there is usually acute pain and tenderness in the early stages. It is usually evident that counter-irritation, more or less severe, by the application of liniments or blisters, will eventually have to be resorted to, but it is not wise to apply a counter-irritant during the acute inflammatory stage, hence hot applications and anodyne lotions are usually employed to allay it. There are many lotions of this nature, but probably the following simple one gives as good results as any:

Tincture of opium.....	3 fluid ounces
Chloroform.....	1 fluid ounce
Acetate of lead.....	1 ounce
Water to make.....	1 pint

The tender and inflamed parts should be well bathed with hot water frequently, and after bathing the lotion should be applied. Any arrangement by which cloths or batting saturated with the lotion can be kept in contact with the parts, without pressure, will give good results. Of course, pressure or friction with the hand must be avoided, as the parts are too tender to stand pressure. For the reduction of local inflammation, bathing with either hot or cold water gives good results, but the use of warm water has little effect. Hot water soothes the irritation and tenderness more quickly than cold, but cold reduces swelling more quickly.

Ointments.

Ointments are for local application, are of the ordinary consistence of butter, and consist of different medicinal ingredients mixed with oils, fats or wax. They are used for wounds, cracked heels, etc., especially in cold weather. When the repeated application of the "White lotion" mentioned in a previous number, causes so much dryness of the parts that there is danger of the skin cracking. In such cases the application is either alternated with that of the lotion, or used entirely. For purposes of this kind the oxide of zinc ointment is generally used and gives good results.

Oxide of Zinc Ointment.

Oxide of zinc.....	80 grams
Lard or vaseline.....	1 ounce

The ingredients are gradually mixed at a heat of about 120 degrees Fahrenheit. The ointment can be purchased from any druggist at a reasonable price, and this is less expensive than making it in small quantities, as, unless properly made, it does not give good results. An ointment that is used for the same purposes as the above, and is especially valuable for sore teats in any female, cow pox, etc., is made of:

Boric acid.....	4 drams
Carbolic acid.....	20 drops
Lard or vaseline.....	2 ounces

The ingredients of any ointment must be thoroughly mixed. An ointment is applied two or more times daily with the fingers. It has an advantage over a lotion in the fact that it is more permanent, does not evaporate so quickly, nor run off, but has the disadvantage of collecting dirt, chaff, etc., and, especially in dry, dusty weather, of collecting dust, which, in cases where there is motion (as in cases of cracked heels) acts as an irritant.

A mixture often used as a substitute for ointments is one part of carbolic acid to twenty-four parts of sweet oil or raw linseed oil. This, of course, makes a four-per-cent. carbolic acid mixture. It can be made stronger or weaker as desired. This mixture, or a solution of carbolic acid in water called "carbolic lotion" is especially serviceable for dressing wounds or sores in which there is danger of fly-blow. In case a wound has become maggoty, the lotion or oil may be used as strong as ten per cent. carbolic acid.

To Keep Hair on Legs Dry.

EDITOR "THE FARMER'S ADVOCATE":

I frequently notice some farmers objecting to heavy horses on account of the hair on their legs, holding ice and mud in spring and fall. I have never had any bad results from that cause. Upon putting the horses in their stalls at night I place a few forkfuls of straw around their legs, and by the time my other chores are done the legs are generally dry enough to rub down.

Elgin Co., Ont. FARMER.

LIVE STOCK.

Immunity to Black Leg.

In districts where blackleg was prevalent last fall the question has arisen as to what immunity to the disease those animals might enjoy which were affected but recovered. Some are still in doubt also as to the immunity established in cattle that were vaccinated and whether a second vaccination is necessary. Dr. F. Torrance, Veterinary Director General, has kindly answered both questions, and his statement in regard thereto is reproduced in the next two paragraphs:

"As far as artificial vaccination is concerned, it is necessary to vaccinate all young stock from three months of age to three years of age twice yearly, the time chosen being generally about one month before they are let out in the spring, and as soon as they are taken in in the fall.

"As you are doubtless aware, there is always more or less danger of losses occurring in a certain percentage of the animals following the first vaccination, owing to the fact that the susceptibility of individuals varies very largely, and it is, therefore, impossible to manufacture a potent vaccine which will not cause fatalities among the very susceptible young stock. If the animal recovers from the first vaccination a more or less lasting immunity is produced, but as the vaccine is cheap, it is much safer to vaccinate twice yearly until the animals attain the age of three years, than to depend upon the one vaccination. There is very little danger of any fatalities occurring due to vaccination after the second vaccination, as the animals have a certain amount of immunity and can withstand a strong potent vaccine. There is, however, no danger of an animal which has recovered from a natural infection of blackleg contracting the disease again at a later date. The immunity produced, being a natural infection, is supposed to be permanent."

From a circular issued by the Health of Animals Branch, of the Dominion Department of Agriculture, we take the following information regarding the treatment of blackleg:

"Our vaccine for protecting cattle against blackleg is prepared from the muscular tissue of a calf dead of blackleg. It is made into small pills and dispensed in hermetically-sealed glass vials.

"To protect or immunize an animal against blackleg we prepare both the single and double vaccines. Protection or immunity from blackleg is the result of the animal passing through a mild, properly graded attack of the disease, which, as a rule, causes no incon-

venience to the patient save a slight elevation in the temperature. During this mild attack of the disease it is advisable to take particular care of the animals, protecting them from inclement weather, extremes of heat or cold, etc. Protection or immunity is established in from twelve to twenty days after the administration of the single vaccine or the second administration when the double vaccine is used. During this interval from the administration of the vaccine until immunity is established, vaccinated animals should be kept from grazing on infected pastures, and no hay from infected lands should be used for feeding.

"Vaccine used on an animal already affected with blackleg will not protect such an animal, nor will it prevent its death. The use of blackleg vaccine during or immediately after the occurrence of an outbreak of blackleg may be followed by death, in some instances due to the stimulation of the blackleg germs already in the system of the animal, and such accidents cannot be prevented. In the use of blackleg vaccine it is well to take the temperature immediately before inoculating, and in the event of the temperature being elevated, vaccination should be deferred until the temperature of the animal is again normal."

The Pig Versus the Feeding Standards.

By JOHN M. EVVARD, IOWA EXPERIMENT STATION.

Is a pig able to feed himself to best advantage when allowed free access to separate feeders, "Free-Choice" style containing these feeds: Shelled corn, meat meal tankage, wheat middlings, bone ash, charcoal, and rock salt? Or can these feeds be fed to better advantage when allowed by man according to the Dietrich, Kellner, or Wolff-Lehmann standards?

This is the question we have attempted to solve, and the results tell their own story.

A number of groups were fed, but four of them are especially interesting; they are as follows:

- Group I.—Fed according to the "Free-Choice" system.
- Group V.—Fed according to the Dietrich or Illinois system—water limited according to standard.
- Group VI.—Fed according to the Kellner system.
- Group VII.—Fed according to the Wolff-Lehmann system.

Group I was self-fed the different feeds in separate feeders, whereas Groups V, VI and VII, fed according to the different standards, were allowed their feeds twice daily, these feeds being mixed together and fed "hash" style in order to get them to consume the nutrients as the standard called for them.

To demonstrate how these pigs, weighing practically 41 pounds at the start, gained during 150 initial days we present the following table:

Weights and Gains of the Pigs the First 150 Days.

Group No.	Final Weight	Average Daily Gain
I	223.2	.121
V	187.6	.097
VI	174.8	.089
VII	144.8	.069

Note carefully that the most rapid gains during the first five months after weaning were produced in the "Free-Choice" self-fed group, and the older the standard the less economical the gain.

We are interested not only in the first five months of feeding following weaning, but also in the time taken, and feed required to reach the 225-pound weight, as well as the 300-pound weight. All pigs were kept on the scheme of feeding as mentioned during the six months following weaning, at which time they were all put upon the "Free-Choice" system, in as much as some of the feeding standards only called for nutrients to be fed up until the pigs were approximately 8 months of age.

Record up to 225 Pounds Weight.

Group No.	No. days taken (days old)	Feed Required for 100 lbs. Gain			
		Corn	Wheat Middlings	Meat Meal Tankage	Total
I	229	356	45	43	444
V	268	403	45	45	493
VI	271	353	55	57	465
VII	294	380	46	42	648

Note carefully that the least number of days was required where the pigs were self-fed "Free-Choice" style up to 225 pounds weight or, namely—229 as contrasted with the Dietrich standard of 268, or 39 days longer; the Kellner standard 271, or 42 days longer; and the Wolff-Lehmann 294 days, or 65 days greater time. We cannot help but believe that it would have taken longer yet to have matured these hogs to 225 pounds if the "Free-Choice" scheme of feeding had not been inaugurated in the standard fed lots, or more specifically, if the pigs had been hand-fed continuously rather than self-fed according to the "Free-Choice" scheme.

Dual-purpose Cattle a Reality.

EDITOR "THE FARMER'S ADVOCATE":

We often hear it said by advocates of the special-purpose breeds that "there is no such thing as the dual-purpose cow," that "you cannot get both beef and milk from the same animal," or that "when you try to produce a dual-purpose animal you must sacrifice either in the milk or in the beef." Facts have come before the public in the last few months which prove that topnotchers can be produced in both lines from the same sire, and he a Shorthorn.

T. A. Russell, of Downsview, Ont., exhibited three steers, the get of the Shorthorn bull, St. Clare 84578, at Toronto and Chicago in 1917. Two of these steers were pure-breds and one a grade. The grade won second in Toronto as a junior yearling, and second in the Shorthorn grade specials at Chicago, also fourth in the open class for grades and crosses at the same show. The two-year-old pure-bred won first at Toronto and sixth at Chicago. The other pure-bred was "Clear the Way." He won first as a senior yearling at Toronto, and championship for the best fat steer at the show. At Chicago he took second in his class, being defeated only by the champion steer of the exhibition. When these steers were slaughtered, the Chicago champion dressed 64.7 per cent. of his live weight, while "Clear the Way" dressed 65.46 per cent., thus proving him to be a steer of exceptional merit.

St. Clare is also qualified in the Canadian Record of Performance, being the fifth Shorthorn bull to attain that distinction. His four daughters which qualified in the R. O. P. and made the following records during their first milking periods are: Olga of Northlynd, 8,727 lbs. of milk and 359 lbs. of fat; Orpha of Northlynd, 7,584 lbs. milk and 290 lbs. fat; Olive of Northlynd, 5,122 lbs. milk and 207 lbs. fat, and Orma of Northlynd, 7,582 lbs. milk and 307 lbs. fat. The record of the first is exceeded by only two two-year-olds so far recorded in the R. O. P. reports for Shorthorns. This proves undoubtedly that the same sire can transmit both beef and milk propensities.

Fortunately the merits of this bull as a sire were recognized in time to save him from the block. When his owner, to avoid in-breeding, had to have another bull, he was disposed of to another dual-purpose breeder and, although past seven years old, is still doing excellent service.

Oxford Co., Ont.

S. W. JACKSON.

Give the Calves a Good Start.

The size, quality, and general thrift of an animal depend to a considerable extent on the care and feed it received in its tender age. This is particularly true with calves. Ancestry, of course, determines somewhat the outcome of the animal kind or all our pure-bred industry would be of no significance. We can add to the value of a pure-bred by proper rationing, not only in regard to the amount of flesh it carries but the conformation and vital organs can be molded by judicious feeding during the first year. For instance, dairy calves are fed a considerable quantity of roots and roughage in order to spread their ribs and develop a capacity that will make for greater efficiency when the producing age is reached. Bulky, succulent feed, with bone and muscle-building properties should make up a large part of the rations for calves; but exercise and fresh air should not be neglected, for the lungs and vital organs of what we call the constitution are factors second to none in the animal economy. The aim is to develop constitution and capacity, for upon them the usefulness of the animal depends. The sceptic might enquire as to the value of pedigrees, when we find it necessary to feed for the same characteristics that we claim to obtain by breeding along right lines. The fundamental law of breeding assures us that "like begets like" but the law of variation is ever making itself felt and environment, feed, care, climate and other conditions are constantly working a change for good or bad, depending on whether they are conducive or detrimental to perfection in live stock. The proper type in sire and dam, with good ancestors behind them, is excellent insurance but we cannot trust to luck alone to develop their offspring and make it as good as they, especially when we take the responsibility out of Nature's hands and subject the young to more or less unnatural conditions. The same principle is applicable to grade cattle and all commercial stocks.

Everyone is aware that the nursing calf is sleek and round beyond comparison, usually, with calves reared in any other way. However, the matter of economy enters into consideration and customarily the pail is brought into service. In feeding pail-reared calves, the mistake has often been made in substituting oil-cake meal for butter-fat. The oil-cake meal does not contain any great amount of oil for it has undergone a process to remove that very ingredient. Linseed meal, or flaxseed soaked for twelve hours in cold water and then brought to a jelly by simmering over a slow fire, is the best substitute for butter-fat. When only a few weeks of age the young calf will begin to pick over grain if placed in a box before it. Finely-ground oats are excellent and are improved by having the coarser hulls sifted out. A little bran added will improve the ration. Feed only what will be consumed at one time. At six weeks of age a calf will eat in the neighborhood of 1/2 lb. concentrates daily; at two months, about 1 lb.; and at three months about 2 lbs. At this time or even previous, a mixture can be fed in which oats figure quite prominently. Bran is also a good concentrate for calves and a small proportion of corn, when available, does not come amiss. A little oil cake, too, will impart thrift to the animal and a glossy appearance to the coat.

It is the matter of roughage that farmers often neglect when bringing the young calves along. In the way of hay there is nothing better than good clover or alfalfa and this should be placed before them in small quantities almost from the first. They will begin to pick it over when they are only two or three weeks of age, and the hay should be changed frequently. When blown or breathed on it soon becomes objectionable. As a succulent roughage, silage is quite acceptable, but there is nothing better than a few pulped roots. As soon as calves can be gotten on to roots, clover hay and concentrates, there need be little worry in regard to their welfare. Much of the excellence in Old Country cattle is due to their large root rations both as calves and mature animals. If only a few roots are still left, we would advise saving enough to do the calves over the period that roots are likely to keep. A small field of the same crop should also be arranged for, in order to supply next winter's needs for the calves and pigs. Plenty of roots and clover hay will spread the ribs of the calf and develop those organs of digestion that are called upon to do heavy service later in life. The conformation can be molded and the system can be strengthened by the judicious use of roughage, both succulent and dry.

THE FARM.

Threshing Gangs Would Save Farmers Time.

EDITOR "THE FARMER'S ADVOCATE":

You have asked for your readers' opinion in regard to having threshing gangs this coming fall. Personally, we think it would be a good idea. We think that the extra expense would be more than offset by the time and labor saved to the farmer. As it is now much time and patience are lost through waiting on slow-comers. There are localities where the threshing does not start until 8.30 or 9 o'clock in the morning. There are men who invariably come late to the threshing, wasting the time (now worth \$2 an hour) of the owner of the outfit and of the farmer at whose place the threshing is going on. Where the threshing does start in good time in the morning, there is nearly always insufficient help, the few that are there being forced to go "on the run" till the late-comers arrive. Of course, we know it is not easy for many to get to the threshing early, for some have far more chores to do than others while help is scarce on many farms, yet many could do better if they would.

Then, under the present system, there is often not a fair exchange of labor. There are men on large farms just selfish enough to expect their neighbors on smaller farms (though they may be just as busy) to help them through with their jobs, but fail even when they have the help at their disposal to pay them back full time when their turn comes to thresh. If help were plentiful, the matter of a few extra days spent in threshing would not make much difference, but now with help so scarce and the rush of work on so many one-man farms, it does matter a good deal.

Last fall the threshing came when everybody was busy preparing for fall wheat. Where farmers had hired help they sent their men and continued their work on the land, but many like myself were alone. There is generally uncertainty and delay about the hour of threshing, due to weather conditions, change of plans, etc. To be called from the plow an hour after one has gone to the field, only to find that the threshing will not start for an hour or two owing to a broken belt or no water, is not calculated to put one, who values his time, in a very good humor.

Threshing in the West is almost altogether done by gangs that go with the outfits, and there are few who want a change in the system. Each man has his own work during the season and the hours, beginning about Sept. 1, are generally from 7 a. m. to 6 p. m. The writer put in ten weeks in the fall of 1909 in Alberta, working with an outfit, the output of which was about 75,000 bushels. Of course the fall weather is better there and the outfits are larger, while no time is lost pulling into bank barns, but still the fact of having regular threshing gangs accounts in a large measure for the big results.

If owners of outfits and threshermen had definite arrangements with each other so that each would have his own district, it would often save a lot of time and trouble. Often there are three or four outfits in the neighborhood at once and it is impossible for a man who cannot get help to exchange with two neighbors who are threshing on the same day. This is another bad feature of the exchange system. As far as feeding the men, there would not be much more work about it than there is now and if sleeping quarters could not be provided in the farmhouses, a caboose with comfortable sleeping bunks would answer this requirement. Every hour of the farmer's time will be valuable in the season upon which we are entering. Scarcity of help and the crying need for greater production will make it precious indeed. The present custom of exchanging hands is not satisfactory from more than one viewpoint, and we would like to see the other tried out. The more time we can put in on our farms this season, the better. Our aim should not be big profits as much as bigger production. Any plan that will give us more time on the land should have our hearty support. If some thousands of those who go to the West can be induced to remain here, through promise of high wages for the threshing season, there would be sufficient men to man the outfits. Let the Ontario Government co-operate with the threshermen and farmers to make a success of the undertaking, and we do not think anyone will want to return to the old system.

Middlesex Co., Ont.

MORLEY L. SWART.

Potato Diseases and How to Prevent Them

Potatoes constitute a large share of the world's food supply. At no time in the history of the country has the world faced such an apparent shortage of food as at the present. It is, therefore, of utmost importance that every acre of land devoted to potatoes this coming spring should yield the highest possible number of bushels of sound, high-quality potatoes. The use of the best varieties of potatoes, combined with early planting, proper cultivation and manuring, will do much to insure a good crop, but the maximum yield per acre can be obtained only when the necessary proper precautions are taken to prevent the diseases to which potatoes are subject. The following account of the symptoms and prevention of potato diseases should be, therefore, of special interest to every potato grower in the Province at the present time.

Late Blight and Rot of Potatoes.

This is the most destructive disease of potatoes in the Province. In wet seasons it frequently destroys a large proportion of the crop. The effects of the disease are not noticed until late summer—August or September. Frequently, however, if the weather is wet about the middle of July, the disease may be seen in the fields by the end of the month. Conditions which favor its spread and development are wet weather accompanied by relatively low temperatures and excessive moisture in the soil. It is nearly always worse on low, poorly-drained lands and on heavy clay soils.

Leaves, stems and tubers are affected. On the infected leaves irregular, dark spots or areas are observed. These are usually first seen on the lower leaves, often at the margins. They have a water-soaked appearance when held up to the light. On the under surface of the spots, especially around the margin, a delicate white fungus growth may frequently be seen. In wet weather the spots enlarge and the whole leaf is involved, becomes soft, brown, rotten and droops. In this way the tops may be all destroyed in a few days. In dry weather the spots do not enlarge but become dry, brittle and brown. On the stems brown streaks are sometimes seen. On some of the infected tubers, pits or depressed areas, sometimes with a somewhat purplish tinge and a water-soaked appearance, are seen. If such tubers are cut, brown patches and streaks are found in the flesh beneath. Infected tubers may dry-rot in the field or in storage. A wet, soft rot, however, usually develops in wet seasons. This is frequently observed when the potatoes are dug and is thought to be due to organisms which gain entrance to the tubers through the dead areas produced by the fungus which causes the Late Blight and Rot. At harvest time, even if the tops have been badly blighted, there may be very little sign of rot. The tubers, however, are almost sure to be infected and rot is very likely to develop after they have been stored.

The fungus which causes Late Blight and Rot is spread rapidly through the crop during wet weather by means of numerous spores produced on the lower surface of affected leaves and dispersed by wind and rain. Some of these are washed off the leaves down through the soil on to the tubers, which they are able to infect. The fungus is carried over the winter as fungus threads (mycelium) within infected tubers. Some of these tubers are used for seed and a few of them produce stunted plants; when these are growing the fungus spreads into the developing shoots, grows up with them, and finally produces the first crop of spores of the season on their stalks and leaves. From a very few of these infected plants here and there in a field the fungus may spread over the whole crop if climatic conditions are favorable to its development.

Prevention.—Spray with Bordeaux mixture. Commence spraying when the plants are from five to eight inches high, and keep the foliage covered with Bordeaux throughout the season. Take special precautions to see that the spraying is very thoroughly done if the weather is at all damp about the 15th of July, as Blight often begins about this time. Add a poison to each application when necessary for Potato Beetles—arsenate of lead paste 3½ pounds to each 40 gallons of the liquid spray, or Paris green 2 pounds to 40 gallons, or a mixture of 2 pounds of arsenate of lead paste and 1 pound of Paris green to 40 gallons. From three to seven applications should be made, depending upon the season; the wetter the weather the larger the number. Do not put off spraying because it looks like rain. If the spray is on the plants half an hour before rain comes it will be dry and sufficient of it will stick to prevent infection, which takes place during or soon after the rain. Spraying as described above should prevent not only Late Blight and Rot, but also Early Blight and Potato Beetles. For Late Blight and Rot only, it is not necessary to commence spraying until about the first week in July; but in Ontario it is usually advisable to spray for all three.

Other means which are recommended to prevent loss from this disease are, planting the more or less resistant varieties (see O.A.C. Bulletin 239) and avoiding soils which are not thoroughly underdrained, either naturally or artificially.

Early Blight or Leaf Spot Disease.

This disease is common and in some years causes noticeable damage. It sometimes appears when the plants are from six to eight inches high, but is most abundant about the time the potatoes are in flower. In severe cases the foliage is badly damaged and the

By PROF. J. E. HOWITT, ONTARIO AGRICULTURAL COLLEGE, GUELPH.



Leaf Roll and Healthy Potato Plant.

tubers remain small. Unhealthy plants and those attacked by the Flea Beetle suffer most from this disease.

Small, scattered, grayish-brown circular spots are first observed on the leaves. These take on a minutely velvety appearance and gradually become larger and run into each other until in some cases half the leaf may become brown and curled. As the spots enlarge faint, concentric rings appear on them, described as "target-brand" markings. It is thought that the organism which causes this disease passes the winter as dormant fungus threads (mycelium) in the dead tops and as spores in the soil.

Prevention.—Spray with Bordeaux mixture and Paris green as recommended for Late Blight and Rot, giving special attention to the early applications. Rake up and burn diseased tops after the potatoes are dug.

Tip Burn.

This is a so-called physiological trouble, that is, it is not due to any organism, but to some condition within the plant itself, probably induced by its environment. It is very frequently seen in abundance in Ontario in hot, dry summers. The leaves brown and curl at the tips and margins. This browning and curling when the trouble is serious may extend to the mid-rib or near it over a considerable portion of the leaf.



Potato Canker (after Cussov).

Prevention. Keep the soil rich in humus and see that the potatoes are repeatedly and thoroughly cultivated after they are up in the rows to keep down weeds and conserve moisture. Spraying with Bordeaux mixture as for Late Blight and Rot has been found to lessen this trouble.

Common Scab.

This Scab is familiar to nearly every potato grower. It is easily recognized by the roughened, corky spots on the skin of the tubers. These may be few and scattered or numerous and close together, so as to disfigure badly the tubers. Sometimes there are also blackened, pucker-like cavities, probably due to mites work-

ing in the Scab spots. Scab does not injure the flesh of the tuber to any extent, but renders them unsightly and hence they are not readily salable.

The organism which causes Common Scab is carried over the winter on seed potatoes and in the soil. A few scabby potatoes in a bag may contaminate the whole lot. The Scab parasite remains in the soil for many years after a crop of scabby potatoes has been produced on it. It will also pass through the intestines of stock fed on scabby potatoes. It thrives best on an alkali soil and is checked by acidity.

Prevention.—For seed select smooth, sound potatoes, as free as possible from Scab, and disinfect by soaking them before they are cut for two hours in a solution made by adding half a pint of commercial formalin to fifteen gallons of water. Then spread out on clean grass to dry. Wash all crates, bags, etc., which are used in handling the potatoes in the same solution. The same formalin solution can be used to treat successive lots of potatoes. Fifteen gallons is sufficient to treat from 20 to 25 bushels; if ordinary precautions are taken not to waste too much of the fluid as each lot of tubers is dipped. If the potatoes are not all treated the same day, it is advisable to make up fresh formalin solution for each day's work. If possible plant on clean soil, that is soil that has not produced a crop of scabby potatoes. Practice a rotation of crops. If Scab is very bad it is not advisable to plant potatoes on the same land oftener than once in five years. Heavy applications of barnyard manure should not be made to the potato crop, but if necessary given at some other point in the rotation. Plant potatoes after clover sod if possible. Avoid alkali fertilizers such as lime and wood ashes. Cook scabby potatoes before feeding to stock.

Powdery Scab.

This disease was first reported as occurring in Canada about 1912. It was found in Prince Edward Island, Nova Scotia, New Brunswick, Quebec and Alberta. In 1914 it was found in one locality in Northern Ontario. Measures were at once taken to stamp it out. Since that time it has not been found in the Province. It seems safe to conclude, therefore, that at the present time Ontario is free from Powdery Scab. There is great danger, however, of its being reintroduced into the Province on seed potatoes, and those who grow potatoes should be on the watch for it, as it is very undesirable that Powdery Scab should become permanently established in Ontario, since it appears capable of causing appreciable damage to the potato crop.

Tubers infected by the Powdery Scab fungus become covered with conspicuous scab spots, which are more clearly defined, more elevated and smoother on the surface than the spots of Common Potato Scab. When the skin of the scab spot is broken the cavity beneath is seen to be filled with a brownish or greenish powder. As is the case with Common Scab, the chief injury is due to the unsightly appearance of the tubers. In severe cases, however, the potatoes may be stunted and malformed, and it is said that there is always a greater tendency for infected tubers to shrivel in storage.

The fungus which causes Powdery Scab is spread mainly on seed potatoes. It is introduced into new localities chiefly through planting seed which is infected or which has come in contact with infected tubers, or with bags, crates, implements, etc., which have been used in handling them. Once the fungus gains entrance to the soil it will apparently remain there for a number of years.

Prevention.—If possible secure seed potatoes from a district known to be free from Powdery Scab. Plant only sound tubers free from Scab, and as a precaution disinfect them; use corrosive sublimate rather than formalin for the prevention of this disease. Such treatment will not render tubers from an infected crop safe for seed, but will destroy spores on the surface and thus prevent the risk of the organism being introduced on healthy tubers which have been in contact with infected tubers or with bags, crates, implements, etc., contaminated with spores. If Powdery Scab is found in a field, report its occurrence at once to the Dominion Botanist, Central Experimental Farm, Ottawa, or to the Botanical Department, Ontario Agricultural College, Guelph, and information will be sent regarding the best method of stamping it out.

Rhizoctonia Black Scurf.

This disease is very frequently met with in Ontario and in seasons of excessive rainfall often results in a noticeable reduction of the crop. Tubers are very frequently seen with what appear to be lumps of hardened soil adhering to them. These when wet are black in color. They vary in size from mere specks to one-quarter of an inch in diameter. Sometimes they are very numerous and quite noticeable. They are known as sclerotia and consist of compact masses of resting fungus threads (mycelium). The flesh of the potato beneath is not injured by them. If tubers, however, with these sclerotia adhering to them are planted, the fungus may spread to the developing sprouts and kill them before they get above the ground, this being one cause of potato failures. Later in the season several other symptoms may develop. Young shoots may wither and die and if these are pulled up and examined there will be found at the base of the stem brown dead areas often encircling it. Sometimes at the base of the stem of affected plants a cluster of small tubers may be found, and very often small, greenish potatoes are seen on the stem above ground. Such aerial tubers are very

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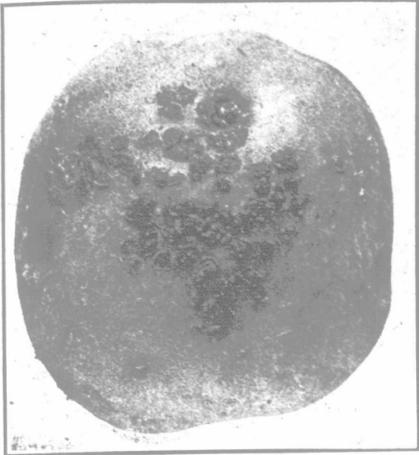
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characteristic of the disease, but may result from other causes such as injury to the stem by cultivation. The chief means by which the fungus is spread is through planting potatoes with sclerotia adhering to them. The fungus attacks many cultivated plants besides potatoes and very frequently causes the damping-off of seedlings.

Prevention.—Since the fungus lives on many different plants, once it gets established in a field it is practically impossible to "starve it out" by a rotation of crops. Care should be taken, therefore, to avoid as far as possible introducing it into the soil. Disinfecting the seed with corrosive sublimate is recommended. Formalin is said to be unreliable and often



Powdery Scab (after Gussow.)

worthless for the prevention of this disease. When it is troublesome, select tubers as free as possible from the little, hard, dark lumps (sclerotia) and disinfect by soaking them before they are cut for three hours in a solution of two ounces of corrosive sublimate in 25 gallons of water. (N.B.—Corrosive sublimate is a deadly poison. Potatoes treated with it are rendered unfit for food.)

Fusarium Wilt and Dry Rot.

This disease is common in the Province. The chief loss is due to the dry rotting of the potatoes in storage. The fungus which induces it invades the underground parts of the plant, causing the foliage to become unhealthy in color and finally curl, wilt and die. This wilting of the tops is seldom prevalent enough in Ontario to attract much attention. In storage affected tubers are often noticed. These show a peculiar shrivelling and dry-rotting of the stem-end. Some of the affected tubers, however, may have no external evidence of the disease, but when cut a brownish or blackish ring is seen at the stem-end in the flesh, about one-quarter of an inch below the skin. However, not all tubers with this discolored ring at the stem-end are affected by this disease. The writer has examined tubers with this ring extending for a short distance from the stem, but they proved to be entirely free from any fungus. The cause of the discolored ring in such cases is unknown. It does not appear to develop further in storage. When the ring is due to the Dry Rot fungus some of the tubers will have indications of shrivelling at the stem-end and there will be more or less development of the characteristic Dry Rot in storage.

Prevention.—Wilted plants should be dug up and destroyed whenever noticed during the summer. Potatoes with the discolored ring at the stem-end should not be used for seed. Do not plant potatoes again for several years in a field which has produced a crop badly infected with Fusarium Wilt and Dry Rot. Spraying will not prevent this disease nor will treating the seed with formalin.

Potato Canker or Wart Disease of Potatoes.

The disease was found in Canada in 1912 and prompt measures were taken to stamp it out. These were apparently effective, as it is not known to exist in the Dominion at the present time. It is a very serious disease, and it is, therefore, important that Ontario growers should be able to recognize it, in order that they may report its presence promptly should it at any time appear in their crop.

Potato Canker is not usually observed until harvest time. Badly-affected tubers are simply brownish-black masses of warty excrescences, not in the least resembling potatoes. Tubers showing the early stages of the disease have some of the eyes slightly protruding and composed of simple or compound groups of small nodules, brown in color. At this stage the disease is very likely to be overlooked by the casual observer.

Prevention.—Be on the watch for this disease, and if suspected potatoes are found send samples to the Dominion Botanist, Central Experimental Farm, Ottawa, or to the Botanical Department, Ontario Agricultural College, Guelph.

Leaf Roll.

The cause of this disease is unknown. It has been observed in numerous fields in the potato-growing districts of Old Ontario. In some fields examined this summer (1917) over 60 per cent. of the plants were affected with Leaf Roll.

Economic Importance.—Experiments and observations show that Leaf Roll may reduce the yield to a very

marked extent. In experiments conducted by Mr. Murphy, Assistant in Charge of the Dominion Field Laboratory of Plant Pathology at Charlottetown, P.E.I., it was found that the average yield of plants diseased with Leaf Roll in Prince Edward Island is 1.66 ounces, while healthy plants of the same variety yield 19.0 ounces. The corresponding yields per acre would be 26 bushels and 297 bushels.

Symptoms.—Symptoms of Leaf Roll are very variable. Affected plants are always more or less dwarfed and in some varieties the leaves assume a characteristic upright, almost staring habit instead of drooping over in the normal way. This symptom is sometimes absent, the plants presenting instead a low headed, bushy appearance. When the crop is badly affected the poor growth of the foliage is very noticeable. It is practically never as green on affected plants as on healthy ones, and occasionally on certain varieties it takes a purplish or reddish color at the tips and around the margins of the leaves. Rolling of the lower leaves is always associated with the disease. This is often rather inconspicuous and may not extend beyond the leaves lying close to the ground, although it may affect the intermediate and even the topmost leaves. Marked rolling of the upper leaves, however, is often seen on plants not affected with Leaf Roll. The rolled leaves on plants affected with this disease begin to die early. The harsh, leathery texture of such leaves is a constant symptom. This point may be tested by feeling them with the fingers. The tubers of affected plants are small and are borne generally on very short tuber-branches (stolons) or even attached in a cluster to the stem.

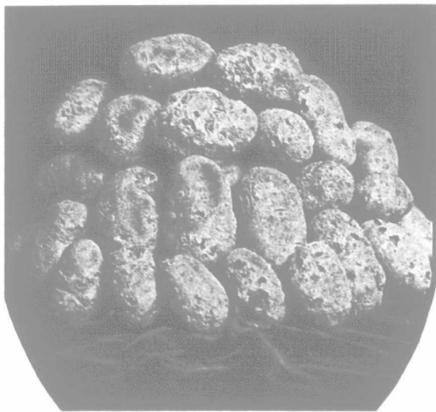
Means by Which Leaf Roll is Spread.

Leaf Roll is chiefly transmitted through the seed. Tubers from affected plants invariably produce diseased plants. There is also evidence to show that the disease may spread from plant to plant in the field. Just how is unknown, as up to the present time no parasite has been found associated with Leaf Roll.

Prevention.—The surest way of avoiding loss from Leaf Roll is to secure fresh seed from districts free from the disease. Fortunately, this is possible, as Northern Ontario and certain sections of New Brunswick, Nova Scotia and Prince Edward Island are comparatively free from this trouble.

Mosaic.

The cause of this disease is also unknown. It has been observed in many fields in Ontario. When it is severe there is a very noticeable reduction in the crop. **Symptoms.**—The foliage of plants affected with Mosaic is somewhat wrinkled or corrugated and mottled, with faint, light green or yellowish spots. These symp-



Common Scab.

toms vary considerably, being well marked in some cases and not so noticeable in others. The stalks of diseased plants are often more bare near the ground than those of healthy ones, partly because the affected foliage does not spread out and droop down normally and partly because the lower leaves sometimes fall off in the last stages of severe attacks. The tubers of affected plants are normal looking and sound, and their keeping or eating qualities are not impaired.

Means by Which Mosaic is Spread.—Like Leaf Roll, Mosaic is transmitted through the seed and is spread very largely by the use of seed from diseased plants. It is also spread from plant to plant in the field, probably by insects as is the case with related diseases.

Prevention.—If the disease is not very prevalent in a field, remove the affected plants so as to secure seed as free as possible from Mosaic. If the Mosaic is very abundant, secure fresh seed from a field or district free from the disease. It may be necessary to discard susceptible varieties in order to avoid loss from Mosaic.

Curly Dwarf.

Another disease of unknown cause, frequently met with in Ontario, especially in unthrifty fields of potatoes. It appears to cause a very noticeable reduction in the crop. Plants affected with Curly Dwarf are dwarfed and the foliage is markedly curled and wrinkled. This disease is known to be transmitted through the seed.

Prevention. Remove affected plants so as to secure seed free from Curly Dwarf or secure fresh seed from a field or district free from the disease.

In conclusion the writer offers the following general suggestions for the prevention of potato diseases:

1. Grow those varieties which experience and experiments have shown to give good results in the Province. The Irish Cobbler for an early potato and the Green Mountain for a late were the varieties selected by the conference of potato experts in Toronto this winter.
2. Select for seed smooth, sound tubers, as free as possible from scab, black, hard lumps on the surface and abnormal discoloration of the skin or flesh.
3. Disinfect all seed before cutting with formalin or corrosive sublimate.
4. When cutting potatoes have at hand two or three knives and a jar containing a 20 per cent. solution of formalin. After cutting into a tuber which shows signs of rot, drop the knife into the formalin, discard the diseased potato and take a fresh knife from the formalin solution for the next cutting.
5. Spray every year with Bordeaux mixture as directed above for the prevention of Late Blight and Rot. Such spraying is an insurance which it is not safe to neglect. There are in Ontario, however, certain light soils on which early potatoes apparently can be grown free from rot without spraying.
6. Rogue the growing crop once or twice during the summer, or at least that portion of it from which the seed is to be saved. This operation consists in the removal and destruction of any plants showing signs of such diseases as Leaf Roll, Mosaic, Curly Dwarf, Blackleg, Rhizoctonia and Fusarium Wilt.
7. Practice a rotation of crops, and if possible plant potatoes after clover sod.
8. If home-grown seed is not producing as many bushels per acre as formerly, import seed from districts free from Leaf Roll, Mosaic and Curly Dwarf. Such seed can be obtained from New Ontario and certain parts of Nova Scotia and New Brunswick.

Would Not Conscript Labor.

EDITOR "THE FARMER'S ADVOCATE":

I fail to see how the conscripting of labor for the farms will produce any satisfactory results. I know it will be very distasteful for the majority of both farmers and laborers. For, in spite of the windy, office-hatched theories of some judges, politicians, editors and other city "smart Alecs" who have had little or no farm experience but who appear to understand the business better than the farmer himself, practical and up-to-date farmers know that the average unskilled laborer is of little or no use except in an emergency in harvest and at some of the odd drudging work. Successful farming is an industry calling for efficient skilled labor and unceasing devotion to business. Will the city worker, used to an 8 or 9-hour day be expected to work from 12 to 14 hours a day and undergo other indignities on the farm, or will the farmer be called upon to change his present working methods? But perhaps some of our inexperienced, impractical theorists, writers and talkers will hit upon a new system of agriculture which the practical farmer with all his years of experience and study has failed to discover.

York Co., Ont. FRANK JENNINGS.

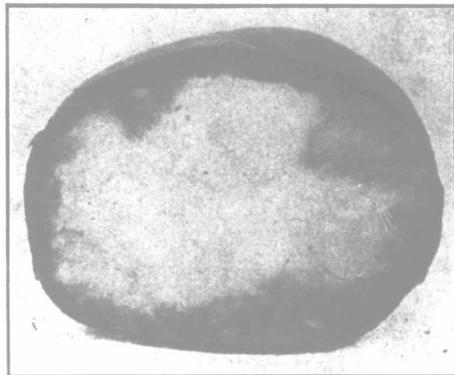
Uses Bean Puller for Turnips.

EDITOR "THE FARMER'S ADVOCATE":

I have noticed in the fall of the year articles on harvesting roots. I find the easiest way to harvest turnips is to use the bean puller. By having your rows about thirty inches apart, and topping two rows in together, by setting puller knives deep enough, you can then drive down and pull two rows together, leaving them in good shape for loading. If the tops are drawn off before pulling a man and team will pull an acre in a very short time.

Elgin Co., Ont. O. P.

A farmer writes regarding farmers having trouble with their hired help over holidays, to say that in hiring a man he always makes an agreement with him as to what holidays he shall have, also covering details regarding chores on Sunday and what wages he shall receive at the end of the week or month. This is all put down in writing. By taking these precautions he has never had any dispute with a man yet, over wages or lost time.



Showing Dry Rot, Due to Late Blight.

Government Railway Object Lessons.

EDITOR "THE FARMER'S ADVOCATE":

In a former letter—"Public Management of Railways"—I submitted some considerations in support of the vested interest that the people of Canada have in railways to which they have contributed \$238,831,924 in cash subsidies, 43,929,312 acres in land, and guaranteed railway bonds for many million dollars more. That the railways have been a very essential factor in developing the country is granted, but the people pay for their transportation service levied in a way that has made it necessary to maintain a costly Railway Commission to protect their interests. Farmers and stockmen know by experience how strenuous and continuous has been their contest with the roads they have helped to build. "The Farmer's Advocate" has properly pointed out the inequity of the country assuming non-paying systems while one, probably the greatest beneficiary making enormous profits, remains the special preserve of a private corporation and stockholders. These conditions have created in the public mind a rankling sense of injustice.

Canada's chief and earliest venture in railroading was The Intercolonial from Halifax to Montreal, which owed its existence to Confederation in 1867, uniting "Upper" and "Lower" Canada, now Ontario and Quebec, with the Maritime Provinces, though its necessity was forecasted as early as 1832 by Henry Fairbairn. The sacrifice of Canadian territory by the Maine Boundary Treaty vastly increased its length and cost, but when finally completed in 1876 it was a monument to the engineering skill of Sanford Fleming, who discerned in it an important part of a line throughout the entire Dominion. Political and military reasons, rather than strict commercial considerations, determined its route and if badly managed since and a "tragic farce," as Hon. Frank B. Carvell described it in a speech before the Montreal Canadian Club, it has been, as previously pointed out in your columns, because of political party muddling and meddling. Furthermore, its western terminus, pocketed at Montreal, was regarded a handicap in view of Canada's expansion westward, but despite all this it has been a benefit to the country nationally, and by affording a service appreciated by the travelling public and as a competing influence with privately-owned lines. However, it still serves as a handy bug-bear for those who resist advances in public control and ownership, but presents some useful lessons for the new Federal Government. It is not public management but party politics and patronage that is the real "tragic farce."

For your Ontario readers we have a fairer object lesson and a more favorable one nearer home, in the Temiskaming and Northern Ontario Railway inaugurated by the Provincial Government under Hon. Geo. W. Ross in order to develop and colonize a new country, the riches of which at the time were undreamed of. Following surveys in 1902, fifty miles of route was located and the first contract let. The road was formally opened in January, 1905, from North Bay to Liskeard. Since then it has been extended northward to Cochrane on the new Transcontinental Railway, with several branch lines covering Charlton, Porcupine and Elk Lake. The main line is over 252 miles long and the branch lines 78, or a total of 330 miles in operation last year. At North Bay the line connects with the Grand Trunk, Canadian Pacific and the Canadian Northern, giving direct access to Toronto and constituting an important link between Eastern and Western Canada. Including rolling stock, buildings and equipment, the total cost has been \$63,216 per mile of main line. This road has not been operated directly by the Government but by a Commission of three capable men under the chairmanship of J. L. Englehart, and has been admittedly a marked success since its inception, affording excellent facilities at rates favorable for the settlement of the country and the output of its mineral, forest and agricultural products. Under any system grievances will crop up but recently the complaint was made publicly that the charges of the T. & N. O. R. to those who profited by its operation were not sufficient. An examination of the last report, which the road is required to make in detail for the information of the Legislature and public, shows that a ton of freight is carried at approximately three-quarters of a cent per mile. The traffic returns for 1917 plus other revenue were \$2,297,996.85, an increase of \$175,113.93, or nearly eight per cent. over 1916, when 485,759 passengers earning revenue were carried and 922,610 tons of freight earning revenue. In answer to the statement that the road was going behind, I am in a position to give from the records of the Sec.-Treas., W. H. Maund, official figures of the earnings and expenditures from commencement of operations to the close of the 1917 fiscal year:

Gross earnings during period	\$19,181,880.22
Gross expenditures during period	14,112,630.87
Paid Treasurer of Ontario	4,788,245.16

The Treasurer of Ontario also received Dominion subsidy per mile amounting to \$2,131,080.00, which if included would make a total of \$6,922,325.16, or one-third the total capital investment, which up to Oct. 31st, 1917, had been \$18,297,149.50. Patrons of the road will, therefore, hardly grumble that service charges are insufficient. In regard to efficiency, the road makes a highly creditable showing for public ownership, as it is able to claim the transportation of over six million passengers without loss of life or serious injury in the operation of a road involving over one million train miles each year. The fidelity to public interest with which it has been managed is well attested also by its

remarkable freedom from unsavory publicity in the Legislature and in the press, where one may be sure vigilant eyes are upon its conduct.

Middlesex Co., Ont.

ALPHA.

A Farmer Speaks Out.

EDITOR "THE FARMER'S ADVOCATE":

In a leading Toronto daily, of February 12, there appears the report of an address delivered at Orillia by S. J. Parsons, President of the Manufacturers' Association. The important part of his address seems to be aimed at the farmers, to create antagonism between town and city people and farmers by making false and misleading statements, and to injure farmers who are organizing in Ontario to handle their own products. In order to create better conditions between producer and consumer we must cut out a lot of middlemen. One case he points out is: A farmer desires to purchase a buggy, but when told the price—\$180—he holds up his hands in holy horror and states that his father only paid \$80 for the same buggy. The dealer looks up the records and finds that the father exchanged one hundred bushels of wheat for the buggy. He will give the same buggy for one hundred bushels of wheat, buy the farmer a new suit of clothes and his wife a new dress. I have farmed all my life and I never heard of a farmer exchanging wheat for a buggy; he markets his wheat and pays the cash. For the benefit of the public and Mr. Parsons, I will give a case of my own, which I can swear to. I purchased a buggy in 1889 from Mr. Tudhope, of Orillia, for \$180, to take to Manitoba, and I have sold wheat in the same country at a price when it would take over nine hundred bushels to pay for the buggy. Be fair to the farmers and do not quote war prices, which only come once in forty or sixty years. In the Russo-Turkish war times I sold a few bushels of wheat for \$1.90. I farmed up till 1914, when I was sixty-three years of age, and only received a profitable return for my labor on these few bushels. Hunt up the Toronto daily, February 23, and read the article entitled: "Backbone of the Country", by Nina Moore Jamieson, and you will get a few pointers to digest.

Next, Mr. Parsons takes our Minister of Agriculture, Mr. Crerar, the former President of The Grain Growers' Grain Company, to task and makes statements that are misleading. He states that the Company with a capital of \$2,000,000 in 1915 and 1916 made a profit of \$1,800,000, or a ninety-per-cent. return. I have the annual report which shows their profit to be \$572,800.33. Of this they applied to reserves, \$217,159.38; dividend on stock, \$100,500.00; profit and loss, \$150,763.21; and war tax, \$104,381.74. This was their best year and they handled over forty-eight million bushels of grain. They charge the farmer from the car or elevator, pay him for the wheat, keep it insured, and land it on the Liverpool market by their own export company. They have a seat on the Grain Exchange where there are over two hundred others to compete against. Mr. Parsons does not state that to handle this amount of grain at say \$1.50 per bushel would mean a turn-over of over \$72,000,000, on which they have to pay the bank six per cent. for the use of the money. Would some of Mr. Parsons' friends be satisfied with such small profits? I feel proud, as a farmer, to have been one of the first organizers of this Company and to have been on the Board of Directors when we had to fight the railways, banks, millers, elevator companies and grain companies. Eleven years ago this Company started with a capital of \$2,500, and it is now one of the biggest commission houses in America, owned and operated by farmers.

Some years ago the Secretary of The Manufacturers' Association stated in Winnipeg that they were two thousand five hundred strong, were like a young giant and did not know their own strength, and could paralyze the trade of the Dominion and bring seven million people to the verge of starvation. These are the spoon-fed infant industries protected by tariff walls. I know where the shoe pinches Mr. Parsons—The Grain Growers' Grain Company are handling agricultural implements. As Canadian manufacturers would not sell to them they had to import from the Western States, and after paying the duty as well as a dumping duty to those who attempt to ship in car lots—which amounts to from 46 to 51 per cent., they can compete with Mr. Parsons' friends. And this duty comes off the farmer and is paid into the Dominion treasury, instead of being dumped into the pockets of these giants. The farmers are loyal to our Dominion and not to the manufacturers, therefore, these gentlemen have no use for us. I would advise Mr. Parsons to make such speeches in private or send them out in pamphlet form to the city people, if he wants to keep them in the dark. Let sleeping dogs lie or you will have trouble. The more we are persecuted the stronger we get.

Man.

I. T. LENNOX.

O'Connor has said there are too many eggs in storage, but most farmers have not found too many in the nests in their hen houses during the past winter to pay for the feed the hens ate, even at the price fresh eggs reached on the open market. The hens, too, kept many eggs in storage and the efforts of the farmer to make them disgorge were just about as effective as the efforts of some people to make the cold storages disgorge.

Man Determining His Own Future.

EDITOR "THE FARMER'S ADVOCATE":

The world is on the threshold of tremendous social changes, which may alter the whole character of modern civilization. According to Frederic Harrison the war of nations is being entangled with, and merging into, a war of classes. Chaos reigns in Russia, where Trotsky boldly proclaims the downfall of nationalism and adopts the novel method of freely allowing the Prussian militarist to do his worst. The rumblings of the earthquake that overthrew Tsardom have not ceased, but are extending widely. There is smouldering fire in Germany, in France, in Italy, and in Britain. Yes, in England, where things are wont to move slowly, the Revolution in on, as he who follows the "labor movement" there may clearly see. In each of the countries concerned the character of the revolution will be determined by many differing circumstances, but the essential facts will remain the same, and it is the duty of all those in authority to guide the newly liberated forces with such wisdom that anarchy may be avoided.

In respect to the present world-war, Canadians are not as well informed as they should be. Our press is largely throttled, and there can be no doubt that much one ought to know has been kept from us. A nation at war is naturally disposed to be biased; and when this bias is accentuated by a throttled or censored press, the results cannot but be bad. As a consequence we are likely to be very wide of the mark in our estimate of the essential nature of the conflict, and therefore the chances of realizing a just and lasting peace, so much desired, are seriously reduced. We are prone to condemn the German people for their subservience to their Government: let us not follow their bad example in this respect, but rather let man judge fearlessly the issues of the day.

Some very pointed and significant comments upon the war have been recently made by N. O. Nelson, a prominent citizen of the United States, from whose letter to the "Canadian Co-operator" I make the following extracts:

"The German junker succeeding the robber baron is not substantially different from the English or American captain of industry. The German and Russian serfs were not essentially different from the present-day German and Russian peasant, nor essentially different from the majority of American renters and casual labor domestic service and clerking class. The present day fight against German autocracy will fail of its object if it leaves free swing for the plutocracy to which political democracy readily lends itself. To get any good out of the war we must insist on industrial democracy and economic equality.

"In the Franco-Prussian war the German argument was that the frontier of Strassburg and Metz must be taken to protect southern Germany against French invasions which had been continued for two or three centuries, and that the French power must be weakened. Precisely the same argument is now used against Germany.

"Both are right, but they are superficial: both contemplate national political interests. For safety as well as for justice we must have social justice. This can be attained only by economic equality in all the countries. We shall gain nothing by the success of the Bolsheviks or by their downfall, unless the powers or the people of the belligerents assert the rights of man.

"The mind of the world is befuddled with diplomacy and tradition. It cannot look straight at common-sense and justice."

Mr. Nelson is no "paid agitator", but is himself, in the best sense, a man of substance and captain of industry, as well as a leader in industrial co-operation. His words are worth pondering over.

Nationalism as we have known it in the past is even now struggling in its death agony. It is dead or dying. The world has grown too small for it. It must give place to something different and, we hope, something better. It has always been incompatible with Christianity, and its fruits have been evil continually. Trotsky may present to the world a caricature of internationalism; but there is something very real behind every caricature, and the real thing is coming. The apostle Paul was persecuted by the Jews for preaching it in his day, and the days of persecution are not yet over. But it is coming,—the World State instead of the National State. The anomalies of the present cannot last; the individual conscience cannot always submit to "the Government" as its highest authority.

It is the privilege of mankind that their destiny is in their own hands. Man is not the unresisting victim of blind forces. He determines his own future. The world is now fluid: a small force applied almost anywhere will produce far-reaching results. Will it be said of us by historians in the future that we guided ourselves wisely in this crisis? "Without vision the nation perisheth."

Brant Co., Ont.

W. C. GOOD.

Prized Above All.

EDITOR "THE FARMER'S ADVOCATE":

I am sorry I have not renewed my subscription before now, but I wanted to get a new subscriber for the "The Farmer's Advocate" and I succeeded. I take several papers but I prize "The Farmer's Advocate" above all as it fills the bill above them all.

Orleton Co., Ont.

W. E. HART.

Select

EDITOR

Owing potatoes, possible. twice the acre imp which will seed, sow and clima

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EDITOR "T

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Canada's Young Farmers and Future Leaders.

Selection and Culture of Potatoes.

EDITOR "THE FARMER'S ADVOCATE":

Owing to the scarcity of labor and price of seed potatoes, it behooves us to grow as much per acre as possible. One acre properly handled will produce twice the amount of potatoes of better quality than one acre improperly looked after. There are three things which will greatly increase the crop, proper selection of seed, sowing a variety of seed properly adapted to soil and climate, and summer care of vines.

There are different kinds of seed selection. In my estimation the proper way is to stake out thrifty, uniform plants, free from disease of any description, a plant with a broad, smooth leaf. Another way is to mark a portion of patch, perhaps half an acre, and rogue out all diseased plants. It is not necessary to dig these out until towards the end of season, just before the tops begin to die. Diseased plants are easily distinguished, as a healthy plant always has a broad leaf with a good rich color, while a diseased plant either stands up tall and spindly with dead leaves, or has an unhealthy leaf being rolled up.

Another way is to select in the cellar during winter, throwing out all inferior potatoes and trying to get as smooth a type as possible. My idea of an ideal potato

is a kidney-shape not too thick, fairly flat. A round, thick potato will not cook as quickly and well as a moderately flat potato.

The last two years I have been growing five varieties of potatoes, giving each variety the same opportunity. I plant a row each of Roxberry's, Davies' Warriors, Rose of North, Early Eureka and Dooley. I obtained nearly one-quarter more potatoes from the Dooley than any other of these varieties. Roxberry's came next. Rose of North and Eureka were about equal. Dooley and Eureka stood highest in appearance, while Rose of North and Early Eureka were the best cookers, the Eureka being the earliest to mature.

When we have our seed selected we must prepare our soil, and I follow a rotation of three or four years, beginning with clover followed by wheat, then potatoes, next spring grain. I have had the best results from sod being ploughed three or four inches deep the latter part of September and not touching it until shortly before planting. By leaving the rough furrow the frost has a better chance to do beneficial work. I am also much in favor of manuring the land in the fall if it is possible to get manure. I prefer to spread it on the ground in the fall and plough it in immediately, this allows the different ingredients to remain in the soil instead of evaporating through the air. It also has plenty of time to rot

and become more evenly distributed through the soil. You obtain a smoother, cleaner potato when the manure has been applied in the fall than from spring applications. In the spring I harrow or disc the soil both ways to cut the sod up, then harrow to level. Another small coat of manure may be applied now, although I prefer the greater portion applied in the fall.

I usually try to plant sets with one or two healthy eyes from twelve to eighteen inches in rows, turning the same furrow back which we turned down last fall. I leave the furrow for about one week, then harrow several times. It is a good plan to harrow at as near the middle of the day as possible, as the young sprouts will not break off easily; by driving slowly you may harrow when potatoes are partly through the ground. After the potatoes are up we cultivate deep at first, and shallow toward the latter part of season. In a dry season it is wise to hill up after each shower. In a wet season this is not wise, being apt to injure the plant. By keeping old beetles picked off one will not have nearly as much trouble with bugs later in the season. The prevention of bugs is one of the most important things to observe. You may prepare your soil, plant the best seed, but if you allow the beetles to harvest your crop they will make a pretty fair job. No vines no potatoes.

Middlesex Co., Ont.

FRANK FARROW.

Automobiles, Farm Machinery and Farm Motors.

The Farm Tractor.

It is only in very recent years that the farmer has been called upon to develop mechanical ability in connection with the implements of his profession. It is true that small gasoline engines have been in use for power purposes a considerable time, but speaking generally the average machine used on the farm has not required much expert knowledge. The use of a screw driver, a monkey wrench, a hammer and some oil and grease usually covered every requirement. When, however, the automobile took its place as an essential link in a big system of passenger and freight transportation the farmer found it imperative to know something about valves and electricity, differentials, transmissions and similar contrivances of a more or less complex nature. Now we have the farm tractor taking a prominent place in every area of production and this means that, if it is to operate with the maximum of success, there must be intimate ideas in the possession of everyone regarding its care and maintenance.

One of the best known authorities on the farm tractor is H. G. Skinner, an American, who has made a study of power problems. He has recently published a great deal of matter regarding tractors and from it we have gleaned much that should be valuable to those who intend to substitute gasoline, kerosene or distillate for horse power. It is well to bear in mind that dust is probably the greatest enemy of a farm tractor. Manufacturers build their machines so that the dry soil may not interfere with any of the working parts or become mixed with the fuel or water. You should always re-

member that the tractor is a steady, consistent worker and not a speed machine. Let it run very quietly the first thing in the morning until the oil becomes thoroughly circulated and do not in any part of the day put it to severe tests. The average farm tractor has a great many years of usefulness if properly handled. Mr. Skinner states that perhaps the most important engine adjustment is the testing of the compression. You do this in the ordinary way by turning the engine over by hand and making comparison of the compression in one cylinder with that in each of the others. The compression should be uniform and no single cylinder should vary greatly from any of its colleagues. Look well to the push-rod adjustments and never fail to keep the valves, both exhaust and intake, thoroughly ground. Compression also depends upon the condition of the piston rings and these should not be allowed to deteriorate.

The successful operation of your tractor will be in direct ratio to the evenness of the fuel supply. See that the line which carries the gas from the tank to the carburetor is clean at all times and make certain that the strainers are not clogged with foreign matter. Inspect the carburetor regularly and remove any particles of dirt or grit that may have accumulated. Back firing results usually from a weak supply of fuel but, of course, there are other conditions which will cause it. If, however, back firing is noticeable it might be well to blame it in the first instance upon lack of fuel and make sure that the supply is equal to the demand.

In recent articles we have dwelt upon the dilution of the oil in the crank case of automobiles and what we have said about touring cars applies with equal

effectiveness to tractors. Mr. Skinner makes it plain that heavy fuel engines frequently suffer when the lubricating oil becomes mixed with gasoline and kerosene. Change the oil often and so maintain its working quality. A change is suggested about every six to twelve days. A tractor power plant develops a tremendous heat and so its cooling system should be watched carefully. Clean out the radiator frequently in order that no sediment which may clog can be removed. All hose and connections must be examined weekly. You can handle either the cone or the multiple disc clutch of a tractor in the same way that you would look over a similar contrivance in an automobile. The cone clutch leather must never be allowed to become dry and stiff. Neatsfoot oil is an excellent preparation for keeping the leather soft and pliable. If the cone clutch slips Fuller's earth will usually remedy the trouble. Multiple disc clutches are of two models,—the dry and the wet type. You should experience no difficulty in maintaining either one as manufacturers' instructions are very explicit. Several times during the season it will be advisable to raise the axles and spin the wheels to find out if there is any play in the bearings. All the attention a rear axle requires is a supply of oil sufficient to reach the level in the housing. What is applicable to the rear axle can be said of every other part of the tractor. You must fight friction night and day and your best weapon will always be the better brands of oil and grease. Show us a farm tractor that is giving excellent service and we can usually point out one that has been kept free from dust and dirt in its working parts and well lubricated at all times.

AU TO.

THE DAIRY.

Beauharnois District Dairymen Meet.

EDITOR "THE FARMER'S ADVOCATE":

The 36th annual convention of the Beauharnois District Dairymen's Association was held in Huntingdon last week. Despite the severe weather and bad roads there was a large attendance of farmers from the counties of Huntingdon, Chateauguay and Beauharnois, which form the district.

The Secretary, W. F. Stephen, gave figures to show the production of butter and cheese during the past season. These indicated that there had been a falling off in cheese. This, he attributed to the price being correspondingly lower than for market milk. Referring to the Food Controller's milk investigating committee, he declared that it had been already proven that the farmer was receiving little more than the cost of production. Hence, he was no profiteer, as had been claimed by certain of the city press.

A. A. McMillan, of Macdonald College, followed with an interesting and practical address on "The Sheep a Necessary Cog in the Wheel." He proved conclusively the need, value and wisdom of every dairy farmer keeping a small flock of sheep. By so doing there would be a greater meat production and a bigger wool clip. At the present time, he said, no line of farming was more profitable.

Mr. McMillan also spoke on "Organization for Farmers." The value of co-operation was pointed out and several cases cited that had proven very beneficial. He believed that if the Milk Shippers' Association of Montreal were to organize co-operatively it would be to their advantage as well as to that of the consumer.

Dr. McEwen, also of Macdonald College, spoke on the "Control and Eradication of Tuberculosis in Our Herds." He referred to the need of healthy animals if

we are going to improve the live-stock industry. Tuberculosis was one of the most dangerous diseases affecting our herds. Farmers should do their utmost to keep their stock clean, and see that nothing but clean and healthy animals were brought into their stables. Herds should be tested at least once a year by a competent veterinarian, and all reactors and suspicious-looking animals isolated.

In the discussion that followed the consensus of opinion was that the present system of the Federal Department of Agriculture of punching the ears of reactors and allowing them to go through the country was not in the best interests of the stockmen. When such cattle were put into a clean stable they conveyed the disease to other animals. A resolution was passed requesting the Federal Department to slaughter animals that reacted on tubercular test and compensate the owner.

Prof. H. Barton, of the Animal Husbandry Department, Macdonald College, gave a helpful address on "The Conservation of Our Young Stock." He said that the watchword of the present time was efficiency, and this should be considered in the conservation of young stock. There were many cows in the country at the present time that were worth more for beef than for dairy purposes, and should be sent to the block. Reference was made to the greater production propaganda. He advocated the household pig, and stated that thousands could be reared throughout the country by people in towns and villages. By utilizing the garbage and refuse from the house and garden there need be but little expense.

Turning to the conservation of labor, he explained that by having larger fields, larger implements could be used, with one man handling a four-horse team instead of a two-horse team. While he considered the tractor had its place on the farm as a means of affording stationary power, he believed that in hauling power, the horse had the advantage.

For several years the Association has offered prizes for essays by children in the rural schools and academies who are under sixteen years of age. This year the

subject was, "How Does Farm Life Most Appeal to Me?"

The winners were: First, Wm. Cullen, Allen's Corners, aged 14; second, Alex. B. Small, Glenelm, aged 14; third, Muriel Lumsden, Athelston, aged 14; fourth, Claire Dancause, Huntingdon, aged 13.

The following officers of the Association were elected: President, D. H. Brown; Vice-President, R. E. Ness; Secretary-treasurer, W. F. Stephen. Directors: A. A. Sepp, G. Tenent, N. Sangster, D. A. McCormick, J. McDougal, M. M. McNaughton, Hector Gordon, David Pringle, G. Bustard and R. T. Brownlee.

AGRICOLA.

When purchasing breeding stock, consider the individuality of the animal as well as the pedigree and records of the ancestors.

The calf must be fed well and kept thrifty if you would have a big-framed animal when mature. Stunt the calf and the effect will not be entirely overcome by good feeding later on.

You should not expect to get that typey, high-quality, well-bred bull calf for a grade price, and a few dollars should not stand in the way of securing the sire that you know will improve the quality of your herd.

Never before in Canada were so many champion females and their progeny offered by public auction as is the case this spring. This gives dairymen a splendid opportunity of securing choice individuals. Breeders of such stock have great faith in their fellow dairymen when they offer their best by auction.

During the first two weeks of February this year, 7,853 certificates were issued from the office of the Secretary of the American Holstein-Friesian Association. Two thousand nine hundred and forty-three of these were registrations of cows, 1,235 for registrations of bulls, 2,422 transfers of cows, and 1,253 transfers of bulls.

Fairview Farm Holsteins Make a Good Average.

The dispersion sale of the noted Fairview herd of pure-bred Holsteins, owned by E. C. Chambers, of Hatchley, held at the farm on Tuesday of last week, was one of the most successful Holstein sales held this season. Buyers were present from all over Western Ontario and secured cattle that were bred in the purple and that have proven their worth as producers. W. C. Houck, of Llenroc Farm, Chippawa, Ont., paid \$410 for a six-year-old, Forest Ridge Segis Bessie, a granddaughter of the great King Segis, with a 25.06-lb. butter record made in her four-year-old form. Her heifer calf a few days old brought \$135. John Brown, of Harley, went to the \$300 mark on the 22.16-lb. four-year-old cow, Fairview Faforit Leigh. A general average of the 16 mature cows was \$221.56. Five two-year-old heifers averaged \$116, and 7 heifers, one year and under, averaged over \$108. Three young calves averaged \$120.33. The 31 head brought a total of \$5,200, or an average of \$168. The following is a list of the animals sold for \$100 and over, together with the names and addresses of the purchasers:

Forest Ridge Segis Bessie, W. C. Houck, Chippawa	\$410
Heifer Calf, A. W. Cook, Brantford	135
Bessie Colantha, C. G. Gurney, Paris	235
Millie Leigh Posch, W. C. Houck	285
Fairview Faforit Leigh, J. Brown, Harley	300
Bull Calf, W. H. Simmons, New Durham	100
Fairview Leigh, N. Clement, Vanessa	135
Fairview Segis Queen, E. Carabbe, Scotland	110
Millie Leigh Deboer, G. E. Brown, Dundas	100
Fairview Segis Leigh, G. E. Brown	160
Fairview Lady, L. Kelly, Scotland	130
Fairview Spotted Dolly, S. Caldwell, Scotland	110
Maggie Mercena Abbecker, C. Dale, St. George	225
Spotted Fairview Maggie, W. J. Woodley, Copetown	205
Lady Oxford, J. H. Taylor & Sons, Scotland	200
Lady Oxford 2nd, H. Lister, Burford	110
Fairview Segis Oxford, J. H. Shellington, Hatchley	105
Lillian Grant De Kol, C. G. Gurney	215
Olive Posch, E. J. Young, Hannon	185
Queen Leda Korndyke, C. Howey, Vanessa	175
Bessie Deboer, D. McCarty, Dundas	175
Fairview Sarcastic Netherland, H. J. Hodge, Hatchley	130
Princess Pontiac Lyn, J. Readely, Harley	220
Blanche Akkrum Pontiac, H. J. Hodge	185
Fairview Segis Blanche, E. Carabbe	100
Pontiac Malta Lass, H. Lester	200
Fairmead De Kol Pontiac, E. J. Young	195
Fairview Segis Ione, H. Truax, Burford	110

Dairy Conference at Guelph.

A dairy conference is to be held in the Ontario Agricultural College, Guelph, on April 4 and 5. The objects as outlined by Prof. Dean are, to have a general discussion relating to dairy matters, to plan for more effective work and greater food production during the season, and to discuss the advisability of forming a Provincial organization, which will represent each and every part of dairying. It is desired that each of the present dairy associations and organizations will send delegates to represent them in forming a Province-wide association. A very interesting program has been prepared. On the afternoon of April 4, E. H. Stonehouse, President of the Ontario Milk and Cream Producers' Association; Manning W. Doherty, Secretary of the Ontario Milk and Cream Producers' Association; John Bingham, Manager, Ottawa City Dairy Co., and G. A. Putnam, Director Dairy Instruction, Toronto, will address the meeting, and it is expected that general discussion will take place. In the evening, Dr. Hastings, Medical Health Officer of Toronto, will discuss the milk problem in towns and cities. Dr. G. L. McKay, of Chicago, will give an address on the oleo problem in Canada and the United States. It is expected that the Hon. T. A. Cramer, Minister of Agriculture for Canada, will be present. On the morning of April 5, the program deals with cheese and butter manufacturers' problems. F. Boyes, of Dorchester; Frank Hens, Chief Dairy Instructor of Western Ontario; G. G. Pablow, Dairy Instructor of Eastern Ontario; M. Robertson, Belleville, President of the Canadian Cheese Association; J. A. McFeeters, Toronto, and Dr. McKay, Chicago, will address the meeting. Ice cream and condensed and powdered milk problems will be discussed on the afternoon of April 5. A representative of the Borden Condensed Milk Company, and of the Canadian Milk Products Company, are expected to be present, as well as representatives of the ice cream trade. This should be a very interesting conference and should be largely attended by all interested in the various phases of dairying.

HORTICULTURE.

Women Should Try Seed Production.

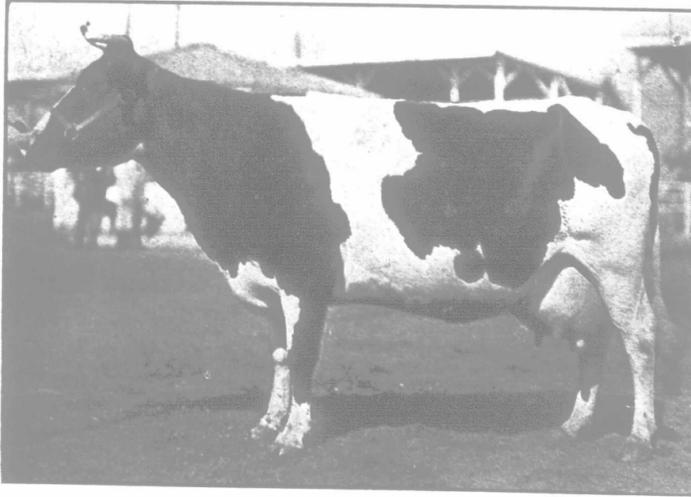
EDITOR "THE FARMER'S ADVOCATE":

In writing this article I have every regard for the already over-taxed women on the farms, who are being spurred on by every kind of appeal to aid in the production of various foodstuffs; and since women have been advised to feed pigs and do almost every other kind of work on the farm, I presume they, too, have a right to express their opinion along such lines.

The weekly farm papers have frequently suggested to us the urgent necessity of producing our own field root and vegetable seed. My object in writing this article is to bring to the attention of the women that just here, is a splendid chance for them to relieve the gravity of the seed situation with very little extra labor while they are engaged in planting their garden seeds in the spring. "I know whereof I speak", for I have grown our own seeds for the past two years, and I am only a very commonplace individual—with no talent for doing great things—but at least I try to "do my bit" in a quiet way, and have demonstrated to my own satisfaction that there is no real reason why Ontario should not produce her own seeds. My actual experience has been that Canadian-grown seed is just as good as, if not better than, European seed, and considering it from an economical standpoint, if we buy our seed from Europe, we have the seed and they have our money, but if we grow our own seed, we have the seed and the money too.

There is the question of labor, of course, and probably it is the greatest of all the difficulties but just here, is where I think the women of Ontario could develop this industry to such extent at least as to produce sufficient for their own use. There is in Ottawa at the present time a women's organization which has undertaken the cultivation of more than six acres, in vacant lots and odd corners here and there. Much of the work is done by women in government offices, who actually get out at 5 o'clock every spring morning and put in two hours work before breakfast. The back-yard gardening movement is a great thing and there is enough of it going on in Canada to put every little Italian green-grocer in the poor house. Let there be more Judy O'gradys, and Mrs. Wiggs of the Cabbage Patch. Seed will be scarce in 1918. It will be scarcer still in 1919. Make sure of a supply by growing your own.

The seed catalogues this year are certainly worthy of study. The writer has before her one from Western New York which lists seeds cheaper than any Canadian catalogue yet received; also one from an old established firm in Toronto, which is fairly reasonable, and one from Western Ontario which is all the way from ten to fifty per cent. higher than the Toronto house. If one house can sell reasonably I wonder why all cannot. These are all guaranteed seeds, as far as one can expect. We expect to pay more for seeds this year like everything else. But why this boosting of price on the part of



Ludago Idoline Veeman.

First in aged class at Toronto, 1917. Exhibited by A. E. Hulet, Norwich, Ont.

some? If seeds can be obtained in the United States cheaper than in Canada our Government should relieve the situation by taking off the duty, at least, during the war. But I have drifted from the most vital point—viz—to tell the women how they can grow their own seeds. The ordinary garden soil or that in the vacant lot will usually be found satisfactory in growing vegetable seeds, and while soil that is fertile and in good condition will give the best results, no special kind of soil or manure is necessary. Select two or three of the best shaped vegetable or roots. In the spring when making garden they should be planted out early in soil that has been well worked up. Plant them about the same depth as they were when pulled in the fall, only farther apart to allow for the seed stalks to be thrown up. After the surface soil has been set out in the garden keep the top of the conditions as favorable as possible for strong growth. If there is danger of the plants being broken

a wooden stake should be driven down near each. I can assure any women who try it, that they will find the experiment both pleasant and profitable. I had from two mangels last year about seven quarts of seed or enough to plant two acres. Most of the seed will ripen at the same time. When the seeds begin to turn brown and before they are quite ripe cut the plant and tie up for a few days to dry thoroughly, then with a light stick, thresh off the seed and blow clean, and keep dry until spring. Just one more suggestion—do not plant your roots for seed close together as they will cross with those of another sort. This cross-pollination is done by insects when they are in blossom. I hope I have made this sufficiently plain.

Norfolk Co., Ont.

A FARMER'S WIFE.

Using Bordeaux as a Fungicide.

EDITOR "THE FARMER'S ADVOCATE":

The last two seasons in the Province of Quebec have been very favorable to the growth of fungus, particularly the season of 1917, and even though my orchard was thoroughly sprayed four times with lime-sulphur, there was quite a percentage of spotted fruit. This year I intend to apply the dormant spray with lime-sulphur as usual, and the other sprays of Bordeaux mixture, and desire to get information on the following questions: In spraying apple trees with the Bordeaux mixture, of the 4-4-40 formula it is necessary to use good lime in order that the copper sulphate will not burn the fruit and foliage. Now if one is in doubt as to the quality of the lime and wished to keep on the safe side, what would be the result, if say 4½ or 5 or even 6 pounds of lime were used instead of 4 pounds? Would the use of more lime tend to make the solution more difficult to apply?, also would it take the solution a longer time to be effective after being applied, than it would if only four pounds were used? Would the use of more than 4 lbs. of lime reduce the fungicidal value of the copper sulphate?

In applying the codling moth spray, if only 3 lbs. of blue stone were used instead of 4 lbs. would russetting be less liable to occur, also would this strength be sufficient to be effective as a fungicide?

In spraying potatoes with Bordeaux mixture, to combat the potato blight, would 6 lbs. of copper sulphate give better results than 4 lbs.? If it is advisable to use 6 lbs. of copper sulphate, how much lime should one use?

M. E. H.

Ans.—The first question in regard to the proportion of lime and bluestone is well answered in Bulletin 195, of the Ontario Department of Agriculture. It says: "The first thing to do in the manufacture of the Bordeaux mixture is to decide on some recommended formula. The formula which has long been advocated in Ontario is known as the 4-4-40 formula. It is as follows:

CuSO ₄ (crystallized copper sulphate)	4 pounds
CaO (quick lime)	4 "
Water	40 gallons

With good lime it only needs about one pound to act on all the copper; the excess given, three pounds, covers all danger which might arise from the use of a poor article. A large excess of lime is a disadvantage—it causes the Bordeaux mixture to exert a low fungicidal action, it is apt to cause the machinery to clog and to cause an uneven application, and the particles of lime offering more resistance to rain, will cause the mixture to be more rapidly washed from the trees. It may be an advantage, however, in a very wet season, by causing the Bordeaux to retain its efficiency longer and by allowing less injury to be done to foliage. Orchardists are inclined to use a less proportion of lime.

In regard to the codling moth spray, it is a question whether Bordeaux mixture should be used, for it is at this time that russetting is caused. Prof. Caesar, the Provincial Entomologist in Ontario, recommends lime-sulphur, particularly for the codling moth spray. Bordeaux mixture for the codling moth spray is often reduced to the 3-3-40 formula. The strength seems to be sufficient in a normal year and less russetting results, but there is always some.

In regard to the quality of lime and the proper proportions to use, there are three tests which indicate the success of the mixture. They are:

1. Take some of the clear solution which is left on top when the sediment settles and place in a white saucer. Add a few drops of a solution of potassium ferrocyanide to it. If a reddish-brown precipitate or coloration appears, more lime is needed.
2. Take a portion of the clear fluid as before, and blow the breath gently over the surface. If a thin, white pellicle or covering forms over the top, enough lime has been added.
3. Take a bright piece of steel, such as a knife blade, and hold it in the mixture for a minute or more. If it becomes coated with copper, more lime is required.

A surplus of lime in Bordeaux mixture is an advantage as a marker, but the mixture must be thoroughly strained when going into the tank or trouble will ensue.

In Nova Scotia a mixture known as "The Thomson-Buchanan Bordeaux" is meeting with approval. This is made of two pounds bluestone and ten pounds hydrated lime to forty gallons of water. Hydrated lime, it should be remembered, is not the ordinary quick lime. Conditions differ in different provinces, but this mixture is worth a trial.

Potato growers have often increased the amount of bluestone and have usually put in an equal quantity of lime with a couple of pounds in addition. It is better usually with potatoes to have one or two more pounds of lime than bluestone, and when Paris green is used two more pounds, at least, of lime should be used to

counteract the blight more effectively the price of blight frequently w

Much trouble bed growing up from the base, and crowds of ing to grow. water to the idea of killing danger of over the subsequent avoided better have a good over at least under the fra the spores m turbed and e make a fresh as getting ric of which are dispute the p grow.

It is time the birds sho month. On

Many cor ber of chicks them that t layer than or age farm wh sorted to, the of April, and first of May. if well fed a commence la To have chic considerable on the farm zero weather pullets do no do not go bro hatched chic many eggs b lay a reason the most pro have difficult the weather i it is more in high, but hov place it is ess pears to be l all the best breeding, the spring. The from pullets l are exception pullets give and February are hatched t manner that growth is on recover. The vide the lat proper ration handling of e be overcome to make prep Taking it the requirem from the tim under the he cold, eggs ou in order to a kept at a un 60 degrees ha to have the e been held tw percentage ha in some dry tion of moist regularly to a side of the e from the hen to develop i The hands sh eggs. Some sary, but if b cannot be tal The natu the majority is that she do out in time t

counteract the burning tendencies of this poison. Six pounds of bluestone to 40 gallons of water would be a more effective fungicide than 4 pounds, but considering the price of bluestone it might be cheaper to spray more frequently with a weaker mixture.

Fungi in Hot Beds.

Much trouble is sometimes experienced in the hot-bed growing season, through a crop of toadstools starting up from the horse manure, which forms the heating base, and crossing through the layer of earth, uproots and crowds out of existence the little plants just starting to grow. Some have recommended applying boiling water to the manure before the soil is laid on, with the idea of killing the spores of the fungus, but there is danger of over-soaking the mass with water and checking the subsequent heating process. The trouble may be avoided better, probably, by allowing the manure to have a good preliminary heating in the pile and forking over at least once before arranging it in the final position under the frame which carries the sash. In this way the spores may have time to start and then being disturbed and exposed to the air will not be so likely to make a fresh drive. It is something on the same principle as getting rid of the first growth of weedlets, the seeds of which are in the hot bed, ready to spring up and dispute the place of the plants the gardener wants to grow. T.

POULTRY.

The Breeding Pens.

It is time that the breeding pens were mated, in fact the birds should have been selected by the first of the month. On many farms the male birds run with the

main flock all winter and practically no selection of eggs for hatching purposes is made. In some cases the results may be satisfactory from this method, but as a rule a better quality of chicks will be hatched and raised if ten or a dozen of the best females are selected and mated with a strong, vigorous male bird. This number of hens should furnish sufficient eggs for hatching on the average farm; if not, select two or three pens. In all flocks some birds are better than others and the best are none too good from which to increase the flock. Then, too, mating of one or two pens usually gives a higher percentage fertility than if double the number of male birds were permitted to run with the entire flock. Instead of feeding four or five cockerels the winter through, one or two good ones are all that are necessary.

Care should be exercised in choosing the hens for the breeding pen. Many poultrymen prefer to use yearling hens; there are reasons. The pullets are usually heavier winter layers than the yearling hens and at the same time they are completing their development; consequently, it is doubtful if their eggs will give as strong chicks as will the eggs from yearling hens. The latter usually go off duty about the first of November and take a rest until late in January or February. During these three months the yearling hen has a chance to recuperate and it is but reasonable to expect that, other things being equal, her eggs would be preferable for breeding purposes. It is customary to mate a cockerel with a yearling hen. Any birds that are anaemic or of poor type, or that lay deformed or very small eggs, should not be placed in the breeding pen if improvement in the flock is looked for. It is not advisable to use a bird that has been sick at any time. When trap-nests are not used, it is somewhat of a problem to pick the best birds from which to save eggs for hatching. A poultryman wants good type and heavy egg production. It should be remembered that it is not always the finest looking bird that is the best layer. The bird with the best plumage, whitest ear lobes and brightest shanks is not always the heaviest producer when eggs are at the top price. Lewis N. Clark, of Port Hope, claims that the heavy winter layers of the white-ear-lobed

breeds can fairly accurately be distinguished by the appearance of the lobes. His theory is that the color of the lobes decreases with egg production, and also that a bird will not be as heavy in weight in February, if she has been a heavy layer, as one that has produced but a few eggs up to that time. With the heavier breeds, having red ear lobes and yellow shanks, the shanks give an indication of the work the bird has been doing. A heavy layer will usually have a paler colored shank than the bird that has been taking care of herself. The theory is that the color pigment is laid out of the shanks as well as out of the ear lobes. When looking over Mr. Clark's flock a year ago, we noted the appearance of some of the birds that had made a high record during the winter, according to the trap-nest cards, and almost without exception it was found that the best layers were not as heavy in weight, nor of as pleasing an appearance, as the birds that had only laid a few eggs.

In order to get the pullets hatched early so that they will be fairly well developed by the first of October, it is time to begin thinking about a supply of eggs for hatching purposes; thus the necessity of getting the pens mated up at as early a date as possible. The birds should be mated about two weeks before there will be any reasonable assurance of a high percentage fertility. If possible, all the pullets to be kept next winter should be hatched in April or early in May; the earlier in the month the better. It is very often difficult to get broody hens so that the chicks will be hatched out in good time. This is where the advantage of an incubator comes in. It can be set at any time. If you have an incubator it would be advisable to get the first eggs started about the 20th of March. This would give time for a second hatch. The supply of eggs is the first consideration. They should not be allowed to get chilled, and should be kept in a place where the temperature is moderate and fairly steady. Some recommend standing the eggs on end and turning them every day until they are placed under the hen or in an incubator. Too many have failed to pay sufficient attention to the quality of eggs set, and as a result they are not getting as good returns from their flocks as they would like.

Hatching Chicks by Natural and Artificial Methods.

Many commercial poultrymen already have a number of chicks in their brooders. Experience has taught them that the early-hatched pullet is a better winter layer than one hatched the last of May. On the average farm where the natural method of incubation is resorted to, the hens seldom go broody until after the first of April, and this throws the first hatch to well on to the first of May. Late April and early May chicks should, if well fed and cared for, be sufficiently developed to commence laying before extremely cold weather sets in. To have chicks hatched before the spring opens causes considerable trouble, as there are not the conveniences on the farm for looking after newly-hatched chicks in zero weather. It too often happens that late-hatched pullets do not commence to lay until March, and then do not go broody until on in May. This results in late-hatched chicks, and the next winter passes without many eggs being gathered. As a rule, the birds which lay a reasonable number of eggs during the winter are the most profitable, but many poultrymen appear to have difficulty in persuading their birds to produce when the weather is cold. With the present high price of feed, it is more imperative than ever that the egg yield be high, but how is this to be accomplished? In the first place it is essential to have a laying strain. There appears to be laying and non-laying strains in practically all the best known breeds. After securing the desired breeding, the pullets should be hatched early in the spring. There isn't much use trying to get winter eggs from pullets hatched late in May or June, although there are exceptions to all rules. We have seen June-hatched pullets give a good account of themselves in January and February, but such cases are rare. Once the chicks are hatched they should be fed and cared for in such a manner that there will be steady development. If growth is once arrested it takes the bird a long time to recover. Then, when fall arrives it is necessary to provide the laying stock with satisfactory quarters and a proper ration. The effects of a poor strain or careless handling of eggs for hatching, or of the chicks, cannot be overcome by feed and housing. Spring is the time to make preparations for next winter's egg supply.

Taking it for granted that the strain of fowl meets the requirements, special care must be taken of the eggs from the time they are gathered until they are placed under the hen or in the incubator. If the weather is cold, eggs ought to be gathered two or three times a day in order to avoid chilling in the nest. They should be kept at a uniform, moderate temperature, and around 60 degrees has been recommended. While it is advisable to have the eggs as fresh as possible when set, they have been held two or three weeks and then have given a fair percentage hatch. In such cases they should be packed in some dry material so as to prevent undue evaporation of moisture from the egg, and should also be turned regularly to avoid the danger of the germ settling to one side of the egg. Only clean eggs should be set. Dirt from the hens' feet or from the nest tends to cause molds to develop in the egg, which render it unfit for hatching. The hands should be free from oil or grease when handling eggs. Some may consider such precautions as unnecessary, but if best results are to be obtained too much care cannot be taken.

The natural method of incubation is resorted to on the majority of farms. The main trouble with the hen is that she does not go broody early enough to get chicks out in time to have them fairly mature by fall. Then,

too, lice which are fatal to chicks are oftentimes transferred from the old hen to the tiny chick. These troubles are overcome when the wooden hen is used. However, it is not always easy sailing with the artificial method of incubation. Some claim that the constitutional vigor of the birds is very often impaired by the artificial means of hatching and rearing the chicks. Be this as it may, we know that excellent flocks are replenished each year by pullets hatched in an incubator and reared under a hover, with the heat supplied by a coal-oil lamp or coal stove rather than by the body heat of the live hen. One poultryman writing in these columns finds very satisfactory results from putting the eggs under a hen for the first ten or twelve days, then candling them and putting them into an incubator to complete the incubation. In this way the hen has charge of the eggs during the most critical time in the period of incubation. By having the chicks hatch in the incubator the loss by trampling is avoided, and there is no danger of the chicks becoming infested with lice so long as they are kept away from other fowl. When the eggs are put in the incubator at the eleventh or twelfth day, a new lot is put under the hen so that by the time the hatch

a couple of inches of chaff or straw on top, makes a very good place for the eggs. If the hen is moved to her new nest after dark there should be little difficulty in having her take kindly to the new quarters. However, we would not risk putting good eggs under her the first night, but would prefer to use two or three nest eggs, and if she were sitting quietly the next day we would put the eggs for hatching under her. Feed and water and a dust bath should be convenient to the hen. Many fail to dust the birds with insect powder and as a result they become badly infested with lice, which makes them restless on the nest, and affects the young chicks when they are hatched. It is advisable to use insect powder or louse killer when the hens are set, and again a few days before the hatch comes off. Where possible two or three hens should be set at one time and the chicks may be put under a couple of hens, and thus save on labor in attending to them.

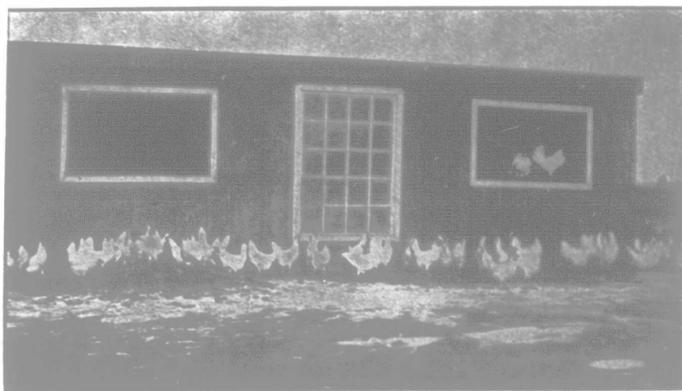
Hatching Chicks With Incubators.

It is generally considered advisable to thoroughly wash the interior of the incubator with a disinfecting solution as creolin, zenoleum, etc., before putting in the eggs. This destroys any disease organisms which might be lurking in the machine. It is important that the thermometers used in the incubator be reliable, as a variation of a few degrees may destroy the entire hatch. The lamp of the machine should be lit two or three days before the eggs are put in so that the temperature may be properly regulated.

The incubator if properly attended to gives good results, but it must be attended to regularly and care taken that the temperature is kept at around 103 degrees. M. A. Jull, of Macdonald College, Quebec, gives some valuable information on the hatching of chicks in incubators in the following paragraphs:

The usual advance in the price of eggs, particularly fresh eggs, during the fall of the year, is due largely to natural causes. The moulting of the yearling stock shuts out this source of production, leaving pullets practically as the only source of fresh eggs at this time. The greatest hope of increasing the fresh-egg supply in the fall lies in the proper handling of the pullets during the growing season. The pullets must be hatched early.

Pullets must be fully matured before beginning to lay, and to ensure this they must be hatched early enough and they must be well cared for during the growing season. For most parts of Canada the month of April is the best time to hatch. This gives the pullets about six months to grow before the first of November, when they should commence laying. Late-hatched and poorly-developed pullets in the fall of the year means a scarcity of fresh eggs, and this is just where most farmers



Selected Breeding Stock.

comes off the incubator can be again filled with eggs that are partly incubated.

Hatching by the Natural Method.

It is advisable when hatching chicks by the natural method to have the hen placed where she is not likely to be disturbed by the other birds. Good results cannot be expected if other hens are laying in the same nest where the hen is sitting. A hen that goes broody in the hen-house can be removed to a new nest in some quiet part of the stable. This nest could be made of a box about twelve inches square and six or seven inches deep. If the nest is too deep there is danger of the eggs becoming broken when the hen jumps into it. The corners of the nest should be filled so that the eggs are prevented from rolling from under the hen and becoming chilled. Having an over-turned sod in the bottom of the nest and

fail as successful poultry keepers. Egg production in the winter months is most profitable, so that every farmer should endeavor to secure the most eggs when prices are high.

When one hundred or more chicks are to be hatched, the use of the incubator may prove a distinct advantage. The management of the incubator often entails less work than looking after a number of sitting hens, the work is more convenient and sanitary, and the incubator is one means of checking the spread of poultry lice.

To ensure successful hatching good eggs are necessary, and they should come from healthy and vigorous breeding stock. The eggs should be of good size and uniform—the standard weight is two ounces for each egg. Make sure the eggs are good in fertility. Start with the very best eggs for hatching that you can produce and your battle is half won.

The important problem in the operation of the incubator is to maintain a temperature of 103 degrees F., with other conditions to which an egg is subjected when incubated under a hen.

Although many of the incubators on the market today are, practically speaking, duplications of standard makes, there are good and poor machines. It pays to buy a well-made, double-cased machine, and it is usually a poor investment to purchase a cheap incubator. The highest grade machines give best satisfaction in the long run.

It is generally advisable for the beginner to follow the directions furnished with the incubator. These instructions may not be exactly adapted to every locality, but until experience is gained they afford the best means of obtaining good results. When knowledge is gained concerning the effect of local conditions in the operation of the incubator the method should be adapted to suit those conditions.

The incubator should be located in a well-ventilated cellar or room, and one which is free from drafts. All incubators, and particularly new ones, should be started a few days before filling with eggs. An even temperature of 103 degrees F. must be maintained on a level with the tops of the eggs, and to do this the heat regulator must be properly adjusted before incubation begins.

The lamp is filled once a day, and this is best done in the morning after the eggs have been turned. Do not handle eggs when the hands are smeared with coal oil. The flame should always be smooth with well-rounded corners. Remove the charred portion of the wick with the fingers, and be very sure that the ends of the flame do not flare up, as this often causes smoking and consequently an uneven temperature.

Turning the eggs usually begins on the third day and is continued until about the eighteenth day. The eggs are shuffled much the same as the hen shuffles the eggs in her nest. It is found that turning twice a day is sufficient.

Moisture should always be supplied by having a pan, nearly as large as the egg chamber, beneath the egg tray, filled to a depth of about one inch with water or with sand and water.

Testing is usually done on the seventh day, and on the fifteenth day, the first test to remove infertile eggs and the second test to remove dead germs. As the chicks hatch keep them up on the tray. The temperature should be lowered gradually, and when about twenty-four hours old the ounce and one-half balls of fluff can be removed to the brooder.

In some districts poultrymen who have an incubator do custom hatching, and usually are able to keep their machines going steadily from early in March until the last of May. This system is an advantage to the man who gets the first or second hatch. He has early-hatched pullets without the trouble of looking after a machine or broody hens.

The day-old chick business is rapidly increasing. Poultrymen with large flocks of high-quality birds are able to keep large incubators going all spring, supplying their customers. The price per chick varies according to the records the flock has made. Special cardboard boxes are on the market for shipping day-old chicks, and deliveries are made to places requiring thirty to forty-eight hours in transit, and the birds arrive in good form and ready for their first meal. The price may on first sight look high, but if analyzed it will be found that it is not exorbitant, when price of eggs, expense of incubation, risk from infertile eggs, dead germs, etc., are taken into consideration.

Young chicks are frequently killed with kindness. We realize how hard it is to withhold breadcrumbs and other feeds from the chirping balls of fluff, but in the end better results will be secured if solid feed is not given until the chick is at least forty-eight hours old. Up to this time a little milk or water is permissible. Infertile eggs from incubators, boiled hard and mixed with breadcrumbs, constitute the best diet for the first feeds. When the fifth or sixth day is reached small grain may be added. Chick grit is essential from the start.

Under present abnormal conditions there is greater need than ever to handle the flock so as to have eggs which will give strong, vigorous chicks and to have the chicks hatched early. In the majority of instances it is the early-hatched pullets that produce the eggs when the market is at its best. If once started with April-hatched pullets the advantages over the late May or June hatches will be appreciated. Too many of the farm flocks are boarders the greater part of the year. Grain and labor is too high priced to tolerate inefficient birds. Eggs from a few choice birds of a good strain are more satisfactory for breeding purposes than promiscuously taking the eggs from the entire flock. Do a little selecting this spring. If properly cared for and handled, poultry does pay.

FARM BULLETIN.

The Quaker's Sale of Holsteins.

There was a large crowd in attendance at G. F. Mahon's sale of Holstein cattle, at Woodstock, on March 6, and bidding was brisk throughout. The entire offering was of excellent breeding and the animals were brought out in good condition. In starting up his herd Mr. Mahon had secured splendid foundation cows and used bulls that were of the best breeding, consequently some excellent records have been made in the herd. The herd sire, Colanthus Posch Abbekerk went under the hammer at \$275, to Wm. Jones, of Mt. Elgin. Roxie Fayne, a five-year-old that made close to 20 lbs. butter as a three-year-old, and a cow which promises to reach the 30-lb. record, was the highest priced animal of the sale. She was purchased by E. W. Nesbitt, of Woodstock, for \$410. Mr. Nesbitt also secured her heifer calf at \$120. The average price for the 49 head sold, including calves heifers and mature animals, was \$180.10. Mature females averaged \$247.35. Following is a list of the animals sold for \$100 or over, together with the names and addresses of the purchasers.

Colanthus Posch Abbekerk, Wm. Jones, Mt. Elgin	\$275
Shadelawn Cynthia Canary, A. C. Taylor, Glanworth	385
Quaker's Canary, Jas. Jackson, Woodstock	100
Maud Beets Segis, E. D. Lock	290
Quaker's Maud Segis, Fred Mills, Beaumaris	180
Mercena Schuiling 5th, Fred Mills	300
Quaker's Mercena Schuiling, G. A. Little, Maidstone	155
Quaker's Sir Segis Schuiling, A.P. Davey, Woodstock	170
Bella A Posch, Fred Mills	300
The Quakeress, Robt. Monroe, Woodstock	380
Quaker's Sir Segis Posch, Fred Mills	165
Count Colantha Segis, W. W. Day, Thamesford	112.50
Roxie Fayne, E. W. Nesbitt, Woodstock	410
Heifer Calf, E. W. Nesbitt	120
Quaker's Grace Fayne, A. W. Clendening, Woodstock	185
Viola Wayne, Fred Mills	225
Colantha Mercedes Tehee, Fred Mills	290
Quaker's Colantha Baroness, Wm. Monroe, Merriton	110
King Colantha Segis Tehee, Nelson Granger, Woodstock	102.50
Primrose Mercedes, F. W. Garner, Embro	300
Quaker's Primrose Cornucopia, Jas. Murray, Embro	180
Quaker's Segis Cornucopia, G. A. Little	135
Tensen Butter Baroness, Fred Mills	245
Quaker's Butter Baroness, W. Monroe	110
Queen Annie Ormsby, Fred Mills	290
Lady Rachel Clothilde, Fred Beakley, Dundas	195
Lady De Kol Mercena, Appleby School, Oakville	195
Quaker's Posch Pauline, D. S. McIntosh, Maplewood	102.50
Quaker's Ormsby De Kol, Nelson Granger	155
Lady Red Feather, Jas. Murray	100
Brook Princess Faforit, F. W. Garner	290
Quaker's Brook Princess De Kol, Jas. Murray	230
Quaker's Brook Faforit, G. A. Little	155
Quaker's Brook Aaggie De Kol, G. A. Little	100
Geraldine Posch, E. Melville, Princeton	210
Princess Red Feather, E. Melville	160
Baroness Red Feather, Fred Mills	205
Quaker's Segis White Feather, Fred Mills	150
Quaker's Beets Posch, Fred Mills	165
Quaker's Geraldine Segis, Wm. Monroe	102.50
Gaza Pearl De Kol, Fred Mills	310

Ontario Threshermen Hold Important Convention.

The Ontario Brotherhood of Threshermen held their fourth annual convention in London, on March 6, 7 and 8, and there discussed matters of considerable importance to themselves and to agriculture in general. The large number of delegates present appreciated the great need of grain at this time, and pledged themselves to do all in their power to increase production, and with their equipment, prepare it for milling and consumption in the most expeditious way possible.

For several years threshermen of Ontario have been obliged by statute to carry planks for use when crossing bridges. This has been considered a nuisance and the Government was asked to consider a repeal of this section of the Traction Engines Act. Mr. Hogarth, of the Highways Department, Toronto, told the convention that the matter was under consideration. He furthermore pointed out that the courts of the country had placed such a construction on that section of the Act that the driver or owner of a traction engine was held to be illegally on the highway when planks were not used on bridges, and in case of accident where planks were not used, could not recover damages from the municipality. On this account the Act was being amended. The Load of Vehicles Act excited considerable comment of a heated character. The Act forbids the use of ribs, flanges, spikes, lugs, etc., on traction engine wheels on the public highway, and the delegates declared that they could not move their equipment with smooth wheels. While the law has not chastised every offender of the Act, threshermen were made "out-laws" under this statute the moment they went on the roads. A committee of the convention accompanied

Mr. Hogarth to the plant of a local manufacturer, and there a cleat was chosen satisfactory to the threshermen. This matter will be presented to the Government by the Legislative Committee of the Association.

Another important matter before the Association was that of threshing gangs. Dr. W. A. Riddell, Superintendent of the Trades and Labor Branch, made some remarks in regard to the labor situation and asked for an expression of opinion concerning the advisability of adopting gang-threshing. Dr. Riddell was of the opinion that labor could be provided for at least 500 gangs. The threshermen themselves did not appear to be overly optimistic but were willing to do what they could where conditions were suitable for gang threshing. One obstacle which presented itself was small jobs. It was thought in such a case that a large number of men with each equipment would lose considerable time in moving. The system would also require more capital, as the men would have to be paid every Saturday night. Many of the threshermen said that they had trouble in making collections and that they could not finance the gang if the farmers did not pay promptly. The point was also raised as to whether the gang system would bring the thresher under the Compensation Act. It was decided which this matter could be satisfactorily adjusted. The caboose was suggested as sleeping quarters for the men, but the farmers would be obliged to feed them. It was mentioned that in some places men carry blankets with them and sleep in the barns, but this did not meet with favorable reception. It was thought that farmers would object strenuously to strangers sleeping in the barn. Representatives of the Michigan Association who had threshed under this system spoke favorably of it. One delegate said he carried a gang last year and charged five cents per bushel for oats, six cents for wheat, and seven cents for rye. The opinion seemed to prevail that in many districts of Ontario the gang system of threshing could be worked to advantage, but where the jobs were small and moves frequent the old system would be more economical.

No very satisfactory means of meeting the advanced cost in labor and equipment except through higher charges were presented. J. Cushman, Chatham, said that for every thousand bushels of grain threshed there was a loss of ten bushels. This was due to three causes: first, threshers were not charging enough and were forced to crowd their machine beyond its capacity; second, they did not use judgment in threshing the different kinds of crops and did not take into consideration the condition of the grain; third, machines were not kept in proper working order.

The election of officers resulted in the following choice: President, S. Oaks, Strathroy, (re-elected); Vice-President, John McCrae, Kingsville, Secretary-Treasurer, Byrell Harris, Bear Line. Executive Committee: N. E. Leeder, Port Elgin; W. H. Talbot, Zurich; Solomon Burk, Blenheim. Legislative Committee: W. A. Begg, Tiverton; R. Bodkin, Croton; Wm. Elgie, Bear Line.

The Stevenson Dual-purpose Shorthorn Sale.

At the sale of dual-purpose Shorthorns held by Andrew Stevenson, Atwood, on February 20, a fair demand seemed to exist. The cattle selling for \$100 or over, and the purchasers' names and addresses are listed below.

Maplewood Beauty, Robert Brown, Cornwall	\$250
Maplewood Jessie 4th, John Corbett, Durham	215
Mabel, J. S. Cowan, Atwood	154
White Maid, John Stephen, Bornholm	187
Maplewood Jessie 5th, Alex. McDonald, Saskatchewan	155
Maplewood Peggy, Oliver Turnbull, Brussels	175
Maplewood Jessie 2nd, J. B. Hamilton, Atwood	191
Lewella 8th, Robt. McDonald, Brussels	180
Lewella 7th, Henry Ronnenberg, Monkton	140
Lewella 9th, E. Wasmann, Mitchell	222
Maplewood Jessie 3rd, Alex. McDonald	210
Gipsy, Robert Brown	245
Maplewood Jessie, John Quipp, Monkton	195
General, R. Dewar, Atwood	185
Maplewood Baron, H. Robb, Atwood	125
Elma Pride, F. Ritz, Monkton	125
Duke of Perth, Thos. Hearst, Atwood	175
Roan King, D. De Coursey, Mitchell	200
Maplewood General, Jas. Thompson, Henfryn	110

Seed Corn Controlled by Order-in-Council.

Provision is made by Order-in-Council that no person, firm or corporation shall until on or after July 1, 1918, remove or transport any flint or dent corn capable of being used for seed purposes from within the district comprising the counties touching or bordering on River St. Clair, Lake St. Clair, Detroit River, or Lake Erie, to any place outside of the said district. Flint or dent corn shall not be removed from the Counties of Lambton, Essex, Kent and Elgin until on or after July 1, without first having obtained a written permit from the District Representative of the Ontario Department of Agriculture. It is also stipulated that the merchants in Ontario and Quebec shall not ship until after April 15 any of the varieties of flint corn, or any of the following varieties of dent corn, namely, Wisconsin No. 7, White Cap Yellow Dent, Bailey and Golden Glow, except for delivery in any of the Ontario counties touching on River St. Clair, Lake St. Clair, River Detroit, or Lake Erie.

The Guelph Sale of Pure-breds.

The fourteenth annual auction sale of pure-bred live stock was held at Guelph, on Wednesday, March 6, under the auspices of the Guelph Fat Stock Club. A good attendance of buyers was on hand, and the offering was well distributed at fair prices. Bulls made up the greater part of the offering. The Claret-bred heifer, Roan Claret, contributed by John Currie, Rockwood, was taken by J. A. Watt at \$500, being the highest price paid at the sale. T. Robson, London, paid \$450 for White Prince, by Bapton Mandolin. This was the highest price paid for any male. Following is a list of the animals selling for \$100 or over, and the names of their purchasers:

Table with columns for animal names and prices. Includes sections for Bulls and Females. Bulls: White Prince, T. Robson, London \$450.00; Gay Clipper, J. Bryden, Milverton 440.00; Masterpiece, Jno. Barr, Blyth 265.00; Red Prince, Jno. Miller Jr., Ashburn 300.00; Baron Clipper, F. Laidlaw, Guelph 330.00; Prince Cecil, E. McDermott, Mt. Forest 180.00; Lind's Pride 2nd, F. H. Neil, Lucan 110.00; Maple Hill Beau, Fred Bosomworth, Elora 125.00; Summer Hill Prince, F. H. Neil 145.00; Snowball, H. Jackson, Guelph 155.00; Roan Baron, N. S. Hedfield, Milton 112.50; Viscout, F. H. Neil 160.00; Lancaster Boy, M. McCormick, Amaranth Sta. 300.00; Bandmaster 2nd, F. Smith, Guelph 102.50; Bandsman, A. F. Auld, Guelph 115.00; Sittytton Master, D. McCallum, Stratford 200.00; Royal Star, Thos. Beatin, Puslinch 155.00; Loyal Peer, R. T. Fyfe, Guelph 170.00; Earle of Flanders, E. A. Hales, Guelph 142.50; Royal Recruit, F. H. Neil 155.00; Roan Star, F. H. Neil 130.00; Victor Wyvis, A. McDonald, Alma 100.00; Viewbank Hope, S. J. Hammond, Millbank 207.00; Viewbank Matchless, N. Black, Guelph 220.00; Red Chief, D. Ferguson, Harrison 240.00; Victor Bruce, C. J. Stock, Woodstock 260.00; Royalist Diamond, D. D. Waldis, Acton 330.00; White Royalist, F. H. Neil 165.00; Guelph Royalist, J. H. Simpson, Saskatchewan 100.00; Transport, A. Wilson, Lakehurst 390.00; Lord Marquis, Jno. Wettlaufer, New Hamburg 180.00; Mina Prince, Jos. Thompson, Hillsburg 230.00; Red Gauntlet, F. H. Neil 205.00; Miltonia, J. A. Winer, Guelph 115.00; Lancaster Marquis, J. Lerch, Preston 230.00; Harry Beechwood, F. H. Neil 130.00; Belmont Marquis, W. Whitelaw, Guelph 210.00; Stamford Victor, R. Shortreed, Walton 140.00; Viewpoint, F. H. Neil 150.00; Gold Dust 2nd, J. H. Gilmore, Elora 205.00; Maplewood Prince, F. H. Neil 125.00; Prince Pride, C. R. Bond, Hespeler 155.00; Royal Sailor, Thos. Evans, Guelph 135.00. Females: Roan Claret, J. A. Watt, Elora 500.00; Flora Geraldine, H. Reading, Ariss 192.50; Beauty Jewel, Jos. Hastings, Guelph 140.00; Rosemary Groom, F. N. Beeforth, Waterdown 170.00; Avere Lass, Peter Stewart, Guelph 350.00; Minnie Ury, A. Wilson 200.00; Alexandra Mabel, H. Reading 230.00; May Clide, H. Reading 155.00.

The Rife Holstein Sale.

The postponed auction sale of pure-bred Holsteins, the property of Wm. A. Rife, of Hespeler, Ont., was held at the farm on Friday, March 8, and despite the handicap of postponement, the prices realized were equal in comparison with the best sales of the year. There were only five mature cows catalogued and they made an average of \$197. Six one and two-year-old heifers averaged \$149.58; 9 calves averaged \$81.33. The cattle were brought out in very good condition. The herd sire, Pontiac Segis Avondale, by King Pontiac Artis Canada, and three mature cows which were neither catalogued nor offered, were the only animals retained to form the foundation, of another herd. Following is a list of the animals selling for \$100 and over, together with the names and addresses of the purchasers.

Table with columns for animal names and prices. Includes: Vrouka 6th, Abberkerk De Kol, W. J. Woodley, Dundas \$165.00; Norine Wayne Mercedes, A. Panabaker, Hespeler 210.00; Norine Wayne Segis, W. Winer, Puslinch 135.00; Nellie Korndyke, H. E. Eby, Kitchener 230.00; Pontiac Segis Abberkerk, C. Henrichs, Galt 180.00; Pauline Ruby Bos, Neil McLean, Rockwood 120.00; Pontiac Pietertje Segis, D. N. Panabaker, Hespeler 122.50; Pussie Pontiac Segis, A. Panabaker 165.00; Clearview Roxy De Kol, Yates & Darnell, Guelph 160.00; Pontiac Norine Segis, Yates & Darnell 200.00; Vrouka Mechthilde, W. E. Stewart, Campbellville 170.00; Pontiac Segis Lorraine, D. N. Panabaker 160.00; Betty Wayne Korndyke, J. A. Staple, Kitchener 172.50.

The Old Broom Reliable.

EDITOR "THE FARMER'S ADVOCATE": I enclose you herein subscription due. Could not do without the old broom, because the new ones could not do the work so well. Russell Co., Ont. VIRGIL MCKENNA.

Wool Producers Preparing For Spring Drive.

At a Convention of District Representatives of Agriculture for the Province of Ontario during the last week of February, plans were made for a combined offensive within the Province by Federal and Provincial representatives of the Departments of Agriculture, The Ontario Sheep Breeders' Association and the newly organized Canadian Co-operative Wool Growers, Ltd. The objective of the offensive being more wool and better wool for co-operative sales within the Province during 1918. The Convention was addressed by Col. Robt. McEwen, President of the Canadian Co-operative Wool Growers Ltd.; James Douglas, President of the Ontario Sheep Breeders' Association; T. Reg. Arkell, Provisional Manager of the Canadian Co-operative Wool Growers Ltd.; and R. W. Wade, Secretary-Treasurer of the Ontario Sheep Breeders' Association. Plans of assembling the wool were laid before the District Representatives so that they might be in a position to submit same to sheep raisers within their districts and solicit the sale of their clip through the co-operative method.

The Ontario clip is to be again collected at Guelph where free warehouse space is available, and by which means still greater returns may be made to the wool growers. Collecting dates will be from June 1 to July 15, 1918. Parties desiring to market their wool either before or after these dates may do so by shipping same to the warehouse of the Canadian Co-operative Wool Growers Ltd., at 128 Simcoe St., Toronto, Ont., where it will be graded and sold for the highest market price.

Wool shipped to Guelph, Ont., for co-operative sale will be acknowledged immediately by mail, and within three or four days time a cheque will be mailed to the wool grower. This cheque will cover seventy-five per cent. of the appraised value of the wool, the remainder to be mailed immediately after the sale of the wool, so by this means every farmer should receive the greater percentage of the total value of his clip immediately after consigning his wool. All sheep raisers marketing their clip in the above fashion shall be requested to become members of the Ontario Sheep Breeders' Association of which the membership fee shall be 50 cents to owners of flocks, fifteen in number and under, and \$1 to owners of flocks sixteen in number and upwards. The fees mentioned to be utilized by the Association in the best interests of the sheep raisers of the Province.

President Col. McEwen explained the advantages which would accrue from the newly organized Association, The Canadian Co-operative Wool Growers Ltd., and urged the Representatives present to ask the sheep growers of Ontario to lend their support to the organization which in turn would support them. Wool is a national product and should be marketed in a national way by a national organization such as the Canadian Co-operative Wool Growers Ltd. He hoped that every wool grower in Ontario would consign his clip this year to R. W. Wade, Secretary of the Ontario Sheep Breeders' Association, Winter Fair Buildings, Guelph, for which Association like all other wool growers associations in Canada the Canadian Co-operative Wool Growers Ltd., will act as the selling agency. Much interest is being taken by the wool growers of Quebec in the new Canadian Co-operative Wool Growers Ltd. At present there are fourteen local associations which will collect wool and it is hoped to form ten more this spring. The wool will be centralized this year at Sherbrooke and Montreal and sold, if possible, from there. There exists in Quebec a General Produce Co-operative Society which has decided to assist the new Organization in collecting and storing the wool clip this year. The local associations are expect-

ing to subscribe for about \$23,000 of the stock of the Central Organization at Toronto.

Sheep raisers in the Maritime Provinces are lending all their support to the "Wool Growers Ltd." New collecting points and associations are being instituted and a vigorous campaign for the co-operative selling is being conducted by the Provincial Government officials. The amount of wool for co-operative sales will be increased about 50 per cent. this year.

Farmers Are Getting Anxious.

EDITOR "THE FARMER'S ADVOCATE": We are being told on every side that this war is to be won by food. Now, what is being done about it? Seeding time is only a few weeks distant. The farmer wants to make his plans for the summer. Many farmers have not yet procured their seed and they know that good seed is scarce. They may not be able to procure any later on. Yet they wait! They must be assured that some help besides women and school boys is going to be available this season. Some reliable farm labor must be in sight or the farmer is not going to purchase any extra high-priced seed to be wasted.

The volunteer system for farm labor will not work. It was tried last year. Did it succeed? We are supposed to have plenty of men in Quebec, yet we know that in the eastern townships hundreds of acres of grain were never harvested for want of farm help. This grain lies under the snow at present and many farmers have no seed. Also, many acres of potatoes and other roots are still in the ground, and the city people complain that the farmer is hoarding his potatoes to force the prices higher.

We have a "Win-the-War" Government, and we expect them to act. We observe that they do not consider it practicable to conscript labor for agriculture. Will some one explain why? Why not conscript labor from all classes and place everyone where they belong, that is where they can do most to win the war? Is it fair to take the ablest, the best man power of our country and send them to the perils of war and make no call on the rest of the community? Is it honorable to send our boys to France and then make no real attempt to see that they are fed?

We fear it is easier to talk than it is to spray the potatoes or hoe the beans. No doubt the city woman is going to help, as no more can be expected from the women on the farms. But this is a man's job, and if production is to be increased to any extent men must be found to work on the farms. Experienced farm labor is necessary if anything is to be accomplished, and what is done must be done quickly. The farmer and his family will do their best, but there is a limit to human strength. Will the city rally to the call? Now then, all together to help win the war.

Compton Co., Que. A FARMER'S WIFE.

Packers' Profits Limited.

An Order-in-Council has been passed regulating the profits of packing houses. Under the regulations which apply as from Jan. 1, 1918, packing houses whose gross annual turnover is over \$750,000 must not make more than 2 per cent. on their gross annual sales, or more than 11 per cent. on actual capital invested. A dividend not exceeding 7 per cent. goes free of taxation. Dividends between 7 and 15 per cent. pays half over to the Dominion Treasury, and dividends over 15 per cent. all go to the treasury. Provision is also made to deal with firms that increase capital stock. This may or may not be allowed in whole or in part, as the Minister of Finance may determine.



Canada's Leaders.

The Prime Minister of Canada with some members of the Dominion Government recently called in conference the Provincial Premiers. Front row left to right:—Hon. Thomas Johnston, Manitoba; Sir Lomer Gouin, Premier of Quebec; Hon. J. A. Calder, Chairman of the Conference and Minister of Immigration and Colonization; Sir Robert Borden, Prime Minister of Canada; Sir William Hearst, Premier of Ontario; Hon. H. C. Brewster, Premier of British Columbia; Hon. A. L. Sifton, Minister of Customs. Rear row left to right:—Hon. C. A. Dunning, Director of Food Production; Hon. C. A. Stewart, Premier of Alberta; Hon. W. A. Martin, Premier of Saskatchewan; Hon. A. E. Arsenault, Premier of Prince Edward Island; Hon. C. W. Robinson, ex-Premier of New Brunswick and Minister without portfolio; Hon. Murdoch Mackinnon, Provincial Secretary of Prince Edward Island; Hon. G. H. Murray, Premier of Nova Scotia; Hon. N. W. Rowell, President of the Privy Council; Hon. W. E. Foster, Premier of New Brunswick; Hon. George Bell, Minister of Telephones of Saskatchewan; J. D. McGregor, Director of Agricultural Labor; Hon. T. A. Crerar, Minister of Agriculture; Hon. J. E. Caron, Minister of Agriculture of Quebec; Hon. Thomas Crothers, Minister of Labor.

Toronto, Montreal, Buffalo, and Other Leading Markets

Week Ending March 7.

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 Mar. 7	Same Week 1917	Week Ending Feb. 28	Week Ending Mar. 7	Same Week 1917	Week Ending Feb. 28	Week Ending Mar. 7	Same Week 1917	Week Ending Feb. 28	Week Ending Mar. 7	Same Week 1917	Week Ending Feb. 28
Toronto (Union Stock Yards)	5,428	4,166	5,069	\$12.00	\$11.15	\$12.00	983	643	568	\$17.00	\$13.50	\$17.00
Montreal (Pt. St. Charles)	928	500	456	12.00	10.75	12.00	911	732	327	16.00	13.00	16.50
Montreal (East End)	516	713	616	12.00	10.75	12.00	762	705	285	16.00	13.00	16.50
Winnipeg	1,002	2,156	1,249	12.25	9.75	11.25	18	175	22	13.50	10.00	10.50
Calgary	1,338	920	1,041	11.75	8.75	11.50						

	HOGS						SHEEP					
	Receipts		Top Price Selects				Receipts		Top Price Good Lambs			
	Week Ending Mar. 7	Same Week 1917	Week Ending Feb. 28	Week Ending Mar. 7	Same Week 1917	Week Ending Feb. 28	Week Ending Mar. 7	Same Week 1917	Week Ending Feb. 28	Week Ending Mar. 7	Same Week 1917	Week Ending Feb. 28
Toronto (Union Stock Yards)	1,0794	9,202	8,635	\$19.75	\$16.00	\$19.75	511	628	424	\$19.50	\$15.25	\$19.00
Montreal (Pt. St. Charles)	1,609	1,218	1,121	20.50	15.85	20.25	77	56	40	17.00	14.50	17.50
Montreal (East End)	928	800	636	20.50	15.85	20.25	110	89	60	17.00	14.50	17.50
Winnipeg	4,199	6,833	5,763	19.25	14.90	19.50	15	17	4			
Calgary	1,810	3,646	3,374	18.25	14.15	19.25	498	298	74			

Market Comments.

Toronto (Union Stock Yards).
A liberal supply of stock was available during the week, over fifty-four hundred cattle being on sale, of which thirty-five hundred were on hand on the Monday market, nine hundred on both Tuesday and Wednesday and the balance on Thursday. The quality on the whole was only fair, many inferior cattle being offered. With few exceptions, prices barely held steady with those of last week. Good quality cattle weakened about 10 cents per hundred, while those of medium and common grading were off about 25 cents. On Monday trading was slow although most of the offerings were weighed up by the end of the day. Prices were steady on Tuesday and trade continued slow, but a little more activity was displayed on Wednesday and Thursday and everything was fairly well bought up at the close of the week. A few heavy steers were on sale; one choice steer of thirteen hundred pounds sold at \$13 per hundred, and a straight load of twelve hundred pounds average sold at \$12.60 per hundred. Further sales of heavy steers were made on Wednesday and Thursday from \$12 to \$12.50 per hundred, fourteen head being weighed up at this latter figure on Wednesday; the majority of the sales, however, were made from \$11.75 to \$12.50. Of the steers of one thousand to twelve hundred pounds offered, a number of loads sold at \$11.75 on Monday. Most of the best cattle in this class sold from \$11 to \$11.50, and medium from \$10.25 to \$10.75 during the week. Of the steers and heifers under one thousand pounds three steers weighing nine hundred and sixty pounds sold for \$12.25 on Tuesday, while a straight load sold on the same day at \$11.60. Outside of these instances, however, few cattle in this class reached \$11.50, practically all those of good quality selling from \$10.75 to \$11.25, and common and medium moving from \$9.75 to \$10.25. Cows were in slow demand in sympathy with the other classes. A few choice cows sold at \$10.75 with the bulk of those of choice quality from \$10 to \$10.50. Good cows sold from \$9 to \$9.75, medium from \$7.74 to \$8.75 and common from \$6.75 to \$7.50. Choice bulls were in fairly good demand while rough bulls were slow sellers at lower prices. The recent heavy slump in hide quotations is partially responsible for the weaker feeling in butcher cattle, particularly in the bull class. A few exceptional sales of bulls were made during the week, one extra choice animal weighing twenty-one hundred pounds selling at \$13.50 per hundred, a few others from \$11 to \$11.25, while most of the good quality bulls sold from \$10 to \$10.50, medium from \$9 to \$9.75 and common from \$7.75 to \$8.80 per hundred. A few loads of stockers and feeders went back to country points at steady prices. Good feeders sold from \$9.75 to \$10.50 per hundred, the best stockers from \$8.50 to \$9.25, and grass cows from \$7 to \$7.75, per hundred. Choice veals sold from \$16.50 to \$17, most of those of good quality from \$11 to \$16.50, and common calves from \$9 to \$12.

Lambs and sheep were steady and active, and receipts light. A few choice

CLASSIFICATION	No.	TORONTO (Union Stock Yards)				MONTREAL (Pt. St. Charles)			
		Avg. Price	Price Range Bulk Sales	Top Price	No.	Avg. Price	Price Range Bulk Sales	Top Price	
STEERS									
heavy finished	59	\$12.00	\$11.50-\$12.25	\$12.60					
STEERS 1,000-1,200									
good	365	11.50	11.00-11.75	12.00	67	11.10	10.50-11.50	12.00	
common	19	10.64	10.00-11.25	11.25	3				
STEERS 700-1,000									
good	1,211	11.10	10.50-11.50	11.60	188	10.75	10.50-11.00	11.50	
common	551	9.94	9.25-10.50	10.50	161	9.35	9.00-10.25	10.25	
HEIFERS									
good	456	11.21	10.75-11.60	12.00	33	10.75	10.50-11.00	11.00	
fair	702	9.97	9.00-10.50	10.50	34	9.60	9.25-10.00	10.25	
common	96	9.04	8.00-9.50	9.50	37	8.35	8.25-9.00	9.00	
COWS									
good	378	9.75	9.00-10.25	10.50	64	9.75	9.50-10.00	10.25	
common	819	7.81	7.50-8.50	8.75	152	8.50	8.00-9.00	9.00	
BULLS									
good	107	9.75	9.00-10.25	10.75	26	10.30	10.00-11.00	11.00	
common	89	8.03	7.75-8.75	9.75	24	9.00	8.50-9.50	9.50	
CANNERS & CUTTERS	297	6.19	6.00-6.50	6.50	74	6.40	5.50-6.75	6.75	
OXEN									
CALVES									
veal	966	15.00	14.00-16.50	17.00	915	15.00	14.00-16.00	16.00	
grass	17	8.00	7.00-9.00	9.00	3				
STOCKERS 450-800									
good	55	8.88	8.50-9.50	9.50					
fair	30	7.99	7.50-8.50	8.75					
FEEDERS 800-1,000									
good	152	10.02	9.75-10.50	10.50					
fair	42	9.47	9.00-9.75	9.75					
HOGS									
selects	10,000	19.75	19.75-	19.75	1,260	20.25	20.25-	20.50	
heavies	7	19.75	19.75-	19.75					
lights	561	18.25	17.75-18.75	18.75	332	19.60	19.50-19.65	19.65	
sows	214	18.25	17.75-18.75	18.75	12	17.90	17.75-18.00	18.00	
stags	12	15.75	15.75-	15.75	5				
LAMBS									
good	321	18.50	18.00-19.00	19.50	41	17.00	17.00-	17.00	
common	8	16.00	15.00-17.00	17.00	13				
SHEEP									
heavy	91	12.00	11.00-13.00	13.00	22	13.00	13.00-	13.00	
light	77	13.00	12.00-14.00	15.00	1				
common	14	8.00	7.00-9.00	10.00					

lambs of one hundred pounds each sold at \$19.50 per hundred while the majority offered sold from \$18.25 to \$19. Common lambs realized from \$16 to \$17. Light sheep brought \$13 to \$15 per hundred, and heavy sheep \$11 to \$13.

Hog receipts, including those consigned to packing houses, totalled over twelve thousand five hundred. The market for these remained steady throughout the week. On Wednesday commission firms endeavored to realize \$20 per hundred for select hogs fed and watered, but in this they were unsuccessful, no sales being reported above \$19.75. The market closed with a steady undertone.

Of the disposition from the Yards for the week ending February 28th, Canadian packing houses bought 403 calves, 83 bulls, 3,865 butcher cattle, 9,931 hogs and 345 sheep and lambs. Local butchers purchased 187 calves, 544 butcher cattle, 266 hogs, and 54 sheep and lambs. Canadian shipments were made up of 21 calves, 35 milch cows, 215 butcher cattle, 218 stockers and 66 feeders. There were no shipments made to United States' points during the week.

The total receipts from January 1st to February 28th, inclusive, were: 37,269 cattle, 4,234 calves, 67,214 hogs and 8,443 sheep; compared to 39,650 cattle, 5,886 calves, 84,165 hogs and 9,201 sheep, received during the corresponding period of 1917.

Montreal.
Receipts of cattle at the yards totalled fourteen hundred and forty-four, compared to ten hundred and seventy the previous week. Owing to the continued strong prices of late, the numbers of steers were more than double those received on any week's market since the first of the year; the majority of the steers, however, were lacking in finish. Buyers took advantage of the increased receipts and reduced the quotations on this class of stock from 25 to 75 cents per hundred or an average cut of 40 cents per hundred; while good quality cows remained practically unchanged from last week, the remaining grades of butcher stock also shared in the reduction. The top sale made during the week was twelve heavy steers at \$13 per hundred. Among the other class were thirty-six steers weighing around ten hundred and seventy-five pounds each that sold for \$11, sixteen weighing nine hundred and seventy-five at a similar figure, and thirty head weighing under ten hundred pounds at \$10.50. Butcher bulls showed a larger percentage of well finish beef type than for some time. The best price of the week for bulls was \$11. Canners and cutters sold slowly from \$5.50 to \$6.75. Receipts of calves were sixteen hundred and seventy-three, a considerable increase over the previous week. These calves would average about one hundred pounds

each, representing about one hundred thousand three hundred pounds of dressed meat. As the season advances the receipts of calves will show considerable increase. The class of calves now being marketed as veal were formerly slaughtered on the farm for their hide value.

Few sheep and lambs were on hand. Lambs sold at \$17 per hundred and sheep at \$13.

Hogs steadily advancing, the market opened steady at \$20.25 for long run selects and closed at \$20.50. The prevailing price during the week was \$20.25. Receipts were not sufficient to meet the demand. The market closed strong.

PT. ST. CHARLES.—Of the disposition from the yards for the week ending Feb. 28th, inclusive, Canadian packing houses and local butchers purchased 327 calves, 43 canners and cutters, 31 bulls, 356 butcher cattle, 1,121 hogs and 40 sheep and lambs. Canadian shipments were made up of 26 milch cows. There were no shipments made to United States' points during the week.

The total receipts from January 1st to February 28th, inclusive, were: 5,265 cattle, 2,104 calves, 4,867 sheep and 10,021 hogs; compared to 7,357 cattle, 2,472 calves, 9,978 hogs, and 7,006 sheep, received during the corresponding period of 1917.

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The Molsons Bank

is always glad to assist farmers in any legitimate financial way to make their farms more productive.

State your requirements to our local manager and he will be glad to advise and assist you.

28th, Canadian packing houses and local butchers purchased 285 calves, 594 butcher cattle, 636 hogs and 60 sheep and lambs. Canadian shipments were made up of 22 butcher cattle. There were no shipments made to United States' points during the week.

The total receipts from January 1st to February 28th, inclusive, were: 6,357 cattle, 1,921 calves, 4,523 sheep and 7,102 hogs; compared to 7,727 cattle, 2,446 calves, 9,169 hogs and 5,570 sheep, received during the corresponding period of 1917.

Buffalo.

Cattle.—Cattle trade showed another advance last week at Buffalo, the result of another tight week of supplies. Prices were raised generally a dime to fifteen cents, except on common butchering cow stuff and sausage bulls, which sold at about steady prices. Steers of all classes showed substantial improvement over the past couple to three weeks, best shipping steers, that averaged under fourteen hundred, reaching \$13.60 to \$13.65, with best handy steers running generally from \$11.50 to \$12. More of all classes of cattle were wanted in the fat line. Very few stockers and feeders offered, these selling mostly for slaughter, a load or so, however, selling up to \$9.75 to \$9.85, not heavy but of good quality. Heifers and the better kinds of fat cows moved readily at the general advance. Milk cows and springers of all classes ruled higher. Offerings for the week totaled 3,475 head, as against 2,500 for the preceding week and 4,050 head for the corresponding week a year ago. Quotations:

Shipping Steers — Natives — Choice to prime, \$13 to \$13.65; fair to good, \$12.25 to \$12.75; plain, \$11.25 to \$11.75; very coarse and common, \$10.50 to \$10.75.

Shipping Steers — Canadians — Best, \$12 to \$12.50; fair to good, \$11.25 to \$11.75; common and plain, \$10 to \$11.

Butchering Steers — Choice heavy, \$11.75 to \$12.25; fair to good, \$11.25 to \$11.50; best handy, \$11.25 to \$12; fair to good, \$10 to \$11; light and common, \$9 to \$9.75; yearlings, choice to prime, \$12.50 to \$13; fair to good, \$11.75 to \$12.

Cows and Heifers — Best heavy heifers, \$10.75 to \$11.25; good butchering heifers, \$10.25 to \$10.50; fair butchering heifers, \$9 to \$9.75; common, \$7 to \$8; very fancy fat cows, \$10 to \$10.50; best heavy fat cows, \$9.50 to \$9.75; good butchering cows, \$8.50 to \$9; medium to fair, \$7 to \$7.50; cutters, \$6 to \$6.75; canners, \$4.50 to \$5.75.

Bulls — Best heavy, \$10 to \$11.50; good butchering, \$9 to \$9.50.

Stockers and Feeders — Best feeders, \$9.50 to \$10; common to fair, \$8.50 to \$9.25; best stockers, \$8.50 to \$9; fair to good, \$7 to \$8; common, \$6 to \$6.50.

Milchers and Springers — Good to best, (small lots), \$90 to \$120; in car loads, \$80 to \$100.

Hogs.—Prices last week, under moderate receipts and a very strong demand, were jumped seventy-five cents to one dollar per cwt. The week started with a 10 to 25 cent. advance, all grades selling from \$18 to \$18.25, Tuesday's market was a little easier, bulk of the light hogs going at \$18.00 and \$18.10, with heavies and pigs selling down to \$17.75. Wednesday's range on better weight grades was from \$18.10 to \$18.35, with pigs mostly \$18 and Thursday's top was up to \$18.60. Friday heavies sold from \$18.60 to \$18.80, yorkers and mixed

grades landed at \$18.75 and \$18.85 with one load on the york order at \$19 and pigs brought from \$18 to \$18.50. Roughs the fore part of the week sold at \$16 and \$16.25 and Friday they brought up to \$16.75. Stags went downward from \$14. Last week receipts were 19,800, as against 19,545 head for the week before and 17,200 head for the same week a year ago.

Sheep and lambs.—Trade was considerably improved last week. Within a period of eight days, prices on lambs were jumped fully \$2 per cwt. Monday the choice lots sold from \$18.25 to \$18.40, Tuesday's top was \$18.50, Wednesday the best lots brought \$18.65 and \$18.75 and Thursday, which was the high day, four decks scored \$19. Friday, under a good supply, prices were a quarter lower, tops selling at \$18.50 and \$18.75, with \$17.50 down. Last week showed 100-pound yearlings selling at \$16, choice handy ones were quoted up to \$16.50, wether sheep made \$14.50 and ewes went from \$13.50 down. Receipts for the week were 16,400 head, being against 14,795 head for the week before and 20,500 head for the same week a year ago.

Calves.—Last week started with a very liberal supply, Monday's reaching right round 2,000 head. Demand, however, was good and notwithstanding the liberal supply, prices were held steady, bulk of the choice veals going at \$17.50. The next three days no sales were made above \$17, and Friday the choice lots again sold up to \$17.50. Few desirable throwouts made \$14.50 but the general range on culls was from \$14 down. Fed calves were quoted from \$6.50 to \$9. The week's receipts totaled 3,500 head, as compared with 3,419 head for the week previous and 2,850 head for the corresponding week a year ago.

Toronto Produce.

Live stock receipts at Union Stock Yards, West Toronto, Monday, March 11, consisted of 158 cars, 2,558 cattle, 247 calves, 1,958 hogs, 183 sheep and lambs. Slow market. Less than 800 cattle sold at noon. Butchers' steers and heifers, cows and bulls, steady with last week's close. Lambs, strong; sheep and calves, steady. Hogs, \$19.75 to \$19.95, fed and watered.

Farm Produce.

Butter.—All classes of butter kept stationary in price, selling as follows on the wholes: Creamery, fresh-made pound squares, at 50c. to 52c. per lb.; creamery solids, at 48c. to 49c. per lb.; dairy, 35c. to 40c. per lb.

Oleomargarine.—32c. per lb.

Eggs.—The egg market weakened materially during the past week, when the new-laid variety dropped to 47c. per dozen, wholesale. The cold storage eggs are off the market.

Cheese.—Cheese remained unchanged in price; Old cheese selling at 30c. per lb.; new at 24c. per lb., and new twins at 24½c. per lb.

Beans.—The bean market is very firm and prices higher owing to the United States' Government not allowing any to be shipped out of the country; either their own or any they had on hand, and dealers here are looking for them to advance twenty-five or fifty cents per bushel. Japanese hand-picked whites selling at \$6.75 per bushel.

Honey.—Honey is off the market.

Poultry.—Poultry firmed slightly in price during the week. The following prices being quoted for live weight: Chickens, milk fed, per lb., 30c.; chickens, ordinary fed, per lb., 24c.; fowl, 3½ lbs. and under, per lb., 22c.; fowl, 3½ lbs. to 5 lbs., per lb., 25c.; fowl, 7 lbs. and over, per lb., 30c.; ducklings, per lb., 25c.; geese, per lb., 18c.; turkeys, young, per lb., 25c.; turkeys, old, per lb., 22c.

Wholesale Fruits and Vegetables.

Apples.—There has been an active demand for boxed apples lately—good varieties bringing from \$2.75 to \$3.25 per box—poorer grades going at \$2.25 to \$2.50. First-class barreled apples have also sold well, but the bulk of them are not extra good and are therefore an extremely difficult sale at \$2.50 to \$4.50 per bbl.; choice stock of good varieties ranging from \$4.50 to \$7 per bbl.

Potatoes.—There was a marked decline in the price of potatoes during the week, owing to the heavily increased receipts, Ontarios selling at \$2 per bag, and New Brunswick Delawares at \$2.15 per bag.

Breadstuffs.

Wheat.—Ontario, No. 2, winter, per car lot, \$2.22; (basis in store Montreal). Manitoba wheat, in store, Ft. William —including 2½c. tax—No. 1 northern, \$2.23½c.; No. 2 northern, \$2.20½c.; No. 3 northern, \$2.17½c.; No. 4 wheat, \$2.10½c.

Oats.—(According to freights outside) Ontario, No. 2 white, 99c. to \$1., nominal; No. 3 white, 98c. to 99c., nominal. Manitoba oats, No. 2 C. W., 99½c., No. 3, C. W., 96½c. (in store, Fort William). Extra No. 1 feed, 95½c.; No. 1 feed, 92½c.

Barley.—Malting, \$1.73 to \$1.75. Peas.—According to freights outside; No. 2, \$3.70 to \$3.80.

Corn.—American (track, Toronto), No. 3, kiln-dried, \$2.05. Rye.—No. 2, \$2.35.

Flour.—Manitoba flour (Toronto, new, bags.) War quality, \$11.10. Ontario flour (prompt shipment, new bags), war quality, \$10.70, Montreal; \$10.70, Toronto.

Hay and Millfeed.

Hay.—Track, Toronto, No. 1, \$17 to \$18 per ton; mixed, per ton, \$14 to \$16. Straw.—Car lots, per ton, \$8.50 to \$9, track, Toronto.

Bran.—Per ton, \$35. Shorts.—Per ton, \$40; middlings, per ton, \$45 to \$46. Good feed flour, per bag, \$3.40.

Hides and Wool.

Prices delivered, Toronto: City Hides.—City butcher hides, green, flat, 15c.; calf skins, green flat, 20c.; veal kip, 20c.; horse hides, city-off, \$5 to \$6; sheep skins, \$2.50 to \$5.50.

Country Markets.—Beef hides, flat, cured, 16c. to 17c.; deacons or bob calf, \$1.50 to \$2.25 each; horse hides, country take-off No. 1, \$6 to \$7; No. 2, \$5 to \$6; No. 1 sheep skins, \$2.50 to \$3.50; horse hair, farmers' stock, \$25.

Tallow.—City rendered, solids, in barrels, 13c. to 14c.; country solids, in barrels, No. 1, 12c. to 13c.; cakes, No. 1, 14c. to 16c.

Wool.—Unwashed fleece wool, as to quality, fine, 60c.; coarse, 58c.; washed wool, 70c.; coarse, 65c.

Montreal Produce.

Horses.—Dealers reported a very dull trade. There was no demand for the city trade but farmers were asking for good chunks of mares, about 1,300 lbs., and these are valued at about \$225. These were the feature of the market. Good horses were hard to get and the heavy draft, weighing 1,500 to 1,700 lbs., sold at \$250 to \$300, while the light draft, weighing 1,400 to 1,500 were quoted at \$200 to \$250. Small horses, ranged from \$100 to \$150 and culls from \$50 to \$75, with fine drivers and saddle animals, at \$175 to \$225 each.

Poultry.—The market for poultry held steady and demand was moderate. Turkeys sold at 35c. to 36c. per lb. for choice, while finest chickens brought these prices also, the less desirable selling at 30c. to 33c. per lb., and fowl 26c. to 29c. for good stock. Geese sold at 23c. up to 25c., according to quality, and ducks at 28c. to 30c.

Dressed Hogs.—Further advances took place in the price of dressed hogs but demand did not appear to have been greatly affected thereby. Fresh-killed, abattoir-dressed hogs sold at 28c. to 28½c. per lb., while light weight, country-dressed hogs sold at 25c. to 25½c. per lb.

Potatoes.—The market for potatoes showed little change, being a shade easy, if anything. Apparently, there are a good many potatoes in the country, but it is hard to get the cars for shipment. Green Mountains were \$2 per 80 lbs., ex-store; Ontario whites \$1.90, and reds \$1.80 to \$1.90.

Maple Syrup and Honey.—Dealers were beginning to look forward to the new crop of syrup. Meantime, the market was bare and nominal quotations were \$2 per gal. tin., with sugar around 20c. Honey is 22c. per lb. for No. 1 and 19c. to 20c. for No. 2 and for brown comb and white extracted.

Eggs.—The market had its ups and downs during the week—mostly downs. American eggs were the bearish factor and depressed the market for fresh-laid stock to 52c. and 55c. here.

Butter.—There was no disposition towards lower prices for creamers, as yet, and quotations were firm at 50½c. to 51c. per lb. for finest fall makes and a cent less for fine. Current receipts

were quotable at 47½c. to 48½c., with dairies ranging from 41½c. to 43c. per lb.

Cheese.—Commission prices were 21½c. cents for No. 1, 21¼c. for No. 2, and 20¾c. cents for No. 3.

Grain.—The market for oats continued very firm and deliveries were light. Carlots of Canadian western No. 3 and extra No. 1 feed were \$1.11 per bus., ex-store, No. 1 feed being \$1.08, No. 2 feed \$1.05, Ontario No. 2 white being \$1.10, No. 3, \$1.06 and No. 4, \$1.05.

Flour.—Government standard, Manitoba spring wheat flour was \$11.10 for the country, f. o. b. cars, per bbl., in bags, Montreal, and \$11.20 to \$11.30 to city bakers and grocers, delivered, according to quality. Ontario winter wheat standard \$11.10 to \$11.50 per bbl., in bags. Rye flour was firmer, at \$6.05 per bag.

Millfeed.—The market was generally firmer and some prices advanced. Bran was \$35 per ton, in bags, shorts \$40, mixed mouille, \$60 to \$62, pure grain mouille \$68 to \$70.

Baled Hay.—Prices of baled hay were unchanged, being \$17 per ton for No. 2; \$15.50 for No. 3 and \$12 for clover mixed, ex-track.

Seeds.—Dealers still paid at country points, 18c. to 21c. per lb., for alsike; 27c. to 30c. for red clover; and 7c. to 10c. for timothy.

Hides.—Lambskins were higher, at \$4.70 each, and veals at 35c. per lb., grassers being still 18c. to 20c. Beef hides are becoming grubby, and were steady at 18c. per lb. for beef, 15c. for cow and 20c. for steers, flat, and 17c., 18c. and 19c., Montreal inspection. Horse hides were \$5 to \$6 each. Tallow was 3½c. per lb. for scrap fat, 8c. for abattoir fat and rededer tallow is 16c. to 17c. per lb.

Chicago.

Cattle.—Beeves, \$8.60 to \$14; stockers and feeders, \$7.70 to \$11.25; cows and heifers, \$6.60 to \$11.75; calves, \$8.75 to \$14.75.

Hogs.—Light, \$17 to \$17.80; mixed, \$16.50 to \$17.70; heavy, \$16 to \$17.35; rough, \$16 to \$16.30; pigs, \$13.75 to \$17.40.

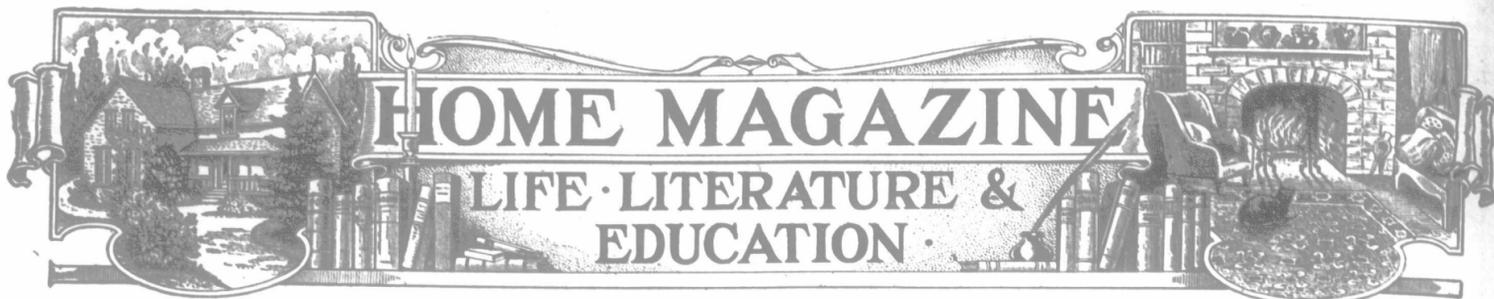
Sheep.—Native, \$10.75 to \$13.65; lambs, native, \$14.25 to \$18.

Cheese Markets.

New York, specials, 25½c. to 26¼c.; average run, 25c. to 25½c.; Montreal, finest westerns, 21¾c.; finest easterns, 21¼c.

Hill-Crest Holsteins.

On Thursday, March 23, there will be sold at the Union Stock Yards, Toronto, one of the most attractive offerings of Holsteins that has ever graced a sale-ring. G. A. Brethen, of Norwood, is dispersing his high-quality, heavy-producing herd. Along with the Hill-crest Holsteins, will be sold a number of head from the noted herds of A. C. Hardy and J. W. Stewart, of Brockville. It is seldom that stock of such noted breeding and high quality is offered by auction; for instance, there are three 30-lb. cows, (two of them have exceeded the 34-lb. record and one is milking up to 122.5). There are six sons of 30lb. cows. This will be a splendid opportunity to secure the breeding that you have been looking for in a herd header. The dams of these bulls averaged 105.7 lbs. milk in one day, and two of these were in the three-year-old form. There are several Canadian champions in the offering, one of which is a senior three-year-old butter champion with 103.3 lbs. milk in one day. There is a grand-daughter of King of The Pontiacs. Her dam and sire's dam averaged over 1,094 lbs. butter. There is a daughter of a 29,000-lb. dam, and two 20,000-lb. heifers. This gives an idea of the quality of the stock offered. There are many more which might be mentioned; for instance, there are thirty or more daughters and granddaughters of 30-lb. and 20,000-lb. sires and dams, bred and developed at Hillcrest by Mr. Brethen. You will have an opportunity of securing a son of Champion Echo Sylvia Pontiac. It will be a great sale, and Holstein breeders cannot afford to miss it if they are at all interested in officially-tested cows that have high records. The sale is to be held in Toronto. See the advertisement in this issue for more detailed information and write G. A. Brethen, Box 40, Norwood, Ontario, for a catalogue.



Spring.

There's a glinting of blue, there's a sprinkle of gold,

There's a haze in the skies overhead, There's a budding of leaf, there's a stirring of life

In the heart of the hyacinth bed. From the maple a voice from the willow a sign,

From the marshes soft odors that bring To the eyes that can see, to the ears that can hear,

The news of the coming of Spring.

There's a voice in the breeze, there's a sign in the sun,

That whispers of Winter's farewell; There's a mist o'er the lake, there's the call of a bird,

There's the echoing tones of a bell. There's a song in my heart though my hands to their task,

The task of the winter must cling, And my soul makes reply to earth, ocean and sky.

A welcome—a welcome to Spring!

L. M. T.

A Hidden Acadian Monument.

BY MARIANNE GREY OTTY.

A mystery lies about old deserted houses, haunting us and setting our imaginations tingling. The very blankness of their expressionless windows is a challenge to our curiosity. Within their walls dwell the invisible ghosts of past affections and the echoes of domestic comedies and tragedies long since played out.

Away up in New Brunswick, far from the beaten track of the average curiosity seeker, stands a deserted house still strong with the strength of grey stone and white mortar carefully mixed by the Acadian settlers of long ago. Only a few favored ones know of its existence and of its charm. The geologist would consider the situation a peculiar one; the romanticist would be carried away with the peace and loveliness that surround it; the historian would be set adreaming of the old days of French rule in Eastern Canada.

Leaving the St. John River behind, one follows the windings of Gagetown Creek through low, grass-green stretches of intervals until, hardly noticeable in summer, when the water is at its lowest, a tiny stream meanders through a tangle of wild rice and purple water hyacinth until it finds an outlet in the creek. A canoe is the only possible way of threading a path among the thick grass and shining white water-lilies that grow among the reeds.

A mile from the mouth of the stream a great mound rises out of the intervals, as if the ancient Ice Sheet in its travels had here unburdened itself of a huge load of rocks and gravel. Here amid a sheltering group of old leaning elms and shaggy willows, our Acadian house has withstood the winters of two centuries, and the grey stone walls are as staunch as ever.

The house is large. A wide chimney on the north side contains the traditional fireplace and old-time brick oven. Three fireplaces rise, one above the other, in this capacious chimney, so that even the rooms above might receive their share of cheer. The heavy oak beams and rafters are still faithful to their duty; but the flooring has now fallen away from roof to ground. Alien weeds creep into the deserted corners in summer; but sometimes in winter when the moon shines full across the snow, the broad fireplace glows for a few hours to welcome a merry party with their skis and snowshoes.

Who were the first occupants of the old house? No one knows their story; but the old-time people used to tell of a

wandering French woman who came once in their younger days and searched for weeks about this spot with a map and a brokenly told story of "Betty's Three Acres." The Acadians at their exile left behind them, in the safekeeping of the earth, many a precious bit of family silver and many a pot of coin, hoping in happier days to return and claim them. Somewhere in the earth about this house must still rest to-day the treasures of this woman's ancestors.

What induced its builders to erect their home in this out-of-the-way spot must still remain a mystery. The walls are thick enough to point to its usefulness as a fort, and the high windows on the third storey command a view of the country on every side. Three miles away, on the opposite bank of the St. John River, there stood the Gimsec Fort, well known to history and not afraid to show itself. Perhaps, then, this was an ancient seigniorial mansion, or some exiled or world-weary Frenchman may here have sought to bury himself in an undiscoverable retreat.

In time to come, some one will turn the old house into a summer home; but now it stands alone. Maybe, when the dull red of evening has faded in the sky behind the stately elms, ghostly candles glow there and thin strains of music float out over the lonely marshes while in the doorway some happier Gabriel and Evangeline stand watching the "infinite meadows" where the stars blossom one by one.

Planning the Garden.

Some evening, while still the March winds blow or the April rains rain, sit down and plan your vegetable garden. Draw it all out on paper and put the paper aside. Next day think over your plan and make any alterations you think necessary,—and so on until your plan is just as nearly perfect as you can make it.

Perhaps this does not seem necessary, and yet you will wonder how greatly you can save space, and so concentrate work, by doing a little head work before even you put spade or hoe to the garden.

First, eliminate from this little garden plot all the things that can be grown just as well in the field and cultivated with a horse—that is, if you have a field guaranteed against the inroads of breachy cattle, your own or anyone else's. Next study out how you can plant the seed to best advantage. Remember that tomatoes and Kentucky wax beans can be trained to a fence, the sunny side of it—a consideration if space is limited, as that of a small kitchen garden often is. Both beans and tomatoes will grow very well on the least rich spot in the garden—too much richness, indeed, is likely to cause tomatoes to run too much to foliage—but be sure to keep a very mellow, damp spot for the lettuce and radishes, which demand this for their crispness. Remember, too, that by judicious management two crops may be grown on the same spot, e. g., first lettuce and radishes, then cab-

bage and tomato plants which have been preparing in the hot-bed and cold frame; or first early peas then celery; and so on.

Plan to have the rows running from north to south, to secure the least overshadowing by the plants themselves.

Just as soon as the ground is fit work it up, and if it is not already rich enough, add to it some of the oldest, most mellow manure you can find, working it in well. Manure that has become resolved into rich, black earth is the best. Poor, starved land cannot give good crops and is hard to work. To be satisfactory the soil must be fairly loose, well drained, and well mixed with humus; it should also be worked up to a good depth. If it is



The Old House.

too stiff add some sand along with the rotted fertilizer; if it is too sandy it will pay to haul to the beds each year a few loads of good manure.

Having worked up the soil as soon as possible after the frost is out of the ground, leave it to the rain and winds until time to give the final working at seed time which, in most sections of Ontario, for the hardier vegetables, is early in May.

War Against Venereal Diseases.

Our old friend "H. A. B.," (Mrs. H. A. Boomer, 393 William St., London, Ont.) writes us that the organizations now being formed to combat venereal diseases, will



The Path to the Old House.

be glad to have the prompt assistance of women everywhere in Military District No. 1 (whether as individuals or organizations) who will help on in the work of stamping out these diseases, which are such a menace to the health of our public.

At a meeting held in London, Ont., on Feb. 19th, a women's sub-committee was formed, with Mrs. Boomer as Convener, and Miss Margaret Moore, 195 Elmwood Ave., London, Ont., as Secretary, and to

this sub-committee has been entrusted the passing of this call to service, to the several centres in Military District No. 1.

Mrs. Boomer requests us to say that the first step to be done by anyone who wishes to ally herself with the work, is to write to Dr. H. W. Hill, Director of the Institute of Public Health, London, Ont., asking him for any information required, and also that he will forward literature on the subject which is already available.

Hope's Quiet Hour.

Making Friends.

I say unto you, Make to yourselves friends by means of the mammon of unrighteousness; that, when it shall fail, they may receive you into the eternal tabernacles.—S. Luke 16: 9 (R. V.)

This morning the postman brought three gifts for the needy—entrusted to me by readers of the "Advocate"—a dollar each from "A friend of all children," Millbrook; "Reader," Glenroy; and "T. D.," Lucknow. Yesterday I was reading a sermon on "The Law of Stewardship," by Rev. Robt. Law of Toronto, in which he speaks of our Lord's command to make friends for eternity by means of earthly money and opportunities. He suggests that we make a mistake when we think the power of wealth is only for this world.

As men and women enthusiastically invested their precious savings in the "Victory Loan," denying themselves for the present because they thought it was a good investment for the future; so our Lord's parable of "The Unjust Steward" reminds us that it is the best possible investment of money, time, strength and intellect to invest in God's great Victory Loan. We were told that the Dominion was the security for money invested in the Canadian Loan, but God Himself is Security for everything laid in His hands for His use. "He that hath pity upon the poor lendeth unto the LORD; and that which he hath given will He pay him again."

It is not without intention that the parable of "The Rich Man and Lazarus" follows that of the "Unjust Steward." Our Lord told how the dishonest steward used his swiftly-passing opportunity, so that he might make friends who would help him in his coming time of need. The "rich man," on the contrary, spent his money on himself. He wasted his opportunity of winning the friendship of the beggar at his gate; and there were no friends to welcome that miserable and lonely soul when called to give account of life's stewardship. Much money—his Master's money—had been placed in his hands, in trust. He fancied it was his own money, yet he discovered—after it had been wasted in selfish luxury—that he was only a steward and must give account of his years of stewardship. Any friends he had made were only hangers-on. They, like himself, were only seeking their own gain and pleasure. They were not friends who would receive his soul into the eternal tabernacles.

Prof. Law writes: "There, in that other world, as one by one we are gathered into it, we shall meet with those to whom we have shown Christ's love on earth. The parents whose declining years you have sheltered and comforted, at the expense perhaps of some of youth's opportunities and enjoyments; the dear ones for whom you have toiled and watched and suffered; the struggling brother to whom you have held out a helping hand; the heathen man or woman at the other side of the world to whom you have sent the messenger of Christ; the famished Belgian or Servian

to whom and their land you have loved of Christ—in 'treasure in he have formed in enrich and enn In the everlasting be those who are benediction, who waiting for you, of the City of G crying for you to may be made pe

The dishonest steward." won master he had Our Lord certain copy his dishonest that He can ad service, inspired laying up for o the Bank of Hee His teaching a opposed to self-s commanded to make no return, and sunshine to unjust. As Pr kindness which eyes is kindness Christ."

But—remember coin will be receive life becomes a pr we realize what the true riches dropped her co Treasury long as in the Great Vi rich men, who d ostentatiously ad fence. It is n that counts with that deceive Him ring true.

But how caref grain of real gold you go on your words of kind among your ne you can do so lit the world, yet spending the mo to you as a stew shining grain of g Some day you heavenly interes have joyously an hear the King sa an hundred, and was thirsty, and was sick, and ye prison, and ye car

While you are strength and m people you are of the King of ki

But, even as a monsense, the ad worth considerin thought he was his money when and fine linen The great Aposto innumerable pe weariness and p thirst, cold and to carry to thos tidings of God's well repaid in



to whom among the smoking ruins of their land you have sent relief; all whom you have loved and blessed in the Spirit of Christ—in these you have laid up 'treasure in heaven', with these you have formed immortal ties which will enrich and ennoble your life hereafter. In the everlasting habitations there may be those who are uttering your names with benediction, who are praying for you and waiting for you, leaning over the ramparts of the City of God as they beckon to you, crying for you to come that they and you may be made perfect together."

The dishonest methods of the "unjust steward" won the admiration of the master he had unblushingly defrauded. Our Lord certainly does not wish us to copy his dishonesty; neither is it possible that He can advise us to give money or service, inspired by the selfish object of laying up for our future use treasure in the Bank of Heaven. The whole force of His teaching and example is directly opposed to self-seeking. We are especially commanded to give to those who can make no return, as the Father gives rain and sunshine to bless the just and the unjust. As Prof. Law points out, the kindness which is of any value in God's eyes is kindness shown "in the Spirit of Christ."

But—remembering that no false coin will be received into God's Treasury—life becomes a priceless opportunity when we realize what a value He places upon the true riches. A poor widow, who dropped her coppers into the Temple Treasury long ago, invested more money in the Great Victory Loan than all the rich men, who despised her offering and ostentatiously admired their own munificence. It is not quantity but quality that counts with God. It is impossible to deceive Him with coin that does not ring true.

But how carefully He treasures every grain of real gold—every gift of love. As you go on your way, scattering deeds and words of kindness in your home and among your neighbors, lamenting that you can do so little to lift the burdens of the world, yet patiently and faithfully spending the money and time committed to you as a steward of your Master, each shining grain of gold is giving joy to God. Some day you will find again—with heavenly interest added—the love you have joyously and freely given. You will hear the King saying unto you: "I was an hungred, and ye gave Me meat: I was thirsty, and ye gave Me drink: I was sick, and ye visited Me: I was in prison, and ye came unto Me."

While you are investing time and strength and money in helping other people you are winning the friendship of the King of kings.

But, even as a matter of earthly commonsense, the advice of our text is well worth considering. The "rich man" thought he was getting good value for his money when he spent it in purple and fine linen and luxurious meals. The great Apostle, who had endured innumerable perils, who had suffered weariness and painfulness, hunger and thirst, cold and nakedness, in order to carry to those in darkness the glad tidings of God's love, felt that he was well repaid in the very midst of his

self-denying service. "I will very gladly spend and be spent for you," he wrote, "though the more abundantly I love you, the less I be loved. But be it so, I did not burden you."

We each have a life to lay out. Dare we say that the "rich man" made a wiser choice of an investment than St. Paul? Does selfish living bring happiness to any soul, even in this life? Time is slipping away, and before very long we may have to give an account of life's stewardship. Then we shall discover—to our joy or to our sorrow—that the things we have been using (time, money and opportunities) were not our own but the property of our Master. If we are pouring out the priceless opportunity of life at the feet of the idol "Self" we are certainly wasting it.

"We lose what on ourselves we spend,
We have as treasure without end
Whatever, Lord, to Thee we lend,
Who givest all."

But it must always be remembered that nothing is really lent to God—accepted by Him—unless a right motive inspires it. The rich cast much gold into the temple treasury, but only the coin that rang true was transferred to the heavenly treasury.

In these days many things which seemed solid and enduring have been knocked down like card houses. Have we anything, in this world of change, that is firm and lasting? A British Staff Officer in Mesopotamia wrote: "It is difficult to believe in God these days—but I do. . . . that, and my faith in my wife and my country, are all that are worth having. . . . Because, after all, only essentials count, and I have a hold on the three real ones." You notice that his "three" essentials are really one—"Faith."

Unless we have faith in God and in the value of our fellows we can never make friends. Friendship can never endure without faith. A few days ago I had a letter from a friend who said that I need never worry about my long silence towards her; for, if I did not write for "six score of years," it would make no difference in her love.

A soldier in France wrote to his mother at home: "Don't worry about me; your prayers weave round me a mantle of defence." If we are to make friends for eternity we must continually reach them through God. Our prayers must be as gold chains binding them to His throne.

Many mothers of soldiers can gain courage from this brave message from a soldier in the trenches: "My mother is the mother of a soldier now, and soldiers' mothers don't lie awake at night imagining—they just say a prayer for their sons and leave everything in God's hands. I'm sure you'd far rather I died than not play the man to the fullest of my strength. It isn't when you die that matters—it's how."

That soldier declared he was never happier in his life than at present, because at last he was doing something into which no trace of selfishness entered.

He pitied "the men who could not hear the call of duty and whose consciences will grow more flabby every day", but he did not dare to offer pity to those who

"went West" in their supreme moment of selfless sacrifice.

As we strain our eyes to see beyond the veil, we echo the words of Maurice Baring:

"Surely you found companions meet for you
In that high place;
You met there face to face
Those you had never know but whom
you knew;

Knights of the Table Round,
And all the very brave, the very true,
With chivalry crowned.

Surely they made a place for you,
Their long-expected guest,
Among the chosen few,
And welcomed you, their brother and
their friend,

To that companionship which hath
no end.
DORA FARNCOMB,
52 Victor Ave., Toronto.

The War Rosary.

BY NELLIE HURST.

I knit, I knit,
I pray, I pray,
My knitting is my rosary,
And as I weave the stitches grey,
I murmur prayers continually.

Grey loop—a sigh,
Grey knot—a wish,
Grey row, a chain of wistful prayer,
For thus to sit and knit, and pray,
This is of war, the woman's share.

And so I knit,
And thus I pray
And keep repeating night and day,
May God lead safely those dear feet
That soon shall wear this web of grey.

Now and again—
A selfish strain?
But surely woman-heart must yearn
And pray sometimes that she may hear
The sound of footsteps that return.

But if—O God,
Not that!—but if
It must be sacrifice complete,
Then I will trust that afterwards
Thou wilt guide home those precious
feet.

Red Cross Work.

Interminable folds of gauze

For those whom we shall never see,
Remember when your fingers pause,

That every drop of blood to stain
This whiteness falls for you and me.

Part of the price that keeps us free
To serve our own, that keeps us clean
From shame that other women know.

O saviors we have never seen,
Forgive us that we are so slow!
God—if that blood should cry in vain,
And we have let our moment go!
AMELIA JOSEPHINE BURR.

Gifts for the Needy.

It is wonderful how gifts for the needy
pour into the Quiet Hour Purse week after

week. This week I have three money donations to acknowledge—one dollar each from H. G. S. A. H. and from "Constant Reader", Orillia; and two dollars from Mrs. A. B. Many parcels of S. S. papers for the "shut-in" also arrived. If this business of distributing your gifts continues to grow as steadily as it has done lately I may have to set up a hand-cart, or an automobile, to carry the parcels. However, I am doing my best to keep up with you; and you must try to imagine how grateful the recipients are, for I can't possibly find space for all their messages.

DORA FARNCOMB,
52 Victor Ave., Toronto.

"Prisoners' Personal Parcel" Scheme for Prisoners of War Other Than Officers Interned Abroad.

The British War Office has sanctioned an arrangement whereby one parcel which does not contain other than specified articles may be sent each three months by private individuals in Canada direct to prisoners of war other than officers interned abroad. The parcel must be packed and despatched through the post office by the relative or friend of the prisoner and must bear a coupon.

The next of kin has first right to the coupon and can designate to whom it may be given if they do not wish to use it. Persons wishing to send parcels under this scheme, should apply for the necessary coupons if they have not already done so, as early as possible. Coupons for parcels intended for prisoners belonging to the Canadian Forces are supplied by the Prisoners of War Department, Canadian Red Cross Society, 14 Cockspur street, London, S. W. 1, and in the case of prisoners belonging to the Imperial Forces, Allied Forces or Civilian prisoners of war, by the Central Prisoners of War Committee, 4 Thurloe Place, London, S. W. 7. The list of goods which may be forwarded is as follows:—

Pipe, sponge, pencils, tooth powder, pomade, cap badge and badges of rank, shaving brush, safety razor, bootlaces (mohair), Candies (8 ounces), medal ribbons, brass polish, mittens (one pair a quarter), muffler (one each year), braces and belts (provided they are made of webbing and include no rubber or leather) handkerchiefs (one a quarter), combs, hair brushes, tooth brushes, cloth brushes, buttons, pipe lights, dubbin, hob nails, shaving soap (one stick a quarter), health salts, insecticide powder, chess, checkers, dominoes.

Persons are warned that the parcels are subject to censorship, and the inclusion in the parcel of any article not mentioned in the above list may entail confiscation of the parcel. The maximum weight of the parcel is eleven pounds and it is advised that they should not weigh less than three pounds, so as to minimize the risk of loss in the post.



The Canadian Women's War Conference, Ottawa.

Seated at the table are the Duchess of Devonshire, Mrs. Plumtre (Toronto) at her right, and Lady Borden at her left.

First Prize \$15.00 and Silver Medal
 Second Prize \$12.00 and Silver Medal
 Third Prize \$10.00 and Silver Medal
 Fourth Prize \$8.00
 Fifth Prize \$6.00
 Sixth Prize \$4.00

He had application forms sent out for the boys and girls to fill. Here is an exact copy of one of them, for it lies on my desk as I write.

Sir: I hereby make application to enter the Russell County Potato Growing Contest, and agree to obey the rules and accept the decision of the judges who shall make the final awards.

I agree to cultivate exactly 1.10 acre of potatoes on the farm owned or worked by me and located in _____ Township, _____ miles from _____ Railway Station, I am _____ years of age, and propose growing the variety _____

Name in full)

Post Office)

APPROVAL OF CARETAKER OR GUARDIAN.
 I hereby give my entire approval to the above application.

Name in full)

Post Office)

The competitor hereby agrees to do all the work himself, except in the case of _____



Masters Richard and Serson Clarke. who won 5th and 6th prizes for Russell County in 1916, and also 4th and 6th prizes for 1917.

George McCordick, 5, Harry Wright, 6, Norman McCord.

Russell County: 1, John Thompson, 2, Percy Jackson, 3, Francis Cotton, 4, Richard Clarke, 5, Richard Armstrong, 6, Serson Clarke.

Nearly all of the boys grew "Green Mountain" potatoes, and the average crop was at the rate of 317 bushels to the acre. John Plunkett's yield was at the rate of 390 bushels to the acre, and John Thompson at the rate of 190 bushels to the acre, the largest yield obtained by any of the boys taking part.

In the girls' gardening and Canning Contest sixteen girls were given prizes for the following: were mentioned as having done very good work: Marie, Grace, Gertrude, Brewster, Vera, Rose, Clara, Hazel, and Lyle. Elizabeth Middlebrook.

Additional awards were made for the best meal made by Mrs. M. Whyte, the best garden, W. H. S. Clark, and the best vegetable garden, Mrs. M. Whyte.

What the Girls Grew

The girls' exhibit was a very attractive one, and the girls were very busy in the garden. The exhibit was arranged and decorated, while the variety and quality of the exhibit were almost perfect. Practically everything grown in the garden was exhibited, either raw or canned. Her exhibit of canned fruits and vegetables would be a credit to any exhibition.

What You Can Do.

Now, don't you think you would like to have a club like this in your own neighborhood, with a corner



Master Donald Brownlee.

winner of the first prize in 1916 for Carleton County, growing potatoes at the rate of 494 bushels per acre.



Master John R. Thompson.

who won second prize for Russell Co. in 1916 and first prize in 1917. His crop last year harvested at the rate of 400 bushels to the acre at a cost of 18 cents per bushel.

Weldwood Farm has not little pigs enough to supply all the boys and girls who may want to do as she did, but there are always pigs to be bought nearer home, aren't there?

Ford Rhondda, who is in charge of the food question in England, says, "The food needed by mankind does not exist." And our own Food Man, Mr. Hanna, before he left office, said that the soldiers who from this year will need 500,000,000 bushels of wheat. The United States now has none to send, and Canada only has 100,000,000 bushels.

Remember when you read that you will not use potatoes and beans, to leave more wheat for the soldiers. Remember when you are taking care of your corn and stock, you are not taking care of all the more time to take care of your cows.

Now I want to tell you what some of the boys and girls have been doing. I want to put in a report on the boys' club, a heading of its own, and on the girls' club.

What Carleton and Russell Boys and Girls Have Been Doing.

As a book in 1912, a very kind and interesting picture you will be glad to look at again, it was in these days a few weeks ago, too, thought it would be a good idea to start the boys of Carleton and Russell Counties, Ont., at raising potatoes in plots of their own. So I organized a Potato Growing Club, to which boys from 12 to 18 years might belong.

The first club was formed in Carleton County, Russell following the next year.

Mr. Whyte had booklets printed, telling me just how to raise potatoes, and sent them to the boys. He also offered prizes for the best growers.



Master Walter Hamilton.

who won first prize for 1916 in Russell County, growing a yield of 429 bushels per acre.

the younger boys, for whom heavy ploughing, etc., might be done, each had to keep an accurate account showing all expense and profits; and each had to keep a record telling all about the work, variety planted, etc., blank forms being supplied for this.

During the growing season each plot was inspected from time to time by one of the Committee of grown folk appointed to do the inspecting, and the digging and weighing of the crop were also supervised in this way.

Ever since then, each year, in the fall, a big meeting is held in Ottawa, at which the prizes are presented to the proud boys—and to the girls, too, after the Gardening and Canning Contests were set going, and speeches are made by men interested. What a great day that always is!

Exhibits are shown at the fall fair, and afterwards booklets are printed, showing pictures of the prize winners and giving essays written by them at the close of the season's work.

The Winners.

I presume the booklets for 1917 are not out yet, but Mr. Whyte has sent me the one for 1916, and so I can give you a peep at some of the prize winners for that year. He has also put in a newspaper clipping, from the Ottawa Journal and Post, giving a list of the winners up to the extent of this I learn that the prize was won for 1917 year were: Carleton County: 1, John Plunkett, 2, W. H. S. Clark, 3, E. C. McBride, 4,

at the fall fair for exhibiting your work next fall.

Perhaps there is no Mr. R. B. Whyte near you, but I believe, if you were to ask your Women's Institute, they might do something for you. Or perhaps there is someone who will get up a concert to raise money to carry the idea through. Some day at school, or soon, talk it over and appoint a committee of boys and girls to try, anyway. You can do worse than fail—and you may succeed. I am sure your teacher will be very helpful and will help you all he can. And there are bulletins on both Potato Growing and Canning that you can get from our Department of Agriculture. Ask the Agricultural Representative in your district about them.

And perhaps, after all this, you will want to write to the Beaver Circle and tell us how you are getting along. We shall be glad to hear from you.

I am sorry we have not pictures of all the Carleton and Russell first prize winners for 1917, both boys and girls, to give you to-day. Perhaps those whose pictures have been omitted will send them to us later. PUCK

Little Bits of Fun.

"Well, Tommy, how's your little sister?" "Oh, she's awful bad, been in bed for four days." "I am sorry to hear that. What's the matter?" "Well, we were playing at which could be in the best out of the window." She won.

Following the Test Book, a teacher asked her class to write an essay on London. She was surprised to read the following in one attempt:

The people of London are used to their troubles.

The year is over, and I don't know how to get their heads out of the water.

Please to give me a good, long, long letter to the population of London, Ontario, New York, Canada.

Junior Beavers' Letter Box

Dear Puck and Beavers: This is my first letter to you. I have been reading the "Farmer's Advocate" for a number of years, and we like it very much. I have a letter to you and then I have a letter to you and then I have a letter to you. I am now a year old and go to school nearly every day. My teacher's name is Mrs. Shuman and I like her. I am in the junior second class. I am 11. I will close with long love to all a happy New Year. I AM SISTER ENOKA. Woodford, Ont., R. R. 1.

Dear Puck and Beavers: This is my fourth letter to the Beaver Circle. I saw my first letter in print, so I thought I would try my luck again. I had a good time on Christmas Day, and I went away on New Year's, down to my uncle's, to stay a few days. Well, I guess I will close, with long love to all a happy New Year. HELEN E. CAMPBELL. R. R. No. 5, St. Thomas, Ont. (Age 8, Jr. Third)

Dear Puck and Beavers: This is my first letter to the Beavers, though I often thought of writing. My father takes the Advocate and I like reading the letters. We live by a lake, and in winter we often have good skating on it and we have lots of fun. I am in the senior second book. I have a beauty doll and I enjoy playing with it. She was one year old on Christmas. Old Santa was good to me this year, and I hope he did not forget any of the Beavers, also Puck. I will close now wishing you all a happy New Year. MILDRED BOCK. Spring Bay, Manitoulin Isle, Ont. (Age 8)

I will send one of the Beavers would write to me of my own age.

There is a fine new building of white marble and Greek architecture in a Western city. On the cornerstone is engraved the date of the building's erection. It was begun in 1909, but, following the usual custom, the date is in Roman capital, thus: MCMIX.

The other day some citizen approached another and asked him if he had seen their common friend Danny that day. "I sure did," replied the second man. "A few minutes ago I seen him standing in front of MC Mick's new building over there on the corner."

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.]

The Women's Conference.

DEAR Ingle Nook Friends.—Probably many of you who take the daily papers have been following with eagerness, from day to day, the reports of the Women's Conference with the War Committee of the Cabinet at Ottawa, which was carried on during the last week of February.

If any of you have been too busy to read the accounts in full then here is a synopsis: By invitation of the Government these women met, coming from all parts of Canada and representing all women's organizations, your own Women's Institute representative for Ontario being Mrs. Buchanan of Ravenna, whom every W. I. member in the Central Ontario district at least, knows.

A very serious convention indeed was this. We do not read of much entertainment in connection with it, but of a great deal of hard work and earnest thinking, for this is a very climax of war time, and it was because of such stress that the women were called.

During the first sessions committees were formed—one on "Agriculture and Production", another on "Women in Industry", yet others on "Woman Suffrage", "National Health and Child Welfare", "Thrift and Economy," "Heads of Organizations", etc.; and at the close of the conference the resolutions drafted by these were presented before the War Committee.

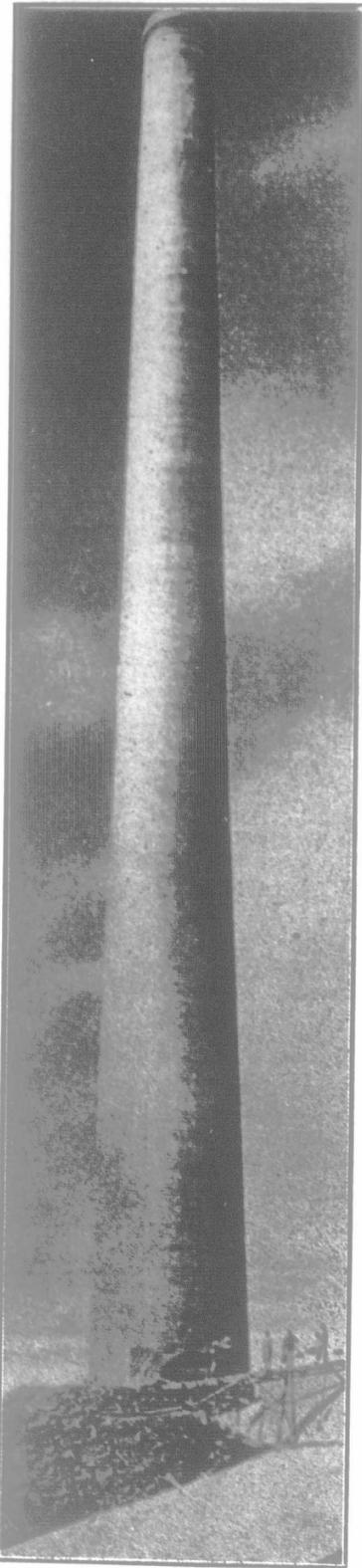
It is with the findings of the one on "Agriculture and Production", of course, that we farm-folk are most interested, and so we read carefully the report brought in by the convener, Mrs. Dayton of Viriden, Man., which recommended: that women be more extensively employed in outdoor work; that they be trained on Government agricultural, experimental and demonstration farms; that because last year some employers took advantage of the chance to secure the help of women at too low rates, the Government obviate the possibility this year by exercising some control over the situation; that immediately, as a special war measure, a volunteer registration be taken for service in farm kitchens, and that the Government establish training schools in farm housework, giving certificates upon which the scale of wages will be based; that boys and girls of school age be not taken out of school to do farm work until all other sources of labor supply are exhausted, and that the Government consider the matter of non-essential industries, which should not be kept up at the expense of young boys who, in the matter of necessary production may have to work so hard as to injure their health.

The "Thrift and Economy" recommendations perhaps comes second to those of the Agriculture section to farm folk. Read by Miss Carmichael of Nova Scotia they expressed a spirit of co-operation with all the measures taken or about to be taken by the Food Board, looking to the conservation of necessary food, the prevention of hoarding and waste, and the control of cold storage houses. In the paragraphs dealing with the elimination of "luxuries", the word was defined as meaning anything not essential to health or life, or entailing labor taken from the production of necessary things. Among the luxuries specified were icings on cakes, imported fruits, jewels, furs, etc., and such amusements as are not necessary for health and recreation.

In the "Health and Child Welfare" department (Miss Reid of Montreal reading the report) the subjects of venereal disease and the Child Welfare movement—recently discussed at length in these pages—were given consideration; and in the "Women in Industry" section (Mrs. Charles Robson of Winnipeg, convener,) the various trades, etc., in which women may be employed to release men for war-work were enumerated as follows: Railway, electric and motor transportation; porters and elevator operators; civil service; electrical operators; delivery wagon drivers; motor mechanics,

building trades; metal, chemical, textile, paper, printing and other trades; food production and manufacture; wood-working; waiters in hotels and restaurants; telegraphy; some departments of ship-building and military auxiliary service. This report emphasized the principle of equal pay for equal work, and advocated the placing of a woman on any wage board appointed, either locally or federally.

It was truly a great meeting and a great occasion, not only for the help in pressing needs that it can give to the present, but for its significance as regards the future, establishing the place which, from this time henceforth, women



Reinforced Concrete Chimney Recently Completed in Japan.

It measures 570 feet in height and is the tallest in the world.

will be given in the public affairs of Canada. In past days women were pretty well relegated, in the Kaiser's words, to "Kinder, Kirche, Kuche"—children, church, and kitchen. They were expected to live affably under man-made laws, even when those laws discriminated against themselves; they were expected, in the majority of situations, to do work for about half or two-thirds the pay which

would be given to any man who might fill the same place; they were expected to pay taxes on property or on income, without any expectation of being represented in Government, the fact being altogether overlooked that "taxation without representation" was a grievance against which men themselves had fought and bled until their demands could be no longer set aside. But the war has turned the tide considerably. Out of a great calamity some good often comes, and out of this two great steps forward promise to be taken: (1) an international agreement which, in future will prevent one nation from trying to prey on another, and (2) the establishment of women, as human beings, on an equal footing with men, so far as they can go physically or mentally.

Personally I do not think that any wonderful revolution may be immediately expected upon the entrance of women into active governing of the country. Things of that kind never move very speedily, so we shall have to be patient. But I do think that women will help to hurry along many good things, especially in regard to laws for women and children. After all, of late years, men have been trying to be more fair and to-day, it is safe to say, the very highest type of men everywhere are whole-heartedly with the movement to give womankind the square deal; the advent of women into consultation with them will just help them to see and to act more quickly than they might otherwise do.

It is in the character of the women themselves, and their influence upon the children, that the change is likely to bring, in the long run, the greatest effect upon this future upon which we are entering. The chance to be really interested—and helpful—in public affairs must make women forever bigger, more broad-minded, more alive than ever before. And so, if they will keep graft so far away from them that no one dare even approach them with it, they may eventually become a stronger uplift to this country of ours than they could ever have dreamed, using the ballot, as Mrs. Nellie McClung said at the Conference, "as a tool to make things better for those who shall come after."

I have been writing you such solemn things of late that I feel like being giddy and silly for a whole month or more. To begin with, we've just taken a run down street to look at "the windows", and the spring styles. Really they are very pretty and—sensible—but everywhere the astounding sight was seen of all the figures (I mean the wax ones, with clothes on) turned with their backs to the street!

"What under the shining sun"—I began, but my friend chimed in with, "Why it's the back trimming, of course. Don't you know that this year most of the trimming is at the back?"

And so it was,—fronts of the suit coats quite severely plain, the backs showing buttons or buttons and braid, and sometimes colored embroidery on the collars.

But the colors are all lovely, such soft grays, browns and greens with an especially attractive ashy brown called "Cendrillon", (Why? I wonder). Navy blue, too, is very much to the fore, as it ought to be; a navy blue girl is usually one with an eye to the practical as well as the artistic.

—But I'm glad I'm not fond of trimming. If I were, and were to invest in a new suit this spring (which I'm not going to do) I should be afraid of being tempted to turn about like a teetotum to show my splendor. Perhaps, before the season is over, a "lobster walk" will be the fashion—going forward backwards, you know.

JUNIA.

A Word for Pussy

Dear Junia: I enjoyed very much Mr. Taylor's paper, published in a recent number of the Farmer's Advocate, dealing with School Gardens; but I should like to say a word for poor pussy, against whom he seems to have such a spite.

Some years ago we determined to do without a cat, but soon the place was overrun with mice. They got into everything and were eternally running about between the walls. Rats, too, appeared, and became very bold. We tried traps, poison and Gillie's lye in the rat-holes, separately and all together, but nothing did any good. In desperation we hastened

to get a cat, and soon the most of the rodents took their departure. We have come to the conclusion that as soon as a cat appears the pests scent an enemy and make up their minds it is best to decamp, so that their leaving does not depend greatly on the number killed by the cat.

By fastening a small bell on the cat's neck the birds are given warning. We have discovered that if the cat is well fed she will not bother so much with the birds anyhow. As rats and mice are among the most active carriers of plague they should not be permitted to gain the upperhand in numbers. Besides they are very dirty about a house, destroying everything they touch. In the barn, too, they destroy a great deal of grain.

By all means keep pussy and feed her well; she earns all the scraps she needs. But tie a bell on her to save the birds. They have their work to do too, as weed and insect eaters, as every farmer knows.

KATYDID.

An Economy Idea.

Dear Junia: Thinking it may help someone out of their hosiery difficulties I will tell you one way I have found to extend the life of "before-the-war" stockings.—I save the good legs and on them sew cashmere feet which you can buy for three pairs for forty-seven cents. They come in envelopes which have on them printed instructions for sewing on to the legs. I have used them for two or three years, and find them quite satisfactory.

Halton Co., Ont.

POLYCARP.

Thank you for the suggestion, Polycarp. I will be sure to act on it, although the wind was taken out of my sails lately by the assertion of a woollen manufacturer that it is impossible to make garments that are as good as they used to be because it is now necessary to use American yarn whereas formerly the yarn came from England. For the life of me I can't see why American yarn should not be as good as English. Possibly all the best wool is being used up for the army just now and we have to take the pickings. If that is the case we will submit without a word. But when the war is over we should make a clamor for honest materials and support only the firms that supply them.

Vegetables at This Time of Year.

At this time of year green vegetables are few and far between out in the country, but it is quite possible to have variety for the table with the "roots" etc., that are still in the cellar. Try these:

Bean Puree.—One cup cold baked or boiled beans forms the foundation. Put 2 tablespoons of flour and butter blended together in a saucepan on the fire, and stir until brown, then add the beans and 3 pints boiling water. Add a few stalks of celery (chopped) if you have them, or, if you like, a few slices of onion. Boil until the beans are soft, then press through a colander. Return the soup to the fire and let boil up once. Serve for supper with croutons of buttered bread toasted in the oven.

Carrot Salad.—Boil 3 carrots in water. When half done drain and finish cooking in fresh boiling water. When done take out, cool, and cut in half-inch dice. Make a dressing of ½ small teacup of vinegar, 3 tablespoons butter, yolk of a hard-boiled egg, saltspoon of salt, and half a saltspoon of pepper, cooked together and cooled. Mix with the carrots and serve with cold meat.

Scalloped Tomatoes.—Turn off the juice from a pint can of tomatoes, keeping it for soup for next day. Put a layer of breadcrumbs in the bottom of a buttered pudding dish, then a layer of the tomatoes from which the juice has been drained, seasoning with salt, pepper and a few bits of butter. Continue the layers until the dish is full finishing with buttered breadcrumbs (melt the butter) on top. Bake.

Toasted Potatoes.—Pare the potatoes and cut in thick slices, spread the slices on a greased baking dish, brush each piece with a little melted butter applied with a cookery brush or piece of folded paper, and bake until browned. Serve with fried liver or kidneys.

Vegetable Oyster Cakes.—Wash and scrape 12 roots of the oyster plant, throwing each in cold water as soon as scraped. Then slice them into a sauce-

pan, cover with boiling water and cook until tender. Drain off the water, add 1 teaspoon salt, mash through a colander, form into cakes and fry in hot dripping till brown on both sides. Serve very hot, for supper.

Turnips.—Prepare a quart of nice turnips cut in small dice, and boil in as little water as possible until nearly done, adding 1 tablespoon sugar and 1 teaspoon salt to the water. Then remove the cover and let the rest of the water boil off. Stir in 3 spoonfuls cream mixed with a beaten egg and serve very hot, with meat, for dinner.

The Cookery Column.

Orange Marmalade.—Take 6 oranges, 4 lemons, 1 grapefruit, sugar and water. Wash the fruit, cut it in quarters to remove seeds, and slice very thin. To each pound of sliced fruit add 3 pints cold water. Let stand 24 hours. Boil 2 hours, or until the peel is tender. Let stand until next day and to each pint of boiled fruit add 1 lb. sugar. Boil 2 hours or until it jellies. The bitter oranges always jelly better than the sweet ones. Many people prefer to boil the fruit down sufficiently before adding the sugar, which should be heated—and will only require about 5 minutes of boiling after it is added. By this method there is less danger of toughness, but the marmalade should boil until the rind loses the white look and is somewhat clear. The amounts given above should make 20 glasses.

Vegetable Soup.—Take the liquor in which a "boil" of meat has been boiled. It will not be very rich because, as every good cook knows, the meat was plunged into boiling water and boiled hard for a few minutes, then simmered the rest of the time. In this way the outside of the meat was seared and the juices were kept in, but the liquor was not much the richer. However, it has some flavor and will make very good soup if properly handled. In it boil plenty of carrots, turnip and onions, cut in pieces, putting in most of the vegetable you like best. Let cook about 3 hours, then put through a sieve or colander, squeezing the vegetables through with a stout spoon. Reheat, thicken slightly with flour, season and serve very hot for supper with toast or biscuits. A little beef extract added to the soup will make it richer. The very best soup is made with fresh soup bones cracked in several places. Put them in cold water and let soak an hour or two, then put on to boil adding vegetables, etc., as usual. In this way every bit of "good" is extracted from the bones and scraps of meat adhering.

War Cake.—Two cups crushed maple sugar, 2 cups water, 2 cups seedless raisins, 1 level tablespoon ground cinnamon, 1 level teaspoon ground cloves, 2 tablespoons fat, 1/2 teaspoon salt, 3 cups flour, 2 teaspoons soda. Mix all together except the flour and soda. Boil 5 minutes. When cold add the flour and soda sifted together. Bake in greased pans in a moderate oven 1 hour.

Corn Pound Cake.—Half cup brown sugar, 1/4 cup fat, 3/4 cup cornmeal, 1/4 cup milk, 1 egg, 1/2 teaspoon baking powder, 1/4 cup white flour, flavoring. Beat the fat to a cream, add the sugar and beat again. Beat the yolk of the egg and add. Sift the flour, cornmeal and baking powder together and add to the first mixture alternately with the milk. Flavor. Bake in a loaf.

Cottage Pudding with Lemon Sauce.—Take 1 1/4 cup sugar, 3 tablespoons butter, 2 eggs, 1 cup milk, 2 cups flour, 4 level teaspoons baking powder, 1 teaspoon powdered nutmeg, 3 teaspoons cornstarch, 2 cups boiling water, grated rind and juice of a lemon. Cream together 3/4 cup of the sugar with 2 tablespoons of the butter. Add the egg yolks, well beaten, milk, flour sifted with the baking powder and nutmeg. Mix well and fold in the beaten egg whites. Bake in a moderate oven 50 minutes. For the sauce mix the cornstarch with the remaining sugar, add the water and cook for 30 minutes, stirring constantly. Add the remaining tablespoon of butter and lemon and serve while hot.

Boiling Fish.

A little vinegar poured over fresh fish before boiling it keeps it from breaking into bits. Do not let the water boil too hard.

Mashing Potatoes.

When mashing potatoes add some hot milk and they will be ever so much more light and fluffy.

The Scrap Bag.

Saving Cereals.

If porridge of any kind is left over do not throw it into the garbage. Keep it in a covered vessel and add to the porridge when it is next made.

To Bake Potatoes Quickly.

If you are in a hurry for potatoes to bake let them stand in hot water for a few minutes before putting them into the oven.

Making Shoe Laces Last.

Shoe laces cost from 5 to 10 cents a pair nowadays, therefore are worth taking care of. Do not throw a broken lace away or tie it in unsightly knots. Lap the broken ends and stitch them neatly with a needle and thread. The lace will be nearly as good as ever.

Cooking in Double Boiler.

To hurry the cooking in a double boiler add a teaspoonful of salt to the water in the outer vessel.

Right Breathing.

Breathe from the diaphragm, that is deeply, keeping the mouth closed and the chest well up. This will give you a good carriage will develop your chest capacity and help you to be more healthy. If there are obstructions in the nose that prevent free breathing have them removed.

To Start a Fire Easily.

Keep a mixture of ashes and coal oil in a covered can, and when you want to start a fire quickly take out a spoonful and put it on the kindling. This burns longer, and does away with the danger of pouring on pure coal oil.

A Croquette Hint.

If you have no "deep fat" on hand to cook croquettes, shape the croquettes in little cones and place on a buttered baking-pan. Pour a tablespoon of melted butter over each and bake in a hot oven 10 or 15 minutes until nicely browned.

For Keeping Rooms Warmer.

Keep a dish of water on the register, stove or radiator in each room, so as to create a little steam. Humidity in the air keeps the room warmer and often prevents the dry tickling cough so annoying to some people.

Before Going Into the Cold.

Don't forget to put insoles—of felt, flannel or even brown paper in your shoes these cold days. They make a great difference in the comfort of one's feet. Heavy paper basted to the inside of a coat is also a great help if one has to work in the bush or go for long drives.

Use for Glass Sealers.

When sealers are empty they are very nice for keeping left-overs in, away from the dust, until used. They are also fine for keeping such things as tapioca rice, currants, etc., which are kept dry in this way and can be seen at once, saving time wasted in opening papers.

Butter.

Prof. Halliburton of London, Eng., in *Journal of Physiology* presents a strong plea for butter as one of the most valuable foods we have. He says it has been discovered that it contains, besides fat, a valuable substance for human health, something of the nature of vitamins. This substance is also found in egg yolk, cod liver oil, kidney and heart fat of animals, but is not in lard. The animal fat margarines (the higher priced ones) contain it, but not the vegetable oil or nut oil margarines.

Care of the Eyes.

"I never have the slightest trouble with my eyes," said a bright-eyed woman, "but I take good care of them. I never strain them by reading in a bad light or working fine stitches in fancywork. Besides I wash them twice a day, not just the outside of the lids—the eyeball itself. I keep a jar of water in which boracic acid is dissolved, on hand, also an eye-cup, which may be bought in a drug-store for 10 cents. I fill the eye-cup with the water, press it over my eye, then open my eye so that the liquid

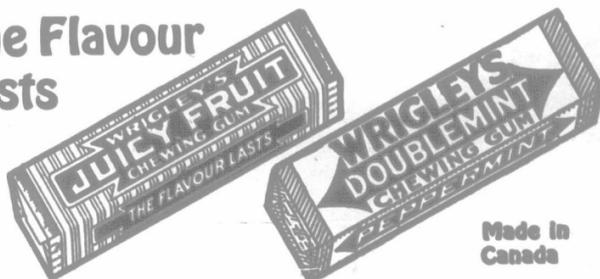


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are using WRIGLEYS regularly. It steadies stomach and nerves, allays thirst, puts "pep" into tired bodies. Aids digestion. Lasting refreshment at small cost.

Chew it after every meal

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BREAKFAST
PURITY OATS
SOLD IN
GERM PROOF TUBES
MANUFACTURED BY
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GOLD DUST!**

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Remove stains from floors and woodwork—with Gold Dust. Grease spots everywhere disappear like magic when Gold Dust starts work.

Only with Gold Dust can you get real Gold Dust results. So make sure it really is Gold Dust that your grocer sends you.

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SEEDS

'Advice From the Food Controller

Office of the Food Controller,
Ottawa, February 8, 1918

Re Maple Sugar:
Dear Sir,—I would respectfully suggest that in your advertising to maple sugar and syrup producers you emphasize the opportunity for Canadian maple products, and call attention to the cane and beet sugar shortage. You have authority for using any influence with the approval of this office for the campaign for increased maple syrup production, so our advice to each maple grove owner is—

Tap More Trees — Tap Every Tree You Can

Maple sugar is more than ever a food, a national necessity. Make preparations now to save this valuable crop, and double or treble the production. Every pound of sugar, every gallon of syrup helps food conservation.

With a GRIMM CHAMPION OUTFIT you can make more syrup with less help, and in less time, and at less cost, than any other way.

Put your maple bush in working order, and get in touch with us on the question of outfit.

THE CHAMPION

The Grimm
Manufacturing Co., Ltd.
60 Wellington St., Montreal

When writing please mention Farmer's Advocate

goes all over it. Then I repeat with the other eye. It only takes a minute, morning and night, and I think the benefit is very great. The boracic acid is soothing, cleansing and healing."

Food Value of Milk.

Prof. Dean of the O. A. C., speaking at the Eastern Ontario Dairyman's Association at Perth recently, stated that clean, pure milk is the only perfect food and that the family of five that does not use three quarts a day is not doing itself justice.

Cleanliness of the Nose.

The inside of the nose becomes very dirty, especially in winter when there are more secretions than usual, often of a catarrhal nature. As a result catarrh is likely to develop and often both eyes and ears are affected. And yet the nose may be kept clean with very little trouble, by snuffing up warm salt water morning and night, blowing out gently until the whole surface is clean. A small glass douche that can be bought at a drugstore for 15 or 25 cents will make the work quicker and easier.

Food Value of the Banana.

Bananas are a valuable food, their calorific value being 460 as compared with macaroni 415, oatmeal 285, lean round steak 540, and milk 325. The beef stands higher, but the meats are essentially protein, or muscle-building foods, while the banana is less a tissue-forming substance but is incomparably more effective in supplying the heat-giving materials, and helping to supply energy. The banana also contains some of the mineral substances found in green vegetables and fruits and so necessary for health. If bananas are quite ripe they are easily digested; if not really ripe they should be baked or fried. When really ripe the skin is quite yellow, with black spots and beginning to shrivel. After removing the skin the rough surface should be scraped off as it contains some indigestible elements. Medicinally the banana is considered especially good for the kidneys.—condensed from "Food Value of the Banana."

Food Consumed for Heat.

Only one-fifth of all the food eaten is required for muscular action, the other four-fifths being consumed in maintaining the temperature of the body. When the house is kept warm and sufficient clothing is worn to prevent chilliness, less food is required. Warm beds are a necessity, and if there are not blankets enough newspapers put between will help in conserving the heat of the body.

Hominy.

Hominy is a dish far too little known the farm folk of Canada. Cooked as porridge it is light, delicious and nutritious forming a pleasing variation for breakfast.

The Foods We Eat.

These foods build up our bodies and keep our muscles repaired:

- Meats of all kinds
- Fish
- Cheese
- Beans
- Peas
- Nuts
- Milk
- Eggs

These fuel foods keep us warm, give us energy and do some repair work:

- Breads of all kinds
- Porridge
- Buckwheat
- Macaroni
- Starchy Puddings
- Potatoes
- Sugar
- Syrups
- Dried fruits
- Jams
- Jellies
- Preserves
- Cream
- Butter
- Egg yolk
- Fats

These foods contain minerals which help to keep us in good health:

- Milk
- Fruit of all kinds
- Turnips
- Carrots
- Raw fruits
- Green vegetables
- Onions
- Tomatoes

All root vegetables

A mixture chosen from the different classes should, therefore, be a part of every day's diet.

A Good Ventilator.

Conservation of Life, issued by the Commission of Conservation, Ottawa, gives the following easy method for ventilating rooms in cold weather. "A screen made of a well-stretched piece of cotton on a frame is inserted above the upper window sash, which has been drawn down, so supplying a steady interchange of outer and inner air through a

substance from the r...
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substance which transfers much less heat from the room than a glass surface does. The space between the two sashes provides the inlet for fresh air. This, of course, will operate with double windows having movable panes fitted for the purpose. . . . To keep up the necessary amount of humidity in the air of a room, the article continues, a constant supply of steam should be kept up from a heater placed over the fire.

The Dollar Chain

Maintained by readers of The Farmer's Advocate and Home Magazine for the soldiers and all who are suffering because of the war.

Contributions from Feb. 28 to March 8: "Toronto", \$2.00; E. S., Cookstown, Ont., \$5; David Johnston, Jr., Glanworth, Ont., 50 cents; Charles Scott, Udney, Ont., \$1; Reader, R. 7, Guelph, Ont., \$2; E. A. B., Islington, Ont., 50 cents; Women's Institute, Burnstown, Ont., \$25; A. G. Palmer, R. 2., Florence, Ont., \$5; N. H. Culp, Vineland Stn., Ont., \$1; Angus McKenzie, Mitchell's Bay, Ont., \$3.50.

Previously acknowledged.....\$5,298.90

Total to March 8th.....\$5,304.40

Individual contributions to the Dollar Chain are coming in splendidly, and the splendid addition, this week, of \$25 from the Burnstown Women's Institute has pushed the total well over the \$5,300 mark. If other Institutes and schools were to follow this example, collecting even in very small amounts, it would not be long until the total at which we are immediately aiming, \$15,000, would have passed through this channel to the Red Cross, Soldiers' Comforts, Armenian and other relief work, for which this money is being used.

The suffering ones who are being relieved by your generosity thank you, in very relief from their sufferings.

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

Current Events

Parliament will open at Ottawa on March 18th.

An appropriation of \$5,000,000 is to be set aside by the Ontario Government for development work in Northern Ontario.

Hon. John Oliver, the new Premier of British Columbia is a farmer in the Delta country.

In the air-raid on London which took place on March 7th, 11 persons were killed and 46 injured.

On March 6th, 20 German airplanes were brought down by British airmen.

On March 10, British airmen raided Stuttgart, damaging the railway station and munition plants.

John Redmond, Irish Nationalist leader, died in London after an operation.

Sir Eric Geddes, First Lord of the Admiralty, says that Teuton submarines are being sunk as fast as they are built.

By the sinking of the British armed auxiliary cruiser, "Calgarian", torpedoed off the Irish coast, 48 lives were lost.

Notwithstanding the signing of peace terms with the Germans by the heads of the Bolshevik Government, many of the Bolsheviks appear still to be resisting the Germans, and fighting is reported from various parts. On the other hand the Ukrainians are not the only Russians who have rebelled against the Bolsheviks; in parts of Siberia, especially in the far east where General Semenov is raising anti-Bolshevik forces, collision may take place at any moment. The last surrender to the Teutons is that of Roumania which, isolated by the defection of the Russians, has been compelled

to agree to peace terms against which she is very indignant, as they involve the surrender of the greater part of the Dobrudja. . . . In the meantime preparations continue on the West front, where sharp artillery and aerial contests take place intermittently. In the Ypres sector, last week, General Haig's forces made a substantial gain. . . . In Palestine the British continue to advance victoriously northward from Jerusalem towards Damascus. In Mesopotamia the British have occupied Hit, 80 miles west of Bagdad.

Serial Story.

An Alabaster Box.

BY MARY E. WILKINS FREEMAN AND FLORENCE MORSE KINGSLEY.
By arrangement with McClelland, Goodchild & Stewart, Publishers, Toronto, Ont.

Chapter XVIII.

Ellen did not at once return home. She walked on reflecting. So the old man was Lydia Orr's father! And she was the first to know it!

The girl had never spoken of her father, Ellen was sure. Had she done so, Mrs. Solomon Black would certainly have told Mrs. Whittle, and Mrs. Whittle would have informed Mrs. Daggett, and thence, by way of Mrs. Dodge and Fanny, the news would long ago have reached Ellen and her mother.

Before she had covered a quarter of a mile of the dusty road, Ellen heard the muffled roar of an overtaking motor car. She glanced up, startled and half choked with the enveloping cloud of dust. Jim Dodge was driving the car. He slowed down and stopped.

"Hello, Ellen. Going down to the village? Get in and I'll take you along," he called out.

"All right," said Ellen, jumping in. "I haven't seen you for an age, Jim" said Ellen after awhile.

The young man laughed. "Does it seem that long to you, Ellen?"

"No, why should it?" she returned.

"I say, Ellen," said Jim, "I saw you when you came out of Bolton House just now."

"Did you?"

"Yes." He looked sharply at Ellen, who smiled evasively.

"I was going to call," she said with an innocent air, "but Miss Orr had—a visitor."

"Look here, Ellen; don't let's beat about the bush. Nobody knows he's there, yet, except myself and—you. You met him on the road; didn't you?"

"Yes," said Ellen, "I met him on the road."

"Did he talk to you?"

"He asked me what my name was. He's crazy, isn't he, Jim?"

The young man frowned thoughtfully at his steering wheel.

"Not exactly," he said, after a pause.

"He's been sick a long time and his mind is—well, I think it has been somewhat affected. Did he—He didn't talk to you about himself, did he?"

"What do you want to know for?"

"Oh, he appeared rather excited, and—"

"Yes; I noticed that." She laughed mischievously.

Jim frowned. "Come, Ellen, quit this nonsense! What did he say to you?"

"If you mean Mr. Orr—"

He turned his eyes from the road to stare at her for an instant.

"Did he tell you his name was Orr?" he asked sharply.

It was Ellen's turn to stare.

"Why, if he is Miss Orr's father—"

she began.

"Oh, of course," said Jim hurriedly.

"I was just wondering if he had introduced himself."

Ellen was silent. She was convinced that there was some mystery about the pale old man.

"He said a lot of awfully queer things to me," she admitted, after a pause during which Jim turned the car into a side road. . . . "I thought you were going to the village."

"This will take us to the village—give you a longer ride, Ellen. I'll take you home afterwards."

"After what?"

"Why, after we've got the mail— or whatever you want."

"Don't you think Miss Orr and that queer old Mr.— If his name isn't Orr, Jim, what is it?" She shot a quick glance at him.

"Good Lord!" muttered Jim profanely.

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CABBAGE —Early Jersey Wakefield (Improved)	.05		.60	1.75
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CELERY —Paris Golden Yellow, Extra Select	.15	.60	2.00	
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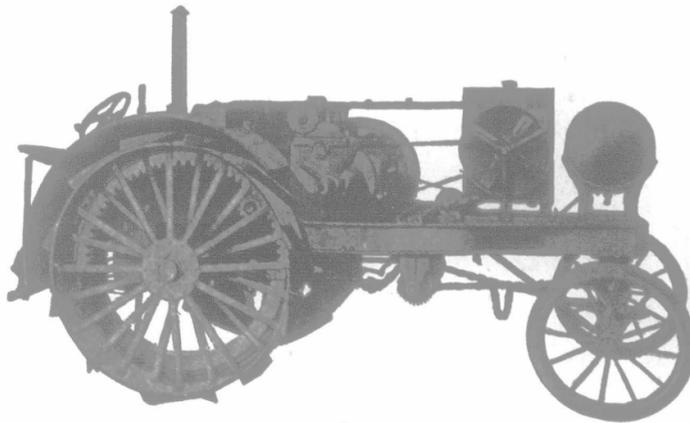
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This bull is a solid Red, one year old, and weighs over 800 lbs. His dam holds official world's butter-fat record for the breed, making 892 lbs. butter in one year as a four-year-old. The sire, Weldwood Captain, is bred from R. O. P. stock. Dam is recorded in the American Milking Shorthorn Book, but is not eligible for the Dominion Shorthorn Herd Book. This is an extra good calf, ready for service and suitable for a heavy-producing grade herd. Write:

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Right Guard Imp., 13410, foaled 1910; size, On Guard, color, brown, face and off hind leg, white. A great stock horse, kind and gentle in all harness.

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H. L. McConnell & Son, Port Burwell, Ont.
 When writing please mention this paper.

He drew the car up at the side of the road and stopped it.

"What are you going to do?" inquired Ellen in some alarm. "Won't it go?"

"When I get ready?" said Jim.

He turned and faced her squarely:

"We'll have this out, before we go a foot further! I won't have the whole town talking," he said savagely.

Ellen said nothing. She was rather angry.

"The devil!" cried Jim Dodge. "What's the matter with you, Ellen?"

"With me?" she repeated.

"Yes. Why can't you talk?"

She shrugged her shoulders. "I want to go home," she said.

He seized her roughly by the wrist. "Ellen," he said, "I believe you know more than you are willing to tell." He stared down into her eyes. "What did he say to you, anyway?"

"Who?"

"You know well enough. The old man. Lord, what a mess!"

"Please let me go, Jim," said Ellen.

"Now look here, I know absolutely nothing except what I have told you, and I want to go home."

"Ellen!"

"Well?"

"Can you keep a secret?"

"Of course I can, Jim!" She met his dark gaze squarely.

"Well, rather than have you spreading a piece of damnable gossip over the village—Of course you would have told everybody."

"You mean about meeting the old man? But won't everybody know? If he goes out and talks to people as he did to me?"

"You haven't told me what he said."

Ellen raised her brows with a mischievous air.

"I didn't care to spread any—what sort of gossip did you say, Jim?"

"Confound it! I didn't mean that."

"Of course I could see he was some one who used to live here," she went on.

"He knew father."

Jim had thrust his hands deep into his trousers' pockets. He uttered an impatient ejaculation.

"And he said he should go out whenever he felt like it. He doesn't like the automobile."

"Oh, it's an impossible proposition. I see that plainly enough!" Jim said, as if to himself. "But it seems a pity—"

He appeared to plunge into profound meditation.

"I say, Ellen, you like her; don't you?"

Don't see how you can help it. She's a wonder!"

"Who? Miss Orr?"

"Of course! Say, Ellen, if you knew what that girl has gone through, without a murmur; and now I'm afraid—By George! we ought to spare her."

"We?"

"Yes, you and I. You can do a lot to help. Ellen, if you will. That old man you saw is sick, hardly sane. And no wonder."

He stopped short and stared fixedly at his companion.

"Did you guess who he was?" he asked abruptly.

Ellen reflected. "I can guess—if you'll give me time."

Jim made an impatient gesture. "That's just what I thought," he growled.

"There'll be the devil to pay generally."

"Jim," said Ellen earnestly, "if we are to help her, you must tell me all about that old man."

"She wanted to tell everybody," he recollected gloomily. "And why not you? Imagine an innocent child set apart from the world by another's crime, Ellen. See, if you can, that child growing up, with but one thought, one ideal—the welfare of that other person. Picture to yourself what it would be like to live solely to make a great wrong right, and to save the wrongdoer. Literally, Ellen, she has borne that man's grief and carried his sorrow, as truly as any vaunted Saviour of the world. Can you see it?"

"Do you mean—? Is that why he calls it Bolton House? Of course! And that dreadful old man is— But, Jim, everybody will find it out."

"You're right," he acknowledged. "But they mustn't find it out just yet. We must put it off till the man can shake that hang-dog air of his. Why, he can't even walk decently. Prison is written all over him. Thank God, she doesn't seem to see it!"

"I'm so glad you told me, Jim," said Ellen gently.

"You won't say a word about this, will

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A FEW CHOICE WHITE ROCK COCKERELS for sale; \$5 each. N. Bushfield, Mitchell, Ont.

BEULAH FARM WHITE WYANDOTTES—Winners at the principal egg-laying competitions. Official records over 200 eggs. Hatching eggs from two-fifty per setting. Mating list free. McLeod Bros., Box A, Stoney Creek, Ont.

BRED-TO-LAY BARRED ROCK COCKERELS and Indian Runner Ducks. Bred right. Priced right. John Annesser, Tilbury, Ont.

BABY CHICKS—PURE-BRED S.-C. WHITE Leghorns, B. P. Rocks. Price 20c. each. Eggs, fifteen \$1.25, thirty \$2.25, hundred \$7; bred-to-lay stock. Pekin duck eggs, ten \$1.25. Satisfaction guaranteed. Charles B. Ballard, Myrtle Station, R.R. No. 1, Ont.

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DAY-OLD CHICKENS FOR SALE—WYANDOTTES, Rocks, Reds, Orpingtons and Leghorns. Guaranteed safe delivery. Send for free price list, it tells you how to raise them. This is the cheapest and safest way to start a flock of poultry. Hind, 5 Sandford Ave., Toronto.

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EGGS FOR HATCHING FROM OUR NOTED winter layers, O.A.C. Bred-to-Lay Single-comb White Leghorns, \$2.50 per 15; \$4 per 30; \$6 per 50; \$10 per 100. Roseheath Poultry Farm, Richmond Hill, F. R. Oliver, proprietor.

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FOR SALE—A FEW CHOICE UTILITY Silver Wyandotte cockerels from my exhibition stock, at \$4.00; hens, \$3.00, 2-year-old. Eggs from my best stock at \$3.00 per 15. Guarantee hatch of 9 or replaced at half price. Look up my winning at Dunnville Poultry Show. Member, Silver Wyandotte Club. J. O. Moore, Grassie, Ont.

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O. A. C. BRED-TO-LAY SINGLE-COMB White Leghorns, 200 Single-comb White Leghorn pullets, \$2.50 each, 10 to 20 at \$2.25 each, larger number at \$2 each. These birds are May hatch, been laying some time and will make good breeders; 35 Single-comb White Leghorn cockerels from O. A. C. high-egg record-makers. One of these birds will improve your flock, \$4 each. Roseheath Poultry Farm, F. R. Oliver, Prop., Richmond Hill, Ont.

PEERLESS WHITE WYANDOTTES, WINNERS at recent Waterdown Poultry Show; a few choice cockerels priced right. W. S. Bennett, R.R. No. 1, Freeman, Ont.

ROSE-COMB REGAL WHITE WYANDOTTE Cockerels, \$2.50 and \$3. 15 eggs, \$3. Percy Clapp, Tecumseh, Ont.

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TURKEY EGGS—WE HAVE 50 HEALTHY Bronze Turkey Hens, mated to strong, husky, young and old toms; eggs ready in season at \$4 per 10 eggs; few toms left. Send in your order, we have the eggs ready for you. Everything in pure-bred poultry—write us first. We want your surplus of eggs and baby chicks. Stamps highly appreciated. Yamaska Poultry Farms, St. Hyacinthe, Quebec.

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WHITE WYANDOTTES, REGAL STRAIN—Hatching eggs from my best pens \$2 per fifteen, \$10 per hundred; utility pens \$1.75 per fifteen, \$8 per hundred. Cockerels four to ten dollars each; one of these will improve your flock. All my stock are Martin's Regal Strain. Satisfaction guaranteed. Book orders quickly. A. Hobbes, Northern Crown Bank, Port Dover, Ont.

WHITE ORPINGTONS—ALDRICH STRAIN, from New York winners, low down, massive kind; hens, pullets, cocks, trio \$15.00. Eggs \$3 and \$5 per fifteen. Wm. Kappler, St. Mary's, Ontario.

32 cents For chickens (dressed)
30 cents For large hens ALIVE
Above price paid by
WALLERS, 702 Spadina Ave., Toronto
Write for price list.

you, Ellen?" he asked anxiously. "I can depend on you?"
"Give me a little credit for decency and common-sense," replied Ellen.
Jim bent over the wheel and kissed her.
To be continued.

New Rule Re Mail to Enemy-Occupied Territory.

It has been found that the charge previously stipulated (25c.) for the forwarding of correspondence from Canada to enemy and enemy occupied territory through the medium of Thos. Cook & Son, Montreal, does not cover the costs of such transmission, and in future the charge for forwarding such correspondence will be 35c. per letter.

This amount is to be remitted by means of a Postal Note, together with the letter which is to be forwarded, to Thos. Cook & Son, 530 St. Catharine Street West, Montreal, in accordance with the instructions which may be obtained on application from Thos. Cook & Son.

All enquiries on this subject are to be made to Thos. Cook & Son, 530 St. Catharine Street West, Montreal, who will furnish a copy of the regulations to be observed in sending such correspondence. When writing Thos. Cook & Son a stamped addressed envelope must be enclosed if a reply is desired.

Too much attention cannot be paid to the regulations governing this correspondence, as any item which contravenes these regulations in any way will not be transmitted.

R. M. COULTER, Deputy Postmaster General.

Sale Dates.

March 15, 1918.—Weil & Lyfield, Jarvis, Ont.—Shorthorns.

March 15, 1918.—H. Clark Hanmer, Norwich, Ont.—Holsteins.

March 19, 1918.—Noah S. Bender, Tavistock.—Holsteins.

March 19, 1918.—C. Slavin, R. R. 4, Malton, Ont.—Holsteins and Clydes.

March 20, 1918.—Thos. McNea, R. 6, Owen Sound, Ont.—Holsteins.

March 20, 1918.—Oxford District Holstein Breeders' Club Consignment Sale, Woodstock, Ont.—Holsteins.

March 21, 1918.—Henry Arkell & Son, R. 2, Guelph, Ont.—Oxford Ewes and Ewe Lambs, Horses, Implements, etc.

March 21, 1918.—Allison Stock Farm, Chesterville, Ont.—Holsteins.

March 21, 1918.—H. P. Kennedy at Union Stock Yards, Toronto.—Shorthorns.

March 26, 1918.—Stoneycroft Stock Farm, Ste. Anne de Bellevue, Que.—Ayrshires, Holsteins, Clydesdales.

March 27, 1918.—Chas. E. Rogers, Ingersoll, Ont.—Jerseys.

March 27, 1918.—Southern Counties Ayrshire Breeders Woodstock, Ont.—Ayrshires.

March 27, 1918.—Ira B. Vannatter, R. 1, Georgetown, Ont.—Shorthorns, implements, etc.

March 28, 1918.—G. A. Brethen, Norwood, Ont.—Holsteins.

April 2, 1918.—N. S. Washington, Solina, Ont.—Holsteins.

April 2, 1918.—Brant District Holstein Breeders' Club Consignment Sale, Brantford, Ont.—Holsteins.

April 2 and 3, 1918.—Ontario Consignment Sale Company, London.—Shorthorns.

April 2, 1918.—Menie District Ayrshire Breeders' Club, Campbellford, Ont.—Pure-breds.

April 3, 1918.—Belleville District Holstein Breeders' Club Consignment Sale, Belleville, Ont.—Holsteins.

April 5, 1918.—Dunrobin Farms, Beaverton, Ont.—Holsteins.

April 10, 1918.—T. G. Gregg, R. 5, Ingersoll, Ont.—Holsteins.

June 11, 1918.—Dr. A. A. Farewell, Oshawa, Ont.—Holsteins.

An old woman, speaking of the terrible state of affairs in France, and elsewhere said to a visitor, "Lor, mum! If this is war, what must rumors of war be like!"—London "Daily Chronicle".

Cash Prize Contest

STANDING THIS WEEK:

There have been big changes since the last bulletin.

- 1. MICHAEL UNVERZAGT (With a lead of fourteen names over the next competitor.)
2. T. S. MILLER (Is one name ahead of W. J. Trebelco.)
3. W. J. TREBELCO
4. D. J. COLEMAN (Is two names behind third place.)
5. HUBERT PITZ (Four more names will put him in third place.)
6. LEONARD ANNETT, MERRITT HUNTER, FREDDIE W. SMITH, F. A. WEYLIE (Are all tied for sixth place, and one name behind Hubert Pitz.)

This competition is open to all our readers.

Secure the first, second or third largest list of new subscribers to The Farmer's Advocate before the end of this month and win a cash prize, in addition to a liberal commission and special bonus on each completed list of ten new subscribers.

SEND IN THIS COUPON

The Farmer's Advocate & Home Magazine, London, Ont.

Gentlemen,—I want to win a cash prize by getting new subscribers to The Farmer's Advocate. Please send me instructions at once.

Name.....Age.....

Address.....

Name of subscriber.....

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It Increases the Egg Yield

Feed Royal Purple Poultry Specific to your fowls daily in a hot or cold mash. It will keep your hens active and healthy by assisting them digest and assimilate the food eaten.

If you feed our Poultry Specific according to directions to fowls which are properly housed you will get nearly as many eggs during the winter months as you ordinarily get in the summer. It will pay for itself many times over. Read the following letter from Robt. Cameron, Hensall, Ont.

"I have been using your Royal Purple Poultry Specific for the past year and it pays for itself many times over in the extra production of eggs, and it makes my hens lay in the winter when the price of eggs is high."

Sold in large and small packages.

80 PAGE BOOK SENT FREE

Send for this valuable book which describes the common diseases of poultry and stock. It tells how to build and remodel poultry houses and how to raise calves without milk. Write for a copy now.

W. A. Jenkins Mfg. Co. Ltd., London, Canada

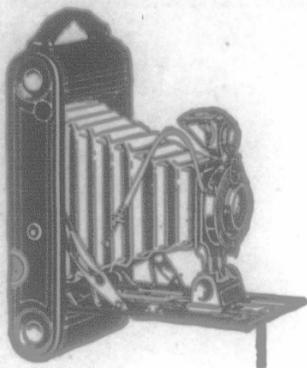
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Free catalogue on request, illustrating Incubators, Brooders, Hoppers, Founts, etc. Make your hens keep you.

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Your farm in picture—there would be pleasure in that for you—and utility.

An Autographic Kodak not only gives you pictures of buildings, live stock, crops, fields, but the opportunity for a written record—the all-important date and title jotted beneath each negative directly after exposure.

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We can supply, on short notice, limited quantities of Choice, High-Quality Field Grains from the following varieties:

Marquis Wheat, Goose Wheat, O.A.C. No. 21 Barley, Bunker King Oats, O.A.C. No. 72 Oats, Silver Hull Buckwheat Centennial Peas
Also Highest Grades of Clovers and Timothy

Ask for our prices on Mangels, Turnips, Onions, Potatoes, Beets, Corn and garden seeds of all kinds.

If in need of feeds, write us. We can supply Cotton Seed Meal, Linseed Oil Cake Meal, Corn Oil Cake Meal, Gluten Feed (23% Protein), Bran, Shorts, Corn, Cracked Corn, Corn Meal, Re-Cleaned Standard Screenings, Ground Screenings, Beef and Bone Scrap, Poultry Grit, Oyster Shell, Alfalfa Meal etc.

We manufacture the well-known "Good Luck" Brands of Poultry Feeds and can supply any quantity. Try our Good Luck Baby Chick Feed. It gives results.

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Write or Phone for Prices.

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10-15-20

Years from now the Bissell Silo will be giving good service. It is built of selected timber, treated with wood preservatives that prevent decay. It has strong, rigid walls, air-tight doors, and hoops of heavy steel. Therefore it lasts, simply because it can't very well do anything else. Our folder explains more fully—write Dept. W.
T. E. Bissell Co., Ltd., Elora, Ont.

"Letters!"

What is the call, the bugle call,—the call that has no better—
The longed-for call, that beats them all—
that musical call for "Letters?"

You can take a silver trumpet and sound the dread alarm,
T. A. will spring to action, with his rifle 'neath his arm;
But if you want to see him jump and run like a streak of hail,
Just take the same old bugle and sound the call "mail!"

No one who's not been there himself can tell just what it means
To have a live epistle from your home tucked in your jeans;
Why a trifling sweet "John Collins" to a thirst you would not sell,
Isn't in it with a starving heart that gets a word from Nell.

Or, perhaps the maiden's name is Kate or Jane or Marguerite,
But a scented word of love makes a week's dull drudgery sweet,
And any mother's soldier son, who hears the bugle cry,
Just stops his heart and holds his breath for fear he'll be passed by.

His hands are all a-tremble and his eyes stick out like pegs,
And he goes all of a quiver with the ague in his legs.
But if his name's not on the list, he wilts like a frozen bud
Until another "Mail" call brings him trudging through the mud.

He is no correspondent and his answers are but few,
His chances are so very slim to write his "Billetdoux",
And when he does, it is beneath a spluttering pine-knot taper,
With a broken nib and an ink-starved pen, on a scrap of cartridge paper.

Now the moral is for the folks at home—
DON'T WAIT FOR HIM TO WRITE,
And don't just say, "Dear Tom"—must close—
I hope this finds you right."
But a good, long, newsy letter is the least that you can yield,
In the way of active service to your Tommy in the field.

That is the call, the bugle call,)the call that has no better,
The longed-for call, that beats them all, that musical call for "LETTERS!"
—From Orpington Military Hospital.

During the past two week some sharp fighting has taken place north and north-west of Rheims—and also in the Champagne district. In the fighting east of Chavignon, where the Germans were thrown back with heavy loss, American troops assisted the French and acquitted themselves gallantly. In the meantime heavy artillery firing has gone on in the Argonne and Woivre regions. Everywhere action seems to be sharpening in anticipation of the great general battle which is approaching. In Russia the German invasion proceeds in the face of spasmodic resistance offered at times by the supporters of the revolution, but at time of going to press it is stated that the Bolshevik Government has agreed to the Germans peace terms, which have been made more stringent than ever. The most important war news from the East, however, is the increasing certainty that Japan will enter the war and will aid Gen. Semenoff in his anti-Bolshevik crusade in Eastern Siberia. Americans may also assist here, as the United States has a strong naval force in the Pacific. In Mesopotamia General Marshall's troops have arrived within a few miles of Hit, 100 miles west of Bagdad.

Knew His Place.—Sister Smith was called upon for testimony in a revival meeting. She humbly declined in these words:

"I have been a transgressor and a black sheep for a good many years and have only recently seen the light. I believe that my place is in a dark corner behind the door."
Brother Jones was next called upon. Following Sister Smith's meek example, he said:

"I, too, have been a sinner for more than forty years, and I do not think I ought to stand before you as a model. I think my place is behind the door, in a dark corner, with Sister Smith."—Ladies' Home Journal.

KEITH'S

THE FARMERS SEEDSMAN SEEDS FIFTY-TWO YEARS SERVICE

1866 1918

DECIDE What to Plant Now!

<p>Seeds will be in greater demand this year than ever before on account of the big shortage of good seed and the Government's demand for increased production. Do not delay your order.</p> <p>CORN—On account of the severe shortage of seed corn this year—practically none being obtainable from Canada—we will accept orders NOW for Seed Corn (shelled) southern-grown, subject to our receiving delivery from United States War Board. This corn is of excellent quality and is on the way now. We quote the following varieties: Red Cob—Early Prince Charles (Red Cob) would do as a substitute for Wisconsin No. 7, Leaming (Improved), Leaming (Fodder), Mammoth Southern. \$5.00 per bushel. Freight paid on orders of \$25.00 and over to Ontario and Quebec points.</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">Government Standard</th> <th style="text-align: right;">Per bus.</th> </tr> <tr> <td>No. 1 Red Clover.....</td> <td style="text-align: right;">\$26.00</td> </tr> <tr> <td>No. 1 Alsike.....</td> <td style="text-align: right;">16.50</td> </tr> <tr> <td>No. 2 Alsike, No. 1 for purity....</td> <td style="text-align: right;">15.50</td> </tr> <tr> <td>Alfalfa, Ontario Variegated No. 2, almost No. 1 for purity.....</td> <td style="text-align: right;">24.00</td> </tr> <tr> <td>No. 1 Timothy, extra No. 1 for purity.....</td> <td style="text-align: right;">6.25</td> </tr> <tr> <td>No. 2 Timothy, extra No. 1 for purity.....</td> <td style="text-align: right;">5.75</td> </tr> <tr> <td>No. 2 Timothy, No. 1 for purity.....</td> <td style="text-align: right;">5.25</td> </tr> <tr> <td>Kentucky Blue Grass, 21c. per lb; postpaid 35c.</td> <td></td> </tr> </table> <p>We pay railway freight to all parts in Ontario and Quebec on orders of \$25.00 or more.</p> <p>Get our quotations on Mangel and Turnip Seeds. We are in the market for 6-rowed and 2-rowed Barley, Marquis Wheat, Emmer Black Barley, Sweet Clover.</p>	Government Standard	Per bus.	No. 1 Red Clover.....	\$26.00	No. 1 Alsike.....	16.50	No. 2 Alsike, No. 1 for purity....	15.50	Alfalfa, Ontario Variegated No. 2, almost No. 1 for purity.....	24.00	No. 1 Timothy, extra No. 1 for purity.....	6.25	No. 2 Timothy, extra No. 1 for purity.....	5.75	No. 2 Timothy, No. 1 for purity.....	5.25	Kentucky Blue Grass, 21c. per lb; postpaid 35c.	
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GEO. KEITH & SONS SEEDS 124 KING ST. E. TORONTO

43
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The DUNROBIN Farms

43
HEAD

Dispersion Sale of

REGISTERED HOLSTEINS

(THE PROPERTY OF COL. JOHN A. GUNN)
will be held on

Friday, April 5th, 1918

At The Union Stock Yards, Toronto

Inadequate railway service and scarcity of efficient help compel us to go out of dairying. The herd is being sold in Toronto as train connections for Beaverton are not good for buyers from a distance. Some 30 of the herd are now bred to Echo Segis Champion, whose sire is a full brother of May Echo Sylvania. FOR CATALOGUES (READY MARCH FIFTEENTH) APPLY TO:

THE DUNROBIN FARMS, BEAVERTON, ONT.

WANTS AND FOR SALE

BEAUTIFUL HOME AND POULTRY RANCH near Agricultural College. Excellent view overlooking Guelph. Over three acres good land, large trees, white brick house (nine rooms), electric light, city water, bathroom, two fire grates, cellar, horse stable or garage. Extensive poultry and pet-stock buildings, having cost about \$2,500, comparatively new and painted; exceptional opportunity for raising poultry, pigeons, birds, hares, goats, etc., for exhibition and utility purposes. Two blocks to Guelph street cars, three blocks to Toronto Suburban Station, and about one mile to Provincial Winter Fair Buildings and Grand Trunk and Canadian Pacific depots. Easy terms for quick sale. Possession first of April. For further particulars write Charles Zavitz, Agricultural College, Guelph, Ont.

EXPERIENCED FARMER WANTS STOCKED farm, also implements, to work on shares. Write E. Harnden, 28 Winnifred Ave., Toronto.

FOR SALE—SCOTCH COLLIE MALE PUPPIES; bred heifers. Price five dollars. W. A. Campbell, Alliston, Ont.

FOR SALE—FARM 200 ACRES, FIRST-CLASS buildings and stabling. Brick house, slate roof, modern conveniences. Land all under-tiled; lots of water, good orchard and hardwood bush; also house for hired man. Apply Box 142, Springfield, Ont.

HERDSMAN WANTED BEFORE APRIL 1st.

Good milker, preferable, one experienced in fitting Ayrshires and willing to attend importation in quarantine and prepare for sales. Yearly situation guaranteed to the right man. Apply, with some references and wages expected, to Hunter Bros., Grimsby, Ont.

GOOD FARM FOR SALE—FIRST-CLASS buildings, never-falling water, nice orchard; 12 miles to Hamilton. Apply Thos. Edworthy, R.R. 1, Copetown, Ont.

WANTED—EXPERIENCED HERDSMAN for dairy herd, wanted for Kemptville Agricultural School. Free house supplied to married man. Apply, giving references and stating experience to W. J. Bell, Principal.

WANTED—SINGLE MAN FOR "WELD-WOOD FARM," must be experienced in all branches of farm work; a good milker, and familiar with feeding and caring for cows on record work. Apply Farmer's Advocate, London, Ont.

WANTED AT ONCE—A SINGLE SCOTCH-MAN to work on farm by the year, and also who understands feeding and looking after Short-horns. State wages per year. Apply to A. J. Fox, Harrow, Ont.

YOUNG MARRIED MAN OPEN FOR position as farm manager; life experience. J. Ogilvie, 15 Smith St., Toronto.

CHILDREN THRIVE ON

McCormick's
JERSEY CREAM
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ALWAYS CRISP AND DELICIOUS

Would You Like a Beautiful Skin?

A woman's skin is naturally soft, clear and lovely. Carelessness, poor soaps, exposure and neglect will often spoil its appearance. The Hiscott Institute treats all non-infectious skin and scalp troubles. Our preparations will cure Pimples, Blackheads, Wrinkles, Roughness, Undue Redness, Blisters, etc. Sent to any address on receipt of price, with full instructions for home use. We recommend to every woman a jar of Princess Skin Food. It benefits good skins as well as poor complexions.

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SUPERFLUOUS HAIR PERMANENTLY REMOVED.—There is only one sure method—Electrolysis—we have used it for twenty-five years.

WRITE FOR BOOKLET "F."

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61A College St., TORONTO

Before Hatching Time Make Sure of Fertile Eggs

FERTILITY depends upon the health and vitality of the breeding stock. Healthy parent birds produce sturdy, lively chicks. Put your breeders in prime condition and keep them strong and vigorous at a cost of only one cent each per month.

Pratts POULTRY REGULATOR

will build up your breeding stock and insure a well-born chick from nearly every egg. The result is also quickly shown in the greater vitality of the chicks themselves. They grow rapidly and mature early, because they are given a proper start. **Pratts Poultry Regulator** prevents most of the common poultry diseases. It is a natural tonic and regulator exactly suited to the constitution of poultry. It acts directly upon the organs of digestion and egg-production, tones up the entire system and guards against disease. **Pratts Poultry Regulator** enables you to get more eggs the year round—and more fertile eggs right now. It does this, too, without added expense, but at an actual saving in the cost, because it makes your hens enjoy their feed and get more nourishment out of everything you feed them.

Pratts is Always Added to the Mash, Not to be Given Separately

Your dealer has "Pratts" in popular sized packages, also in 25-lb. pails and 100-lb. bags.

Start the Young Chicks Right

When the chicks are hatched remember they should be given **Pratts Baby Chick Food** for their first feeding, and kept on it for the first three weeks.

Pratts Baby Chick FOOD

will save all the well-born chicks. Makes them grow and hustle. Supplies all that's needed for the critical first three weeks. Wise poultrymen all over the world enthusiastically endorse, buy and use **Pratts Baby Chick Food** because it is widely recognized as the standard for raising more and better chicks at least cost. For about One Cent you can feed a **Baby Chick** for **Three Weeks** and start it on the road to independence.

Put up in 50-lb. and 100-lb. bags, also in smaller popular-priced pkgs. at your Dealer's.

Pratts White Diarrhoea Remedy

If you fear trouble from this disease use **Pratts White Diarrhoea Remedy** in the drinking water from the time of hatching, and continue for at least ten days. A powerful intestinal antiseptic, easy to give and certain in results. At your Dealer's in popular-priced packages.

Pratts Powdered Lice Killer

Is certain death to all kinds of poultry lice. Rids your flock of lice and mites. Perfectly harmless to use. Does not irritate the skin or lungs of the fowls. Also destroys fleas on animals and keeps plants and vines free from insects. At your Dealer's in sifter-top cans.

Money Back if not Satisfied

Write for Book "Poultry Wrinkles"

Pratts new 64-page book, "Poultry Wrinkles," should be in the hands of every poultry raiser in Canada. It is full of useful information for the beginner and veteran alike. Profusely illustrated. Sent FREE to any address in Canada. Write for it NOW.

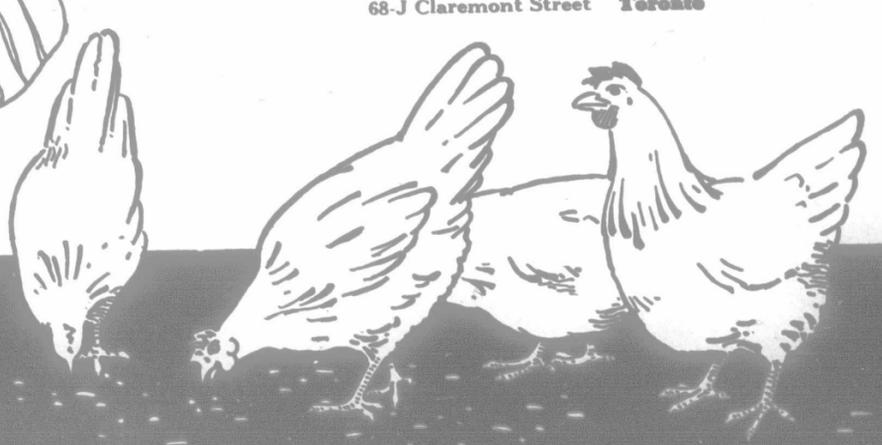
Poultryman's Complete Handbook

is the universally recognized authority on Poultry Raising. It contains 160 pages and 150 illustrations. This is a \$1.00 Book. We have a limited number left to distribute at the Special Price of TEN CENTS a copy. Write for it to-day, enclosing TEN CENTS, and we will send it, post paid, by return mail.

PRATT FOOD CO. OF CANADA, LIMITED

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The Simple Tractor at Last!

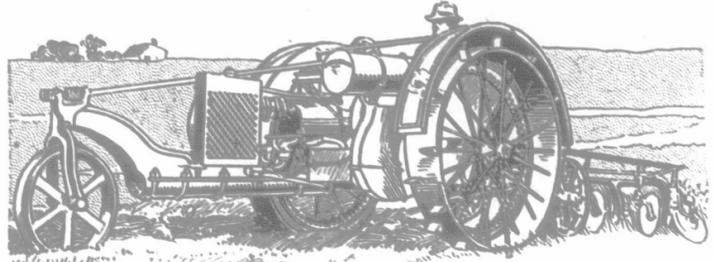
No need to be a mechanic or an engineer to understand all about this simple tractor. A lad can run it. The

Happy Farmer Tractor

Model A—8-16 H.P. Model B—12-24 H.P.

doesn't get mysterious ailments, never tires, never goes lame when you most want to use it. Parts are few, easy to understand and easy to get at. Sturdiest of all steel tractors, you can put it through the hardest grind day after day. Model B is built to pull three 14-inch plows through any kind of soil. That is the hardest test of all, and it hums right through without strain.

Model B weighs less than 4000 pounds, yet it delivers 2000 pounds draw bar pull for plowing and heavy hauling. That means economy all around. Besides, it is light enough for the harrow, seeder and drill. It absolutely does not pack the soil. It delivers 24 horse-power for all kinds of belt work. And it does it all easily—not on expensive gasoline—but on cheap coal oil. Its motor is not adapted, but specialized for



burning kerosene without carbon or smoke troubles. It uses ALL the fuel. If you prefer a lower power machine, Model A supplies 8 horse-power at the draw bar and 16 horse-power for belt work.

Can you afford to face the great responsibilities of the 1918 crop without considering the Happy Farmer? Send for prices, terms and literature giving full descriptions and testimonials showing what it does in actual service. Write to-night.

The Renfrew Machinery Co., Limited

Head Office and Works: Renfrew, Ontario

Eastern Branch: Sussex, N.B.

Agencies almost everywhere in Canada

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LOCATE IN THE NECHAKO VALLEY

ONE OF
AMERICA'S CHOICEST
MIXED FARMING DISTRICTS

THE NECHAKO VALLEY, situated in Central British Columbia, recently made accessible through the completion of the main line of the Grand Trunk Pacific Railway, now invites those who are seeking an ideal climate, a wonderfully productive soil, splendid markets near at hand, cheap building material and fuel, beautiful lakes and streams (teeming with fish), to make their homes and fortunes there.

THE NECHAKO VALLEY has greater advantages and possibilities from a dairy and mixed farming standpoint than any other district in America.

For full particulars relative to lands for sale (practically on your own terms) and for reduced railway fares and settlers' rates, apply to

THE NECHAKO VALLEY
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Dept "A", 359 Grain
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CENTRAL BRITISH COLUMBIA

IRON AGE

Farm, Garden and Orchard Tools
Answer the farmers' big questions.
How can I grow crops with less
expense? How can I save in plant-
ing potatoes? How make high
priced seed go farthest? The
IRON AGE Potato Planter
solves the labor problem and makes
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Means \$5 to \$50 extra profit per acre.
Every seed piece in its place
and only one. Saves 1 to 2
bushels seed per acre. Uni-
form depth, even
spacing. We make
a full line of potato
machinery. Send
for booklet today.

No Misses

No Doubles

THE BATEMAN-WILKINSON CO., Ltd.

41 Symington Avenue, Toronto, Canada.

When writing please mention this paper.

Gossip.

An offering of 75 Shorthorns will be disposed of by auction at the Union Stock Yards, Toronto, on Thursday, March 21, 1918. The consignor is H. P. Kennedy, who has selected this choice bunch of Shorthorns from some of the best breeding herds in the Province. Three bulls and 15 females were calved in 1917; 7 bulls and 18 females were calved in 1916; 4 bulls and 15 females were calved in 1915; 7 bulls and 16 females were calved in 1914, or before. Catalogues are now ready and will be mailed on application. Address Walter Harland Smith, Union Stock Yards, Toronto.

Holsteins and Clydesdales at Auction.

Six Clydesdale horses and 41 Holstein cattle will be disposed of by auction, by C. Slavin, Malton, Ont., on March 19. In the Holstein offering are granddaughters of Count Hengerveld Fayne De Kol and King Pontiac Artis Canada. Most of the females are in calf to the herd sire, Count Echo Pontiac, a son of the great King Pontiac Artis Canada and Dolly Echo De Kol. An extra well-bred bull, son of King Segis Pontiac Posch, is included in the offering. His dam was a 19-lb. two-year-old. Two of the Clydesdales to be sold are imported mares. See the advertisement and write for a catalogue and full particulars.

In the Oxford County Holstein Breeders' Club sale, to be held on March 20, will be a lot of choice males and females. Daughters of some of Canada's greatest Holstein bulls will be in the sale. Daisy Butter Baróness, a daughter of Butter Baron, has a 19-lb. record and is due to freshen in May. Lady Veeman Abbecker is a show cow of high merit and is being offered. Her record is 28.54 lbs. It is seldom that the public has the opportunity of setting the price on as fine a cow as this. She is only a five-year-old and is sired by Count Ladoga Canary. There are a number of animals by Shadelawn Count Canary, Grace Fayne 2nd, Sir Colantha, Prince Colanthus Abbecker, Funderne Valdessa Ormsby Fayne, Canary Hartog, Prince Abbecker Mercena and others of equal note. There will be an opportunity of securing choice herd headers at this sale. It should be remembered that many leaders in showings and dairy tests have come from the Oxford District. The consignors to this sale have set a high standard in the past and they have no intention of falling down at this sale. It will be an opportunity to secure tested stock that is in the pink of condition. Remember the date, March 20, and the sale is to be held at Woodstock. Write W. E. Thompson, Woodstock, for a catalogue and full particulars of the various consignments.

Brant County Holsteins

IN THE FIFTH ANNUAL CLUB SALE

Thirty-Six Females
Four Young Bulls

SELLING AT HUNT & COLTER'S LIVERY BARN
IN THE CITY OF

Brantford, Ont., Tuesday, April 2, 1918

ONCE more the Holstein Breeders of Brant County and district ask your co-operation in making their annual sale the usual success, having consigned to this sale forty head of as choice cattle as were ever offered in the history of the club. The thirty-six cows catalogued are young, and mostly all freshen around sale time. The four young bulls are all real strong calves and extra well bred.

YOUR PRESENCE AT BRANTFORD IS AGAIN REQUESTED ON APRIL 2nd.

FOR CATALOGUES APPLY TO:

N. P. SAGER, St. George, Ontario

E. C. CHAMBERS, President

W. ALMAS, Auctioneer

The Easy Way on Wash Day.

Why My "1900" is the Easiest, Quickest and Best Washer for You



NEITHER you nor any other woman needs to be reminded that washing is a mighty disagreeable household task by the "wash-tub and wash-board" method. I have discovered that most women are keenly interested in finding some mechanical aid that will remove this most objectionable of drudgeries. That is why so many Canadian housewives have come to me as the result of my claim that I have the machine that answers the "wash" problem completely. My "1900" Gravity Washer will save you all the work of washing. It does away with all the drudgery of the back-breaking rubbing. It washes clean, because the hot soap-suds are driven right through the clothes until they are thoroughly clean. And it does not wear or tear the clothes; they are firmly held while the tub and water are in motion. The finest linens and laces or blankets, come out of the "1900" Gravity Washer without having been strained or stretched—without frayed edges or broken buttons.

The "1900" Gravity is operated with an ease

K. H. MORRIS, Manager
357 Yonge Street

you will marvel at. Gravity is the basic reason for its ease of operation. A child can run it.

"Does it wash with speed?" you will ask. The "1900" Gravity Washer takes just six minutes to wash a tub full of very dirty clothes.

Of great importance, too, is the lasting quality of this "1900" Gravity. The tub (detachable, by the way) is made of Virginia White Cedar, bound together with heavy galvanized steel hoops that will not rust, break or fall off. The "1900" Gravity is built for use; it will last a lifetime.

If you are interested, let me tell you more about it. Thousands of Canadian women have written to let me know what a genuine help the "1900" Gravity is to them. A New Brunswick woman says about hers:

"I enclose payment in full for washing machine and wringer. I am very much pleased with the washer. It is the best I have seen. It makes wash-day a pleasure."

Try the "1900" at my expense. I will send it to you for a free trial, without a cent deposit. Do as many washings with it as you like within the trial period of four weeks, and if you then find that you can afford to do without it, send it back at my expense. If you want to keep it, as I know you will, pay for it out of what it saves you, week by week, 50c. a week if you like, until it is paid for. If you want to know specially about this trial offer, better address me personally.

K. H. MORRIS, Manager "1900" Washer Company
357 Yonge Street TORONTO

Co-operative Market Gardening.

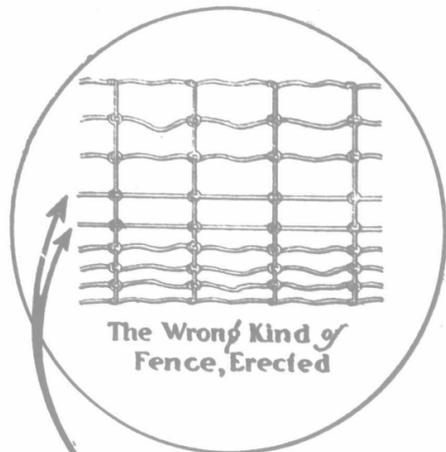
The following are excerpts from an address given by George Rush, of Humber Bay, at the Ontario Vegetable Growers' annual convention, recently held in Toronto. In his address Mr. Rush pointed out some of the difficulties which vegetable growers have to contend with in securing a fair market for their product. Central organization was advocated.

"Market Gardening as at present developed is an unorganized industry, conducting its business in a very unsystematic way. There is no controlling influence to direct the industry in its relation to markets either local or distant. Each person is engaged in conducting his business solely by his very limited knowledge of local factors or his personal ability to sell his produce on a well defined route which is, however, always liable to change at short notice leaving the salesman in doubt and uncertainty as regards future market days. The market gardener has to contend against two forces, namely—the variations of climatic conditions, and the lack of knowledge of his own industry outside his local territory. What can be done to remedy, or at least assist him to overcome present conditions? We must first examine the effect upon market gardening and compare it with other well organized industries.

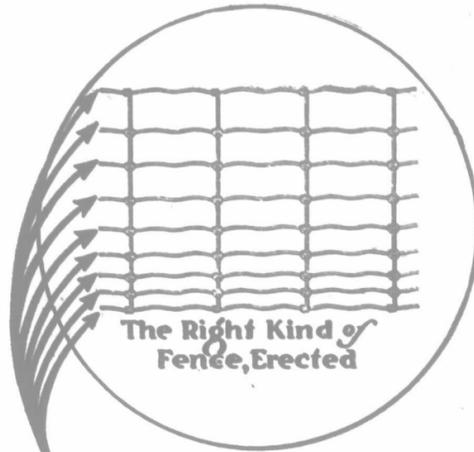
"The market gardener is confronted, first, with climatic conditions which govern the planting of crops. He is largely dependent for success upon the season. His best prepared plans and expert judgment, and the labor of many days, may be destroyed in a few hours by the forces of nature. Then, he plants his crops according to his previous experience of the varieties best suited to soils or the needs of local markets. He may be fortunate in obtaining good results and looks forward to reaping his reward. There are many varieties of vegetables that are of such a nature that once they mature they must be disposed of at once or they become a total loss. He is therefore compelled to sell. He goes to market quite ignorant as to conditions prevailing. Now there may have been imported into the local market heavy quantities of the very variety he is compelled to sell. What is the effect? The retailer with whom he does his trade is well informed, he enters the field against the grower with great advantage and at once proceeds to use that knowledge for his own good, in attempting to lower prices.

"When this is done on an unorganized trade, and one which is perishable, the trade becomes almost extinct and doubt and uncertainty reigns. Result: the produce is sold by each individual at the best terms possible with hopes that next day conditions will have improved. This causes, at times, very serious financial loss and carried through a season often means, to the weaker producers, failure in business and always loss to the strong. A well organized trade will control its prices and see that they are fairly uniform throughout the Dominion. The gardening industry, through a lack of organization, is at the mercy of a variety of circumstances. Let us examine some of the features and see what has been done so far to organize the trade.

"Toronto Vegetable Growers have felt, up to date, fairly secure in what they believe to be a safe market for local growers. But, with transportation facilities increasing year by year, competition increases and further tends to unsettle local markets and enlarge the difficulties of the growers. We have seen districts within the Province of Ontario develop into large vegetable growing sections with only limited local markets. They are also unorganized and, consequently, are liable to heavy losses in shipping, and have only the information given them by the commission houses or agents employed in distant markets. These districts will increase as time goes on and will increase competition without bringing about that compensation to the grower which under proper control he would receive. Let me explain a point. Suppose tomatoes at some period of the season become light on the market and the commission houses at once phone or wire to all distant points to forward all possible. Now, none of the growers are aware how many growers will ship nor how much they will ship and the result is a congested market. Prices fall very low, the shipper from



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THE only fence you can afford to put on your farm is the one which lasts a lifetime—a fence which will stand the hardest of hard usage. It's the least expensive in the long run. The other kind may be a little cheaper in first cost—but what a difference a few years make!

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—some are built to sell. Many of the first fences we made, over 25 years ago, are still giving the best of good service.

Page Fence is made of all No. 9 gauge wire—even the locks are full gauge. The finest quality wire is used—it is extra strong, very rigid, tight-locked and evenly spaced.

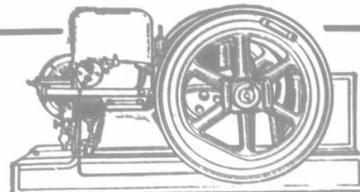
Our fences and gates are a lifetime security against fence troubles.

There is a Page Wire Fence for every purpose. Page Gates, built as carefully as Page Wire fences, are obtainable in every regular size. Write our nearest branch for price list of all Page Products—Page Fences, Gates, Engines or Woodsaws. Information will be cheerfully given. Drop us a line to-day.

Shipping Terms:—Freight allowed on all shipments of 200 pounds or more, to any place in Old Ontario or Quebec, when payment is made within thirty days.

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Walkerville 517 Notre Dame St., MONTREAL Winnipeg



The Best Workman You Can Get

is the one that never tires. The sturdy little Page is always on the job. It is always ready for work when you are.

You will want a saw that will do its work without a suggestion of "shake"—one that will stand the hardest use and keep in good running order without repair or adjustment.

The Page has extraordinary strength—it costs but \$24.00. We know of no other saw frame at this price, or in this style, that does the work so successfully. Built for convenience. Built to last. The Tilting Table has a roller at one end to facilitate handling of long poles. And the balance-wheel and pulley are interchangeable.

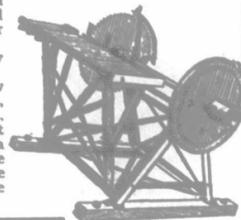
There are two types of Page engines—one burning Gasoline, the other Kerosene (or Gasoline), and 5 sizes, ranging from 1½ H.P. to 7 H.P. Price list on request.

Look for Strength in a Wood Saw

It is important that the saw which cuts your poles and cordwood shall be strong and rigid.

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WISCONSIN INCUBATOR CO. Box 226 RACINE, WISCONSIN, U. S. A.



WISCONSIN INCUBATOR AND BROODER BOTH FOR \$15.75

130 Egg INCUBATOR
130 Chick Brooder
BOTH FOR **\$15.75** Freight and Duty PAID

If ordered together we send both machines for only \$18.75 and we pay all freight and duty charges to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. 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 \$18.75 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.

WISCONSIN INCUBATOR CO. Box 226 RACINE, WISCONSIN, U. S. A.

The price of bricks has gone up very little in three years. You can build an average-size, warm house on your farm of

MILTON BRICK

for the proceeds of half as many hogs as in 1914.

MILTON PRESSED BRICK CO., LIMITED
Head Office: MILTON, ONT. Toronto Office: 50 Adelaide Street West

FISH NETS

SUNS, TRAPS, SPORTING GOODS
JOHN HALLAM, Limited
752 HALLAM BUILDING. - TORONTO

Rose Comb Rhode Island Reds
Two cocks, and a number of cockerels, good laying strain, at \$3.00 each while they last.
ALEX. MCKINNEY, ERIN, ONTARIO.

Every Sheet is true and even



Empire corrugated Iron

"EMPIRE" Corrugated Iron is made with deep corrugations fitting closely and snugly; it makes a splendid, strong, rigid wall that withstands all storms. Remember—building with Metal gives you fire-proof, weather-proof and lightning-proof buildings.

Our "Metallic" building materials—the "Quality First" kind—may cost a little more than other building materials, but they're permanent. "Eastlake" Galvanized Shingles; "Metallic" Ceilings; "Metallic" Rock and Brick-face and Clapboard Siding; Roof-lights and Ventilators, Silo Tops, etc., save you money.

Write for interesting booklet giving complete information, prices, etc.

Metallic Roofing Co. Limited
Toronto • Winnipeg

CLOVER SEEDS

(Government Standard)

No. 1 Alsike.....	\$16.00
No. 2 Alsike.....	15.00
No. 1 Red Clover.....	25.00
No. 1 Alfalfa (Northern).....	16.50
No. 2 Timothy (No. 1 Purity).....	5.50
O.A.C. 72 Oats.....	1.25
Silver Mine Oats.....	1.25

Terms:—Cash with order. Bags extra 50c. each, Jute bags for Oats, 20c. We will pay freight on Clover Seed.

We guarantee our seeds to satisfy you or you may ship back at our expense.

Ask for samples if necessary.

Caledonia Milling Co. LIMITED
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CREAMERY BUTTER
WINDSOR DAIRY SALT

Adds Quality to Every Pound of Butter

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Made in Canada
THE CANADIAN SALT CO. LIMITED

FOR SALE
Choice, unrelated, domestic, and No. 1
Eastern Canada Silver Black Breeding
Foxes
REID BROS., BOWENVILLE, ONT., CANADA

the distant point is suffering and local growers find their market temporarily closed or are forced to sell at a reduced rate. This applies to the trade as a whole. A great deal of money is often lost to the grower because there is no market to dispose of surplus stock owing to these conditions.

"There should be a Central office for this Province with a permanent official whose duty would be to receive all communications from Local Branches and to receive from these branches lists of goods ready for market, their quantity and condition and to send out in return the condition of all markets in the Province to guide growers as to shipping, etc. If added to this office a receiving and distributing department was established by the Provincial Vegetable Growers' Association, growers would not be under the control of the people whose only interest in the trade is how much can they profit themselves, but they would be able to place the goods intelligently upon the markets at the best possible moment. But this requires that all growers shall organize themselves into a protective co-operative society and this must be met by financial aid. A permanent central staff would have to be maintained. The chief should have a knowledge of gardening and the society could be operated on well known lines in shares borne by individuals of the society and incorporated according to law. Under proper management, over supply of goods could be disposed of to canning factories or to Public Institutions at a cost covering all expenses.

"Seeds are an ever-growing need and upon them production depends not only this industry but the welfare of the nation, and under co-operation a greater uniformity of prices would prevail. Seed merchants could deal more economically with an organized society than with individuals. Information on all matters connected with vegetable growing would be more widely circulated, and the scientific knowledge possessed by Government experts would have larger scope, and assist in improving type and increasing crops, whereas at present too many gardeners look with disfavor upon all research work done by these men whose special study has fitted them to guide and assist us in our work.

"If we desire to obtain for our industry that place in our national life we must do our part to obtain those results that can only come through a united effort, by thorough organization of districts, a central executive office and distributing house in all markets, obtaining all assistance to increase our knowledge of our resources, means of exporting to other provinces when occasion requires, and upon all matters tending to our mutual advantage."

Questions and Answers.

1st—Questions asked by bona-fide subscribers to "The Farmer's Advocate" are answered in this department free.

2nd—Questions should be clearly stated and plainly written on one side of the paper only, and must be accompanied by the full name and address of the writer.

3rd—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.

4th—When a reply by mail is required to urgent veterinary or legal enquiries, \$1.00 must be enclosed.

Miscellaneous.

Obstruction of Drain.

1. I have a ditch through my place constructed under the Municipal Drainage Act. Can any one be fined for obstructing it in any way to retard the free flow of the water?

2. If so, how would I have to proceed to have them fined and the obstruction removed?

3. Is a verbal notice given to a township council legal or would it have to be in writing?

4. Are they liable for all damage done from the time they are notified until the ditch is cleaned out? A. B. C. Ontario.

Ans.—1, 2 and 4. You will find provision made for such cases in sections 81, 82, 83, 84 and 85 of the Municipal Drainage Act (R. S. O. 1914, chapter 198). The answer to your first question is, yes—See Sec. 81. Answering your second question we would say that it is a case for an information being laid before a Justice of the Peace.

3. Generally speaking, every notice to a municipal council ought to be in writing to be regular.



This Pouch will outlast two ordinary Pouches

The Arlington Pouch, made of thick red rubber—strong and durable—will keep your tobacco moist and in perfect condition. Unlike pouches made of inferior quality the

ARLINGTON Tobacco Pouch

will not become hard and lifeless—the rubber will not tear. With reasonable care, it will give wonderful satisfaction for two years, while pouches made of inferior rubber will not last any length of time.

You can have your choice of oval or square shapes in a variety of sizes. Prices run from 50c to 75c, according to size.

At your Dealer.

RAW FURS

We require immediately One Million Five Hundred Thousand Muskrat Skins (1,500,000), and Fifty Thousand Beaver Skins (50,000).

We have no time to issue Price Lists. Don't ask for any. Ship us your Muskrats. We will pay the very highest Market Prices. Put your own valuation on them if you wish, but ship to us. A trial shipment will convince you that we are the best buyers of Raw Furs in the World.

We have Stacks of Money.

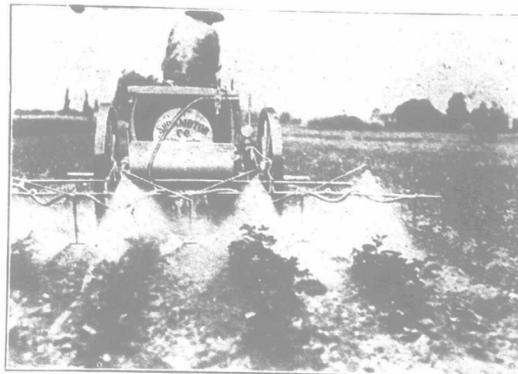
We are no Pikers.

We are in the Market for the Entire Canadian Catch.

We buy all kinds of Canadian Raw Furs.

The George Monteith Fur Co.
21 JARVIS STREET - TORONTO, ONTARIO

**For Row Crops and all Orchard Work—
Produces Cleaner Fruit and More Potatoes**



This horse-power Spramotor sprays four rows at a time, with three nozzles to a row, one above and one on each side. Sprays trees as well as row crops. Other machines, from hand to large gasoline power outfits, priced from \$7 to \$400. Send for our free booklet on Crop Diseases. Write now, while you are thinking about it.

Made in Canada. No duty to pay.

B. H. HEARD SPRAMOTOR, 4057 King St., London, Canada

Seed Oats—O. A. G. No. 72—Won first prize in field competition, 17 competing. Also standing second in Ontario in field competition of 1917. At the Canadian National, Toronto, 1917, as a grain, won second. Government retained same for experimental purposes. Just the kind you need. Price \$1.50 per bush. Bags free. Leslie Kerns, Freeman, Ont.

Wild Goose Wheat

Mammoth Cluster Seed Oats for sale, clean and good sample. Wheat \$3.00 per bushel. Oats \$1.60. **R. R. JOHNSON, STOUFFVILLE, ONT.**



Erecting a Plank Frame Barn

After the foundation is in and the frame for the first story wall complete, the supporting columns are put in place. The proper dimensions have been provided. It is important that the columns be at right angles to the foundation and the building other walls. The columns are set in place and the concrete set, the girts may be laid.

The second story columns, and when they are used the bottom of the columns should be laid in on tracks before the finished floor line is set in place and the concrete set, the girts may be laid.

The floor joists are next put in, and a temporary floor laid on them so that the workmen can stand about freely while raising the trusses. Care and good workmen the first truss according to plan is on page 17. When this first truss is completed, lay it on the floor and build the second truss on top of it to insure absolute accuracy in all parts and connections.

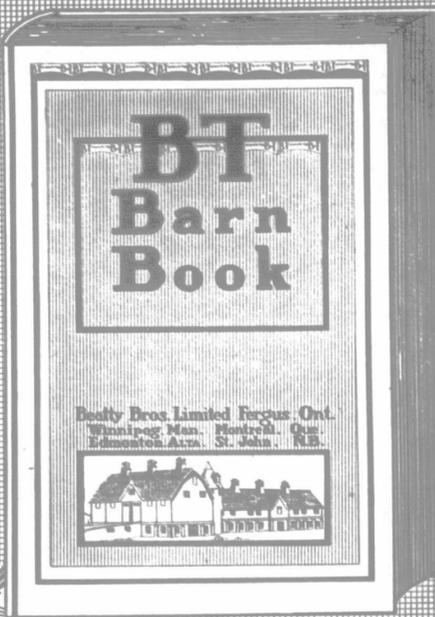
When all the trusses have been raised, the first truss is placed in position at the end of the barn. It is usually done by placing the top of the truss on the place where it is to rest when in position, with an iron bar or pole across the top of the barn. Blocks are then placed on the ends of the truss to keep the feet of the truss from slipping while being raised. The feet of the truss rest against a pole which is secured at the end of the barn in the center, having a hole in it of about 10 degrees toward the center of the barn. A block and the iron bar are used to hold the truss in position.

A horse or sign is attached to the block and truss, and the truss is quickly raised in position. A few men with pulley ropes are necessary to steady the truss while being raised. As soon as the first truss is up in its final position, the second truss is raised in the same manner, and so on until all the girts are added. When the girts are in position, the roof is put on. The last two trusses, when laid in position, are supported by temporary posts, which are removed when the trusses are in position. The roof girts can be added at any time thereafter.

Be sure to put the girts in position in the center of the barn, and to check on the truss work.

The next step is to put the partitions in place, and raise to position with blocks and a bar.

Before putting on the rafters and cornice, the ceiling is made up, between it and the floor, and the rafters are put in place. The rafters and roof boards are in place, there being nothing to interfere with raising the rafters under the cornice.



How To Build a Dairy Barn

THIS BT Barn Book tells you how to build a dairy barn from start to finish. It also shows how to remodel an old barn, so you can do the work yourself. It tells you how to make the foundations, how to lay the cement floors and how to build the walls. It shows the best and most economical methods of laying out the floor space and putting in the stabling. It shows a method of framing that saves half the cost of the old way; it shows how two men and a team can hoist the bents into position.

THIS NEW 350 PAGE BOOK FREE

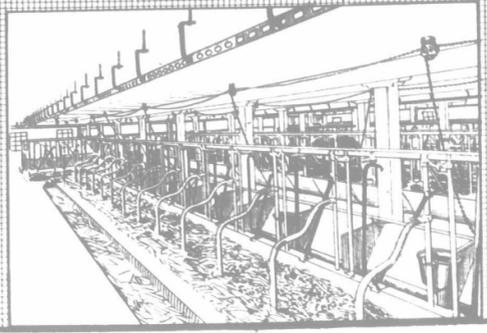
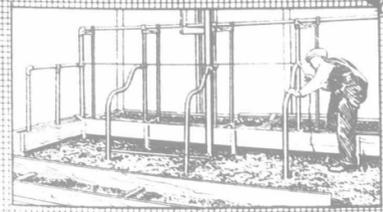
BT Barn Book Tells You All

There are useful tables in this book that show the best measurements for mangers, gutters, cattle stands and passages, costs of cement work, best sizes for doors and windows, amount of ventilation for different kinds of stock, capacities of silos and capacities of mows. It shows how to remodel your stable and put in Sanitary Steel Stalls. It shows BT Galvanized Steel Stalls, Steel Horse Stable Fittings, Steel Cow Pens, Calf Pens, Steer Pens, Bull Pens, Manure and Feed Carriers and Water Bowls in many barns. It is fully illustrated by blue print plans and photographs. It contains over 125 views of modern barns. Outside and inside views are shown. Photographs of up-to-date barns were obtained in all parts of the country and have been reproduced with full-page and double-page cuts, which show every detail of construction. This book shows how all the best barns are built and shows them so well that it is almost as good as a trip to see the barns.

Free For Coupon

Although this book cost us thousands of dollars to print, it is free to any man who is building or remodeling. It is not a mere catalog. It is a work of reference that you will want to keep for years. It is printed in colours and bound with hard covers.

This is the second edition of the book. The first edition of 9,000 copies was quickly distributed. If you didn't get a copy, be sure to send at once.



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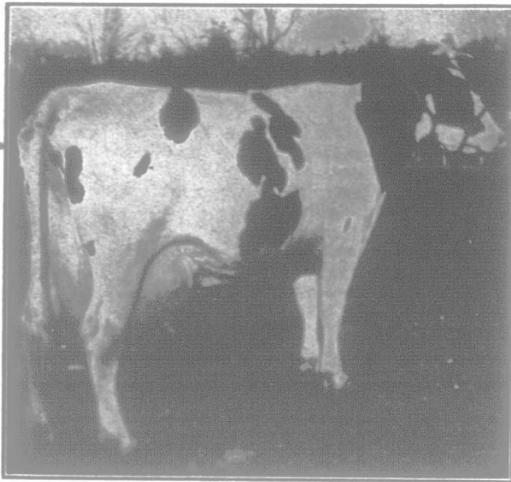
heat
 clean and
 Oats \$1.00
 L.L.E., ONT.

The Great Allison Stock Farm Sale

Holsteins
80 Head

Holsteins
80 Head

At Chesterville, Thursday, March 21st, 1918



In the offering of eighty head, mostly all young females of the greatest strains of the breed, are found more officially-tested dams, bred on our own farms, whose breeding contains more world's record dams and sires than have ever been offered in a public sale ring in Canada. There are also many other females with enviable records or just developing, and young daughters of these dams, which should make candidates for the 30-lb. record. Herd sires include: Sir Lyons Segis, out of a 30-lb. cow and by the great King Segis; King Segis Alcartra Pietje, a son of the \$50,000 King Segis Alcartra; Riverdale Lyons Echo Posch, by King Pieter, a son of Blanche Lyons De Kol and King Hengerveld, and Riverdale Echo Lyons, of the blood of King Hengerveld and Pietertje Hengerveld's Count De Kol. The records of the females range up to 650.80 lbs. milk and 30.64 lbs. butter in 7 days.

This good stock must go, because, owing to shortage of help, we have decided to sell 225 acres of our 400-acre farm. This is in a block by itself, one mile south of Chesterville, a fine dairy farm, and will be offered on reasonable terms. Six months' credit will be given on approved joint notes payable at the Molsons Bank, Chesterville. Three per cent. off for cash.

Sale at 12 noon. Trains met morning of sale. Lunch provided.

WRITE FOR CATALOGUES TO:

ALLISON STOCK FARM, Chesterville, Ontario

Clover Seeds

Government Standard

	Per bus.
No. 1 Red Clover.....	\$24.00
No. 2 Red Clover.....	23.00
No. 1 Alsike.....	17.00
No. 2 Alsike.....	16.00
No. 1 Alfalfa (northern grown).....	17.00
No. 2 Timothy (this seed grades).....	5.50
No. 1 for purity.....	5.00
No. 3 Timothy.....	9.00
Mixed Timothy and Alsike.....	9.00
White Blossom Sweet Clover.....	18.00
O. A. C. No. 72 Oats.....	1.50
Marquis Spring Wheat.....	3.25
Canadian Beauty Peas.....	5.50
Golden Vine Peas.....	5.00

Terms—Cash with order. Bags extra, at 45c. each.

On all orders east of Manitoba of \$25.00 or over, we will pay the freight.

We guarantee seeds to satisfy, or ship back at our expense.

Ask for samples if necessary.

TODD & COOK

Seed Merchants

STOUFFVILLE - ONTARIO

CHOICE

O. A. C. 72 OATS

for sale, from prize-winning field—\$1.30 Bushel. Sacks free.

Fred. Bodkin, R. R. No. 2, Wilton Grove, Ont.

SEED OATS

No. 72. Clean, plump seed, testing 38 lbs. per bushel. \$1.25 per bushel, sacks free. W. E. Williams, Clandeboye, Ontario

PERCHERONS AND CLYDESDALES

We Have for Immediate Sale the Following:

Six imported Percheron stallions, ages four to eight years, both blacks and greys; all holding No. 1 certificates and guaranteed sure foal getters. Two Canadian-bred Percheron stallions, three years old, a pair of real good ones.

Two imported Percheron mares, greys, a lovely pair of high-class mares, both supposed to be in foal.

Four imported Clyde stallions, all proven horses, and the oldest one eight years old.

Three imported mares, every one a winner at the big fairs, and all supposed to be in foal.

HODGKINSON & TISDALE
BEAVERTON, ONTARIO



The Protection and Savings Policy OF THE

Excelsior Life Insurance Co.

Is a Low-Rate Limited Payment Contract

If you need Protection, write for pamphlet. Dept. F

Head Office: Toronto

Gossip.

Allison Stock Farm Sale of Holsteins.

On March 21, 80 head of Holsteins will be offered by auction at the Allison Stock Farm, Chesterville, Ont. The offering consists mostly of young females of the greatest strains of the breed. In the sale will be found many officially-tested dams, bred on the farm, and the breeding contains more world's record dams and sires than have ever been offered previously in a public sale ring in Canada. Many of the females have enviable records and others are developing and capable of making them. King Lyon Segis, that great sire, is catalogued for sale, along with 28 of his daughters and two sons. The dam of this bull is from the noted 30-lb. cow, Betta Lyons Netherland, by the great King Segis, the only sire having three sons, each of which has sired a 40-lb. daughter, and one of the two sires having three 40-lb. granddaughters. The sire is from the 33-lb. daughter of Pietertje Hengerveld Count De Kol. His first six dams averaged 30 lbs. butter in seven days. His second dam was the first 34-lb. daughter of a 34-lb. cow, and also the first cow to make a 34-lb. record two years in succession. Sons and daughters of such breeding as above mentioned will make valuable additions to the most elite herds. There will be six daughters of King Segis Alcartra Pietje in the sale. The sire of this bull is King Segis Alcartra, the \$50,000 bull, whose daughters have made splendid records. The dam is a cow of great capacity and fine breeding, by the famous Pledge Spofford Calamity Paul from the former world's champion four-year-old, seven-day butter producer, Fairmont Zerma Segis Pietje. The records of 26 of this bull's nearest dams average over 25 lbs. of butter. Forty of the females in the sale have been bred to Riverdale Lyons Echo Posch. This breeding will please the most critical. This bull's ancestors include many of the greatest producing and transmitting animals that ever lived. He is sired by King Pieter, a son of the famous 33-lb. cow, Blanche Lyons De Kol, and King Hengerveld, one of the best sons of the first "century" sire, Hengerveld De Kol. His sire's dam, a 20-lb. two-year-old, is from a 34-lb. daughter of Blanche Lyons Netherland, and by the renowned King Segis. His dam has a record of nearly 34 lbs. butter in seven days, and over 138 lbs. in 30 days. She is by Inka Sylvia Beets Posch, from the 29-lb. cow, Echo Verbelte, a full sister to that great cow May Echo Sylvia, that has four different records ranging from 33 to 41 lbs. butter in seven days. His first ten dams average 30 lbs. butter, and his first three dams on his dam's side have each over 700 lbs. milk in seven days. Two daughters of this bull are catalogued. Thirteen daughters of Sir Riverdale Echo Lyons are in the sale. His dam is the only cow of the breed having four daughters each above 600 lbs. of milk in seven days. This young bull is backed by a splendid combination of breeding. His sire, whose daughters have made creditable records, is by a bull that unites in the closest degree the blood of King Hengerveld and Pietertje Hengerveld's Count De Kol. His dam is a cow of wonderful producing and transmitting ability and has a record of nearly 30 lbs. butter in seven days. Some of the females catalogued are: Lyndale Pierje Abbecker, 650.8 lbs. milk and 30.64 lbs. butter; Aaggie Hengerveld Burke 2nd, 554.9 lbs. milk and 29.68 lbs. butter, and Forum Hengerveld De Kol 3rd, 646.2 lbs. milk and 28.81 lbs. butter. There are many others with records ranging from 20 lbs. of butter as junior two-year olds to 30 lbs. as mature animals. Tested daughters of these cows are in the sale. It is seldom that individuals of such choice breeding are offered at public auction. There is an opportunity of securing males and females from some of the best sires and dams that the Holstein breed has produced. The sale will commence at 12 o'clock, Thursday, March 21. Consult the advertisement in another column of this issue and write Allison Stock Farm, Chesterville, for a catalogue giving the extended pedigrees of animals listed, mentioning The Farmer's Advocate.



LIFT OFF

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A note a new Freezone



corns be calluses, easy. It works has Free.

Steel



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Oxford County Holsteins

OXFORD HOLSTEIN BREEDERS' CLUB WILL HOLD THEIR ANNUAL SALE IN
Woodstock, Ontario, Wednesday, March 20th, 1918

PLAN TO ATTEND THIS SALE—THE EVENT OF THE SEASON!

70 Head of the "Breed's Best"

Every Animal Guaranteed

Cows with records up to 28.54 lbs. butter (7 days) as four-year-olds, and 97 lbs. milk in one day. Some of the finest individuals ever offered in Canada. Several choice bulls—one whose nearest dams average 32.66 lbs. butter (7 days) and 107 lbs. milk (1 day).

Don't miss this sale. Buy the best.

SECURE A CATALOGUE FROM

W. E. THOMPSON

WOODSTOCK, ONT.

LIFT YOUR CORNS OFF WITH FINGERS

Tells How to Loosen a Tender Corn or Callus so it Lifts Out Without Pain.

A noted Cincinnati chemist discovered a new ether compound and called it Freezone, and it now can be had in tiny bottles as hereshown for a few cents from any drug store.

You simply apply a few drops of Freezone upon a tender corn or painful callus and instantly the soreness disappears, then shortly you will find the corn or callus so loose that you can just lift it off with the fingers.

No pain, not a bit of soreness, either when applying Freezone or afterward, and it doesn't even irritate the skin. Hard corns, soft corns, or corns between the toes, also toughened calluses, just shrivel up and lift off so easy. It is wonderful! Seems magical! It works like a charm! Your druggist has Freezone. Ask him!



Steel Wheels Made to Fit Your Old or New Wagon

Now is the time to place your order for a set of "COOKE" Steel Wheels. They are giving universal satisfaction in every province in the Dominion. The cost is small, and as a labor saver they are unequalled. A set of our wheels will make a new wagon out of your old one. Write to-day for illustrated circular and price list, together with free chart, showing how to take measurements correctly, and testimonials from satisfied customers in all parts of Canada. Remember we quote price delivered to your nearest station, no matter where you live! **The Cooke Metal Wheel Company, 19 West St., Orillia, Ontario**



WE WANT

Spring Rats

Write for our New Price List. We pay Express and Postage. Prompt Returns.

E. T. CARTER & CO.
82 Front St. E., Toronto, Ont.

Gossip.

Farnham Oxfords at Auction.

The coming dispersion of the old-established Farnham Oxford Down flock, advertised elsewhere in these columns for March 21, promises to be one of the most noteworthy events in the history of the sheep industry in Canada. The Farnham flock was established in the early eighties by Henry Arkell, the present senior member of the firm of Arkell & Son and up until they ceased showing in 1908 there was hardly an exhibition of any importance in Eastern Canada or the Central States that did not hand out championship ribbons, year after year to Arkell entries. Visitors attending the sale may view in the farm office, hundred of blue and red ribbons, and gold medals by the score that have been won at such shows as St. Louis, Chicago, Detroit, Syracuse, Toronto, London, Ottawa, Montreal, etc., and the offering on that day will include some fifty breeding ewes and forty ewe lambs that are all descendants of those noted champion winners. Still another feature of the flock, which should recommend the offering to all, is the breeding of the foundation ewes as well as the sires to which they have been bred. Almost without exception, each year since the flock was established, yearly importations of choice selections from the "best" Britain had have found their way to Mr. Arkell's Farnham flock. Such breeders as Hobbs, Brassy, Horlick, Stelgo Bryan, and Miss Rothschild figure to-day in the offering throughout and having shown yearly improvement under the careful supervision of Messrs. Arkell, they offer to the public, only the highest and best. See the advertisement for full particulars and note that the farm is sold and that the household furniture, horses, cattle, grain and farm implements will also be sold by auction on March 21. Address all correspondence regarding catalogues, terms, etc., to Henry Arkell & Son, Farnham Farm, Route No. 2, Guelph, Ont. Parties from a distance attending the sale will go to Arkell Station, C. P. R., which is on the farm, or to Guelph which is only five miles distant.

The British hospital ship, "Glenart Castle", was torpedoed in Bristol Channel on Feb. 26th. Of the 200 crew, doctors and nurses on board only 34 were landed.

Another Spanish ship, the fifth this year, was torpedoed last week by a German submarine.

Royal Purple Stock Specific

This concentrate stock tonic, blood purifier and food digester is made from pure ingredients and contains no filler. It aids digestion to such an extent that food which would otherwise be voided and lost is turned into muscle, fat or milk, as the case may be. Try Royal Purple Stock Specific on your poorest, most rundown animal. It will give you surprising results.

This Great Animal Conditioner

will enable you to fatten a horse very rapidly, because all the nourishment is liberated from the food. DAIRY COWS give 2 to 5 pounds more milk each daily when fed Royal Purple Stock Specific. It also improves their physical condition.

Mrs. Fred Bush, Wainfleet, Ont., writes us as follows:

"I have tried Royal Purple Stock Specific in feeding cows. Weighed one cow's milk, and find a great gain in ten days' time, also a great improvement in cow's condition. Order Royal Purple from your feedman. It is sold in large and small packages."

FREE BOOK

We will gladly send you our 80-page book, describing the common diseases of stock and poultry. It tells how to build poultry houses and feed calves without milk. Write for your copy.



Made only by

W. A. Jenkins Mfg. Co., Limited
London, Canada

APPLE TREES

If you intend planting Apple Trees or any Nursery Stock this spring, be particular as to the kind you get and be sure they are grown right, are healthy and clean, and backed by a reliable, dependable company.

PLANT E. D. SMITH'S TREES

They cost no more than inferior, poorly-grown trees, and they are all inspected by Government inspectors

If you are unfamiliar with the best varieties for your section, we will be glad to assist you in your selection, and such assistance places no one under any obligation to purchase. We have nearly 800 acres devoted to Nursery Stock and Orcharding, and can supply first-class stock of the following selected and inspected trees:

- APPLE, PLUM, PEAR, CHERRY, QUINCE, PEACH, APRICOT, SMALL FRUITS, GRAPE VINES, ORNAMENTAL TREES, SHRUBS, CLIMBING VINES, HERBACEOUS PERENNIAL ROOTS, ETC.

Catalogues and Prices on Application.

E. D. SMITH & SON, LTD., Nurserymen, Etc. WINONA, ONTARIO

ESTABLISHED 1882

The Lankford
EQUINE HORSE COLLAR

cures your horse while he works

Galls and sore shoulders reduce the efficiency of your horse—sap his strength—down his spirit. Cure him without the use of medicine—while he does his heaviest work, with the Lankford Collar.

We guarantee a cure when properly fitted. Be careful and get the genuine Lankford Collar—made of best white sail duck, trimmed in extra heavy leather and stuffed with clean and downy curled cotton, medicated, which will not pack or harden. Also comes in special brown waterproof duck.

The Lankford fits any shape neck—easily put on or removed—always soft and pliable. Will not sweat. Harness straps attached. Prices \$1.50 and up. In Canada \$2.00 and up. See your dealer.

Over 12,000,000 sold Lankford Collars prevent galls and sore shoulders, as well as cure them. Get one today—one for each horse, but be sure it's a Lankford.

Buy a Lankford Send postal for copy and of our literature on Lankford Horse Collars.

Powers Mfg. Co.
Dept. 55, Waterloo, Iowa




ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

will reduce inflamed, swollen Joints, Sprains, Bruises, Soft Bunches; Heals Boils, Poll Evil, Quittor, Fistula and infected sores quickly as it is a positive antiseptic and germicide. Pleasant to use; does not blister or remove the hair, and you can work the horse. \$2.50 per bottle, delivered. Book 7 R free.

ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful, Swollen Veins, Wens, Strains, Bruises; stops pain and inflammation. Price \$1.25 per bottle at dealers or delivered. Will tell you more if you write. Liberal Trial Bottle for 10c in stamps.

W. F. YOUNG, P. D. F., 258 Lyman's Bldg., Montreal.



DR. PAGE'S ENGLISH SPAVIN CURE

Cures the lameness from Bone-Spavins, Side-Bones, Ringbones, Curbs, Splints, etc., and absorbs the bunches, does not kill the hair, absorbs Capped Hocks, Bog-spavins, thick pastern joints; cures lameness in tendons, most powerful absorbent known; guaranteed, or money refunded. Mailed to any address. Price \$1.00.

Canadian Agents:
J. A. JOHNSTON & CO., DRUGGISTS
171 King St. East, Toronto, Ont.



FOR SALE — CLYDESDALE STALLION
Duke of Carruchan, No. 16429, foaled, May 22nd, 1914, price-winner. Imported and Canadian-bred mare, 2 years and up, in foal to Stallion No. 16429. **ARTHUR GORDON, CHATHAM, R. R. No. 1** Arkwood Station, C.P.R.

FOR SALE
Young Clydesdale Stallion

Rosebank Pacific [17476] foaled June 8th, 1915, light bay, face and four white legs. Heavy block, short back, good legs, feet and pasterns. Sire, Pacific (imp.) [13173] (13119). Dam, Jessie of Rosebank [26820], sire of Dam Loyal Hero (imp.) [9715] (14973). Rosebank Pacific has six Registered dams and grandams.

Henry, Glendinning & Son, Manilla, Ont.

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Lowest prices, every article guaranteed to stand the work test. Write for catalogue. We sell direct.

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FACTORY DISTRIBUTORS
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FOR SALE
PAIR OF PURE-BRED PERCHERONS.
Mares, rising five years; weigh over 35 hundred lbs. Prize winners.

ROBERT RIDDELL, King P. O., York Co.

SUNNYSIDE
HEREFORDS

We are offering special values in heifers, and bulls with size, quality and breeding; will promise not to disappoint you if you want good cattle.

Arthur F. O'Neill & Sons, R. No. 2, Denfield, Ont.



Choice O.A.C. No. 72 Oats

For sale, price, \$1.25, f.o.b. Aylmer, Ont. Sacks free

LEWIS ADAMS, AYLMEER, ONT.

Questions and Answers.
Miscellaneous.

Sow Eats Her Young.

I have a young sow with first litter that is very cross. She commenced killing her young, and if I had not been present I would have lost the entire litter. What is the cause of such actions? Is there a remedy? Is it safe to breed her again?

W. J. P.

Ans.—Probably the sow was very sick and the fevered condition caused her to act so abnormally. Injudicious feeding before farrowing will sometimes cause the trouble. Allowing the sow to eat the afterbirth is claimed by some to be the cause of sows eating their young. There is a danger that the sow will do it again, if given an opportunity. Unless she is a particularly valuable animal it might be advisable to dispose of her. Of course, there is a chance that everything would be all right with the next litter.

Fishing Privileges.

1. A game club has been organized in this vicinity, which obtaining a government permit has leased some 14,000 acres of wooded land owned by lumber companies for its hunting and fishing rights. It has a warden stationed on said tract of land and notices posted warning trespassers. This tract of land has two rivers running through it. What I want to know is:

1. Can the Government, according to law in this province, lease the streams if it owns no land around them as it is in this case?
 2. Can this game club stop anyone fishing in these streams providing he keeps within high water mark and does not trespass on their land?
- Quebec. ENQUIRER.
- Ans.—1. We think so.
2. We greatly doubt it unless it, the club, has been empowered by the Government to do so.

Pigs Crippling.

There are a number of pigs in this part of the country crippling every winter, when from four to six months old. They get so bad that they can hardly walk, and often go to the trough on their knees. They become stunted and their legs swell. What is the cause and cure?

L. H. S.

Ans.—The fact that this trouble occurs principally in the winter may be attributed to lack of exercise. Very often the pigs are housed in close quarters and have not an opportunity to exercise during the cold weather. This is usually the forerunner of crippling. Dampness may also cause the trouble. Some have found it advisable to lay a wooden floor on top of the cement, in order to give the pigs drier sleeping quarters. Forcing the pigs to take exercise and giving them dry quarters will help to ward off crippling. Give them earth from the root-house to work in. A little charcoal, wood ashes and sulphur might advisedly be fed. When pigs become crippled, purging with one to two ounces of Epsom salts and following up with five grains of salicylic acid three times daily is recommended. Feed the pigs on more or less of a laxative ration and give a few roots.

Unthrifty Pigs.

I have a bunch of pigs which did well until they were weaned, then they became unthrifty. They appeared to have a skin disease and I applied grease, but it did not seem to do much good. I feed them shorts and a little milk and water, with a little linseed meal added. What treatment would you advise?

P. J. D.

Ans.—It frequently happens that pigs become unthrifty and are subject to skin diseases and other ailments common to hogs. Applying a disinfectant, as some of the coal-tar dips, may tend to remove the scurfiness and put the skin in a healthier condition. Shorts and finely-ground oats mixed with a little milk and water make a very good ration for young pigs. It is possible that they were slightly over-fed soon after being weaned. Give them a few pulped roots, and if you have any loose earth in the root-house, it might be well to put some in the pen occasionally. Charcoal, wood ashes, and sulphur make a very good condiment for pigs. It may be necessary to administer a purgative, as 1½ to 2 ounces of raw oil or Epsom salts, according to size. Give the pigs comfortable quarters and force them to take exercise.

Union Stock Yards of Toronto, Limited
TORONTO, CANADA

F. C. FLETCHER, General Manager WALTER HARLAND SMITH, Manager, Horse Department

A Great, Special, Unreserved Auction Sale
OF

80 Shorthorns

Will be Held at the Sale Ring of the Horse Department
UNION STOCK YARDS
TORONTO, CANADA

Thursday, March 21st, 1918
AT 11 O'CLOCK

The Consigner, Mr. H. P. Kennedy, has spent several months selecting this excellent collection of pure-bred, registered Shorthorns from the best-known breeders in the Province of Ontario, Canada.

The consignment includes about 50 bulls, ranging in age from one to three years, and 30 FEMALES, from one to five years old.

This stock is in excellent condition, and intending purchasers should not fail to avail themselves of this opportunity to improve their herds.

Catalogues are now being published and will be mailed to any address on application.

Union Stock Yards of Toronto, Limited
WALTER HARLAND SMITH - - - Manager Horse Department

Imp. and Canadian Bred Clydesdales
COLUMBUS STABLES

We have on hand at present one of the strongest selections of imported and Canadian bred stallions we have had in the stables in years. A strong combination of size, quality and breeding. We also have 15 in-foal mares, all to the service of horses we are offering.

SMITH & RICHARDSON COLUMBUS, ONTARIO
Myrtle, C. P. R. Oshawa, C. N. R. Oshawa, G. T. R.

Clydesdales and Shorthorns

I still have some Shorthorn bulls, twelve and thirteen months old. Two grandsons of Old Sort, and a number of females. Inspection invited. Apply to

J. B. CALDER, Glanford Station, R.R. 3.

Aberdeen-Angus

We have a splendid selection of last spring's bull calves to offer, sired by our noted herd bulls and from our choice home-bred and imported cows. Inspection invited. Berkshire Boars and Sows.

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Offers for sale one Aberdeen-Angus bull, 15 months old, in the pink of condition, and a show animal. Cheap, quality considered.

C. C. KETTLE, Wilsonville, Ont.

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Will price 4 richly-bred Lavinia heifers, 5 to 27 months, oldest one due to Lochiel (Imp). Still have stallion rising 2 years old, rich in Brown's Pride blood; size and quality combined; gelding price.

Wm. D. Dyer, R.R. No. 3, Oshawa, Ont. 4½ miles to Brooklin, C.N.R., or Myrtle, C.P.R. 2½ miles to Brooklin, G.T.R.

CREEKSIDE SCOTCH SHORTHORNS

Herd headed by Gay Monarch 79611; dam, Sally 8th imp., and sire, the great Gold Sultan 75411. My present offering of young bulls includes several 7 to 14 months' youngsters, all thick, mellow, well-grown fellows—neats and roams—and priced right. Can also supply females in most any numbers.

Geo. Ferguson—Elora Station, C.P.R., G.T.R.—Salem, Ont.

ENGLISH DUAL-PURPOSE SHORTHORNS

My present offering, including four young bulls, are all from imported sires and dams. One is a six-month son of Forget-Me-Not, a 7-year-old daughter of the great producing cow, Mimosa. All are sired by Lyone Duke Imp. **FRANK COCKSHUTT, BRANTFORD, ONTARIO**

Blairgowrie Shorthorns and Shropshires

20 imported cattle, cows and heifers; all have calves at foot or are in calf to British service. Bulls for breeders wanting herd leaders. Also home-bred bulls and females. Prices right. Rams and ewes in any numbers. **JOHN MILLER, Myrtle Station, C. P. R., G. T. R. ASHBURN, ONTARIO.**

MARCH 1

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Our bulls ha Western Ca 1917, thirty Parties want look them ov JAMES BO

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Get high-cla steers. I h 24 months of heifers. T.

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A grand neigh of PETER A.

Nitrate of Soda.

Data as to increased crop yields due to the use of Nitrate are available. Why not make your business of crop fertilizing profitable by the use of Nitrate of Soda whose efficiency is known?

A bushel of corn or wheat or a bale of cotton today will buy more Nitrate and more Acid Phosphate than ever before.

Send for "Increased Crop Yields from the use of Nitrate of Soda"

Dr. W. M. S. MYERS, Director
Chilean Nitrate Committee
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Herefords!

The Most Popular
Beef Breed

AND THE REASONS WHY

- Have hardy constitutions
- Excel as grass cattle
- Ripen at any age
- Excel in the feed lot
- Fatten quickly
- On the range they multiply
- Return big profits
- Demand is unlimited
- Sell like hot cakes

—AND—

if you want to know anything more about Herefords, write:—

Canadian Hereford Breeders' Association
 Ancaster, Ont. H. D. Smith, Secretary

ELM PARK

ABERDEEN-ANGUS

Our bulls have won at large fairs in Eastern and Western Canada from London to Edmonton, in 1917, thirty-two first prizes and championships. Parties wanting a first-class herd header, should look them over. Address: JAMES BOWMAN, Elm Park, Guelph, Ont.

SUNNY ACRES

ABERDEEN-ANGUS

Bulls of serviceable age and females not akin.

WM. CHANNON & SON

P. O. and 'Phone - - - Oakwood, Ont.
 Stations—Lindsay, G.T.R. and C.P.R.

Alloway Lodge Stock Farm

Angus - Southdowns - Collies

SHOW FLOCKS

Rams and ewes. Heifers in calf to Queen's Edward, 1st prize, Indiana State Fair.

Robt. McEwen, R. R. 4, London, Ont.

ABERDEEN-ANGUS

Alonzo Matthews, Manager, Forest, Ontario.
 H. Fraleigh, Proprietor, Forest, Ontario.

Balmedie Aberdeen-Angus

Get high-class Angus bull and breed the champion steers. I have show-ring quality bulls from 10 to 24 months of age; also choice 1 and 3-year-old heifers. T. B. BROADFOOT, FERGUS, ONT.

Kennelworth Farm ABERDEEN-ANGUS

A grand lot of calves for sale; ages in the neighborhood of 7 months. Victor of Glencairn at head of herd.
 PETER A. THOMPSON, HILLSBURG, ONT.

Questions and Answers.

Miscellaneous.

Condition Powder for Horses—Lump in Teat.

1. I have a young cow which has gone almost dry in one quarter. She freshened about six weeks ago, and ever since there has been a small lump in the teat. I can milk it dry but it takes a long time. Will this quarter go dry, or is there any likelihood of it getting all right?

2. What is a good condition powder for horses, to feed along with their oats?

3. Which will give the best returns, wheat or oats at present prices?

M. M.

Ans.—1. If the lump is at the point, or half-way up the teat, a veterinarian may operate successfully; if farther up, it is doubtful if anything can be done to improve it. The cow might be dried up in that quarter, but care would have to be taken to dry her off gradually.

2. A teaspoonful three times daily of equal parts sulphate of iron, gentian, ginger and nux vomica makes a very good tonic for a horse.

3. It depends a good deal on what your soil is particularly suited for. Some land will give exceptionally heavy yields of wheat but is not so suitable for growing oats. By comparing the yields of wheat and oats on your farm, the most profitable crop could be figured out. At the present time there is a demand for wheat.

Applying Manure—Feeding Calves.

1. Does applying manure in the fall give better results than spreading it in the spring?

2. How should a five-weeks-old calf be fed to give best results?

3. How should a cow be fed so as to reduce the flesh and yet not lower the milk supply?

A. W.

Ans.—1. Manure can be applied almost any time. It is customary to draw the manure from the yard in the fall and work it into the soil for fall wheat or for mangels the following year. If there is not too much snow it is very good practice to draw the manure direct from the stable and apply it during the winter.

2. A calf of that age could be fed on skim-milk with a little clover hay, whole oats and pulped roots kept before it to encourage it to commence eating. The calf would be better for having a little whole milk.

3. Most people like to keep their cows in as good condition as possible. A cow that fleshes up when in milk is not usually a very profitable dairy cow, as she puts her feed on her back instead of in the pail. It is well to have a cow in good condition at the time of freshening, but if she is a good milker she will gradually lose a little in flesh.

Calf Scoured.

What treatment would you advise for a yearling calf that is baldy scoured? I have given it lime water once a day, besides a gallon of water to drink three or four times a day. It has been given Extract of Wild Strawberry, and other medicines prescribed by the veterinarian. Sometimes it appears almost well and then becomes as bad as ever. I am feeding it a mixture of clover and timothy hay.

Ans.—The trouble may be due to an attack of indigestion, and it will be necessary to clear the system of any irritant which it may contain before recovery will be permanent. The trouble may arise from over-feeding, feeding the milk too cold, or using dirty pails. Damp stalls, or giving a substitute for milk which does not agree with the animal's digestive system, may cause the trouble. When the feed is not properly digested and assimilated, poisons are produced which become absorbed into the system, causing the calf to weaken. Endeavor to find out the cause of the trouble and remove it, then give a dose of castor oil. About one-quarter of the bulk of drinking water or whole milk might be of lime water, as it is a corrective of some ailments in the digestive system. If that does not bring relief, give one to two teaspoonfuls of laudanum in a little new milk, every four or five hours for a few doses. The calf should be carefully fed and a few rolled or whole oats and clover hay, with the addition of a few pulped roots, make a very good ration for a calf.

150—Head—150 Shorthorns

100 Females : 50 Bulls

PURE SCOTCH AND SCOTCH - TOPPED
 Selling at the GREAT TWO-DAY SALE at
London, Ont., April 2nd and 3rd, 1918

BREEDERS EVERYWHERE, throughout both the United States and Canada, have learned to look forward to this great semi-annual Shorthorn event, and once more prospective purchasers may expect good cattle at right prices, as this sale is intended to be a breeders' proposition, from the viewpoint of both buyer and seller.

Be at London again on APRIL 2nd and 3rd.

The Western Ontario Consignment Sale Company
 FOR CATALOGUES APPLY TO
H. SMITH, HAY, ONTARIO

SPRING VALLEY SHORTHORNS

Herd of seventy head, straight Scotch, good individuals. Headed by the great show and breeding bull, Sea Gem's Pride 96365, and Nonpareil Ramsden 83422. We have for sale four as good young bulls as we ever had, and a few females. KYLE BROS., Drumbo, Ont. (Phone and telegraph via Ayr.)

Imported SCOTCH SHORTHORNS

Our present offering includes 100 imported females and 12 young imported bulls, representing the most desirable lines of breeding. If interested come and see them. Burlington Jct., G.T.R. is only half mile from farm. J. A. & H. M. PETTIT, FREEMAN, ONTARIO.

OAKLAND 60 SHORTHORNS

Present offering is 7 bulls from 10 to 30 months of age; also a few cows with calves at foot, all choicely bred dual-purpose animals, and priced below their value. Crown Jewel 42nd still heads this herd. JOHN ELDER & SONS, HENSALL, ONTARIO.

FAIRVIEW SHORTHORNS AND CLYDESDALES

In Shorthorns we can offer you a choice, from 60 head, including both bulls and females, of Lavender, Missie, Augusta, Duchess of Gloster, Village Girl, Miss Ramsden and Clara breeding—the best of cattle and the best of pedigrees. In Clydesdales, write for our list of winnings at Toronto, London and Guelph 1917 shows, Canadian-bred classes. We also have a nice offering in Shropshires. ROBERT DUFF & SONS, Myrtle Station, C.P.R., and G.T.R. MYRTLE, ONTARIO

PURE SCOTCH SHORTHORN BULLS

Our present offering of young bulls, sired by our herd sire Broadhooks Star, a son of the great Newton Ringleader, Imp., are the best lot of bulls we ever had on the farm. Come and see them, or write for particulars. We also have females of the richest breeding and highest individuality. GORDON SMITH, Woodslee Sta., M.C.R., Essex County, SOUTH WOODSLEE, ONT.

ESCANA FARM SHORTHORNS

For Sale—2 herd-headers of serviceable age; one a Cruickshank Orange Blossom by Right Sort Imp. and one a Jilt, by Raphael (Imp.); also one good farmer's bull. Can also spare a half-dozen females. J. F. MITCHELL, BURLINGTON, ONTARIO. Farm ¼ mile from Burlington Junction.

FIFTY IMPORTED SHORTHORNS

I have fifty head of newly imported Shorthorns (42 females, 8 bulls) which are acknowledged to be one of the strongest lots that have left Britain this season. You should see these if you are wanting something choice. George Isaac, (All Railroads; Bell Phone) Cobourg, Ontario.

IRVINEDALE STOCK FARM

Herd headed by Marquis Supreme. For sale, 4 granddaughters of (Imp.) Right Sort, two are Scotch and two Scotch topped; also two bulls, 1 roan 16 months by Gainford Select, and one white, Scotch topped sired by Browndale, 7 months old, priced to sell. JOHN WATT & SON, G.T.R. & C.P.R. R.R. NO. 3, ELORA, ONTARIO

GLENGOW SHORTHORNS

We have a choice offering in young bulls, fit for service. They are all of pure Scotch breeding and are thick, mellow fellows, bred in the purple. WM. SMITH, COLUMBUS, ONTARIO. Myrtle, C.P.R., Brooklin, G.T.R., Oshawa, C.N.R.

SHORTHORN BULLS Will. A. Dryden

of my own breeding, around a year old; best families and good colors, are for sale. Also a few young, imported bulls. Brooklin, Ontario County Myrtle, C.P.R., Brooklin, G.T.R., Brooklin, C.N.R.

A. G. Farrow, Oakville—SHORTHORNS

Herd headed by Proud Lancer (Imp.) and Pride of Escana, a great son of the great Right Sort Imp. I have a few bull calves of the better sort. Three imported ones left. Prices right. Farms one mile from station. Trains every couple of hours each way.

BOO Spavin

Cure the lameness and remove the bunch without scarring the horse—have the part looking just as it did before the blemish came.

FLEMING'S SPAVIN CURE (Liquid) is a special remedy for soft and semi-solid blemish—Dog Spavin, Thoroughpin, Splint, Curb, Capped Hock, &c. It is neither a liniment nor a simple blister, but a remedy unlike any other—doesn't irritate and can't be imitated. Easy to use, only a little required, and your money back if it ever fails.

Fleming's Vest-Pocket Veterinary Adviser describes and illustrates all kinds of blemishes, and gives you the information you ought to have before ordering or buying any kind of a remedy. Mailed free if you write.

FLEMING BROS., Chemists
75 Church Street, Toronto, Ont.

FOR SALE

Two Dual-Purpose Shorthorn Bulls

One two-year-old. Dam, officially tested gave as a four-year-old, 11,498 lbs. milk and 434 lbs. butter fat. One year-old, whose dam as a three-year-old also officially tested, gave 8,057 lbs. milk and 340 lbs. butter fat in 296 days.

D. Z. GIBSON Caledonia, Ont.

Dual-Purpose Shorthorns

Herd Headed by Dominator No. 106224 whose grandam on his mother's side has an R. O. P. record of 13,535 lbs. milk, testing 3.99, and whose dam has an R. O. P. record of 10,689 lbs. milk, testing 3.88.

Cows heifers and young bulls for sale; some of the latter are out of cows in the herd which have given between 10,000 and 11,000 lbs of milk each in one lactation period.

WELWOOD FARM
FARMER'S ADVOCATE, LONDON, ONTARIO

MESSRS. A. J. HICKMAN & CO. (Late Hickman & Scruby, Court Lodge, Egerton, Kent, England. Exporters of PEDIGREED LIVE STOCK of all descriptions. Specialty made of draft horses, beef and dairy breeds of cattle, show and field sheep. Illustrated catalogues and testimonials on application. All enquiries answered with pleasure. Now is the time to import. Prospects were never better, and insurance against all war risks can be covered by payment of an extra 1% only.

Mardella Shorthorns

Dual-purpose bulls, 20 young cows and heifers—bred, some calves by side. Size, type, quality; some full of Scotch. The great massive Duke—dam gave 13,599 lbs. milk, 474 lbs. butter-fat—at the head.

Thomas Graham, Port Perry, R. 3, Ont.

Dual-Purpose Shorthorn Cattle

Headed by "Golden Duke" (Imp.) (sire, Duke of Cranford II). Dam has a record of over 12,000 lbs. For Sale—"Butterfly Duke" by "Prince of Orange"; two years old, bred by Hon. W. C. Edwards, Rockland, Ontario.

J. B. PEARSON, MANAGER
Credit Grange Farm, Meadowvale, Ontario

Newcastle Herd of Shorthorns and Tamworths
For Sale:—2 hears 8 and 12 months old; several hears 2 to 6 months old. Young cows bred and 2 show cows 2 years old, safe in farrow. All descendants of Colwill's choice, champion at Toronto Industrial 3 years in succession, and Imp. Cholderton Golden Secret. Long-distance Phone. A. A. Colwill, Prop., R.R. No. 2, Newcastle, Ont.

Evergreen Hill R. O. P. Shorthorns
Offering so s of St. Clare 84598 R. O. P. No. 5, who sired the 1917 champion fat steer at Toronto Exhibition. Also offering Berkshires 2 months old. S. W. Jackson, R.R. No. 4, Woodstock, Ont.

Glenfoyle Dual-Purpose Shorthorns
Herd bull College Duke 4th, 95430, big, thick young cows and heifers for sale; 8 young bulls, some herd headers. Also a yearling Clyde, stallion STEWART M. GRAHAM, LINDSAY, ONT.

Shorthorns—Full-bred for sale. Young bull and heifers out of high record cows. A few young cows and bulls with extra good breeding and quality.
PETER CHRISTIE & SON
Manchester P. O. Port Perry, Ont. Co.

MAPLE LEAF FARM
In Shorthorns, the herd header you are looking for, a real bull, dark red and Stoutford bred, No. 115239, 13 months, and sure, having as I find on a few of our best cows.
John Baker, R. No. 1, Hampton, Ontario

Brownlee Shorthorns. Offers a choice lot of young bulls, ranging in ages up to nine months and sired by the Nonpareil bull, Royal Saxon. See these before buying elsewhere. Could also spare a few females. Douglas Brownlee, Bright, Ont., R. R. 3. Ayr Station, C. P. R.

Gossip.

Co-operative Wool Sales Reported.

The Co-operative Wool sales in Ontario las year and, in fact, throughout Canada are reported in an Appendix to the Annual Report of the Provincial Live Stock Branch. In addition to a detailed statement in regard to wool sales there is contained considerable information concerning sheep husbandry, and sheep raisers would no doubt be interested in this small volume. This report will be sent on application to R. W. Wade, Parliament Buildings, Toronto.

R. W. E. Burnaby, of Highland Lake Farm, Jefferson, Ontario, informs us that he has purchased an interest in the noted sire, May Echo Champion, which is a full brother to the world's greatest milk producer, May Echo Sylvia. He will be used along with Avondale Pontiac Echo, the great sire which Mr. Burnaby has under lease for the second year, and which is one of two 40-lb. bred bulls at service in Canada to-day. As there are now five or six 30-lb. cows at Highland Lake, besides almost fifty granddaughters of the great King Segis, these two noted sires will have every opportunity of proving their worth among the heaviest producing bulls of the breed.

The Belleville Sale.
At the time of writing, Sales Manager F. R. Mallory, of the Belleville District Holstein Breeders' Club, was not certain as to the number of animals that this year's sale would include. There were already over one hundred pedigrees in the hands of the printers, and those from several of the larger contributors were yet to come. It is probable that there will be in the neighborhood of 130 head catalogued, and if such is the case it may necessitate the holding of a two-days' sale, on April 3 and 4, or, if the executive decide to sell on one day only, the date will be April 3, and the sale will commence at 10 a.m. The offering all through is fully up to the best of any previous sale held by the Club, and contains much of the blood that has made the Belleville district famous. Watch these columns for further particulars, and address all correspondence regarding catalogues, etc., to F. R. Mallory, Secretary of Sale, Frankfort, Ontario.

Great Auction Sale of Jerseys.
Jersey breeders and dairymen will do well to attend C. E. Roger's sale of over 35 head of registered Jerseys, to be sold on March the 27th, 1918; sale will be held at the farm, situated on the Hamilton Road, 8 miles east of London and 1 mile west of Dorchester, commencing at 1 p.m. Mr. Rogers has been breeding Jerseys for 20 years, having used bulls of highest quality, including Brampton Blucher, Nita's Stockwell, De La Roche Duke, (imp.), and the present herd bull, Olive Oxford You'll Do. Brampton Blucher was first prize at Toronto, London and Winnipeg, sired by the famous bull Brampton Monarch (imp.) the sweepstake Jersey bull of Canada for years; his dam is closely related to Mrs. E. M. Jones' famous cow Messina that made 654 lbs. of butter in her 16th year. Nita's Stockwell was first at Toronto and London and grandson of Golden Fern's Lad, the most celebrated bull the Island of Jersey ever produced. De La Roche Duke (imp.) from Island of Jersey, was a bull of splendid quality, and his sire and dam were both highly commended on the Island. Olive Oxford You'll Do now stands at the head of the herd, a bull of splendid dairy form and a prize winner at London; he is closely related on his sire's side to Oxford You'll Do, the greatest Jersey bull living, and on his dam's side to Champion Flying Fox that sold at auction for \$7,500.00. Among the matrons of the herd is Pride of Riverside, that gave for one week 54 lbs. of milk a day, testing 5.40 per cent. fat; five of her daughters are included in this sale. None of the cows have been entered in the R. O. P. test, but without doubt they would make creditable records, having made weekly tests of 14 to 26 lbs. of butter a week. The sale includes 1 three-year-old bull, 2 yearling bulls and bull calves, 20 cows and heifers in calf or milking, 12 yearling and heifer calves. Everything will be sold to the highest bidder as the owner is giving up dairying. For fuller particulars write to C. E. Rogers, Ingersoll, Ont., mentioning this paper.

The Feed for Hungry Calves

Conserve the milk and help the nation. You do not need to feed milk to your calves if you use Royal Purple Calf Meal. It is a perfect substitute for milk. It is partially cooked, and the pure ingredients are so combined that the meal will not injure or derange the digestive organs of even the youngest calf. If you want rapid development and healthy calves, feed

Royal Purple Calf Meal

Let the following unsolicited testimonial letters convince you of the sterling qualities of our calf meal.

John D. Hamilton, Port Hope, Ont., writes:
"I have used Royal Purple Calf Meal and find it perfectly satisfactory, and I am recommending to my friends. I might add that I find no trouble with the calves scouring while using this meal. I have tried many other Calf meals, but never found one that proved satisfactory until I got Royal Purple."

S. M. Osborne, Maxwell, Ont., writes:
"We have a pretty good calf which is now four months old and weighs 400 lbs. I think your calf meal is fine. I have never fed anything that will make a calf grow as fast as this meal."
Order Royal Purple from your feedman. It is sold in 25, 50 and 100-lb. bags.

W. A. Jenkins Mfg. Co., Limited
London, Canada

FREE BOOK
Send for our 80-page book which tells how to raise calves without milk. It also describes fully the common diseases of stock and poultry.

45

CLEARING-OUT SALE OF SHORTHORNS

Farm Stock and Implements, Seed Potatoes, Barley and Oats at Lot 4, 7th Line, Erin Township, Wellington County

ON WEDNESDAY, MARCH 27th, 1918

The Shorthorns include 6 cows in calf, most of them good milkers; three in R.O.P., one a 3-year-old, bearing 1,100 lbs. of milk a month; 3 yearling heifers, 2 heifer calves. Stock bull just 4 years old, and 4 bull calves—all good thick ones. No reserve as farm is sold. Seed all bagged, ready to ship. Forenoon trains met at Erin, C.P.R., and Georgetown, G.T.R. Catalogues sent.

Ira B. Vannatter, Prop. (Phone 95-R.22) R. No. 1, Georgetown, Ontario
R. J. Kerr, Auctioneer, Acton, Ontario

Springhurst Scotch Shorthorns

Four Bull Calves Fit for Service, a choice lot of thick, well-grown fellows, just the right age for heavy service. One is by our present sire, Volunter, another is by the great sire Blarney Stone, while a third is by the Roan Lady bull, Refiner. If looking for a herd sire, write about these.

Harry Smith, (Exeter Station, Huron Co.,) Hay P.O., Ontario

SALEM SHORTHORNS

Herd headed by Gainford Marquis (Imp.), undefeated in England and Canada. Sire of the winning group at Canadian National, 1914, 1915, 1916. Can supply cattle, both sexes, at all times.
J. A. WATT, ELORA, ONTARIO

SHORTHORNS—T. L. Mercer, Markdale, Ont.

ROSEWOOD CHAMPION, by Nonpareil Archer, Imp., at the head of the herd. I have almost 100 Shorthorns in my stables at present. Marr Missies, Campbell-bred Claretas, Nonpareils, Minnas, Nonpareils, etc.—the best of breeding and the best of cattle; bulls or females; also have a few Herefords.

PLEASANT VALLEY FARMS

Herd headed by (imp.) Newton Grand Champion and Belmont Beau. We have for sale a goodly number of real good young bulls that will suit the most exacting; also females. Inspection invited.
Geo. Amos & Sons
C. P. R., 11 miles east of Guelph
Moffat, Ontario.

Robert Miller, Stouffville, Ont.

Write for anything in Shorthorns One hour from Toronto

MEADOW LAWN SHORTHORNS

Three big, growthy bulls of serviceable age—one of the Claret, two of the Marr Roan families. Come and see them. We will refund your railway fare and pay freight on all purchases. Priced from \$175 to \$300. F. W. EWING, R. R. No. 1, ELORA, ONT.

SEVENTY-THREE HEAD OF SHORTHORNS

Ten young bulls of serviceable age, Nonpareil Ramsden = 101081 =, and Royal Red Blood = 77521 = at the head of the herd. The ten young bulls range in age from 8 to 15 months, and are for immediate sale. They are out of good dams which will bear inspection. Our cows and heifers will please, and you'll like the bulls.
JAMES McPHERSON & SONS, DUNDALK, ONTARIO.

PURE SCOTCH SHORTHORNS

of exceptional merit. The young things we are offering this year are something extra, especially the bulls. Come and see them if you want something choice. GEO. GIER & SON, WALDEMAR, ONT.

WILLOW BANK STOCK FARM

SHORTHORN CATTLE AND LEICESTER SHEEP. HERD ESTABLISHED 1855—FLOCK, 1868. The great show and breeding bull, Browndale = 80112 =, by Avondale, heads the herd. Extra choice bulls and heifers to offer. Also a particularly good lot of Leicester rams, mostly from Imp. ewes.
JAMES DOUGLAS
CALEDONIA, ONTARIO

IMPORTED SHORTHORN BULLS

We have several newly-imported bulls of serviceable age—Cruickshank, Marr and Duthie breeding, as well as a number of choice, home-bred young steers, got by our noted herd sire, Proud Monarch, by Royal Blood. Get our prices before buying elsewhere. RICHARDSON BROS., Columbus, Ont.

41 *Auction Sale* **6**
Holsteins *of 47 Head* **Clydes.**

HOLSTEINS AND CLYDESDALES

Malton, Ont. **MARCH 19, 1918** at 12 o'clock

This is an excellent opportunity for breeders on the lookout for some choice animals to procure them. Included in the sale are granddaughters of *Count Hengerveld Fayne DeKol* and *King Pontiac Artis Canada*. Most of the females are in calf to my herd sire, *Count Echo Pontiac*, a son of the great *King Pontiac Artis Canada* and *Dolly Echo DeKol*. Included also are two daughters of Sir Lyons Hengerveld Segis. One is *Pauline Canary De Kol*, who was first at Toronto in 1915 as a 13-lb. 2-year-old. There is also an extra well-bred bull, son of *King Segis Pontiac Posch* and *Manor P. H. Alpha*, a 19-lb. 2-year-old.

Six Clydesdales are also included in the sale. These are exceptionally fine animals, including two imported mares. Recently I refused \$600 for one of these Clydes, included in the sale. Don't miss this exceptional sale. Excellent R.R. facilities. Parties met at Malton and Weston, G.T.R. on day of sale, and Islington, C.P.R.

WRITE FOR CATALOGUE TO:
C. SLAVIN, R. R. 4, Malton, Ont.
J. K. McEWAN, Auctioneer, Weston

HAND-PICKED HOLSTEINS

As I have sold my farm I must dispose of the following choice Holstein cattle—Inka Sylvia Walker Segis by Inka Sylvia Beets Posch, dam, Keyes Walker Segis. This heifer is rising four and is possibly the best daughter of Inka; Sylvia Keyes, yearling of Inka Sylvia Beets Posch, dam, Burkeye Keyes 3rd, mother of Keyes Walker Segis; Bloomfield Butter Girl, 6 years old, a beautiful cow; Princess Korndyke Beryl De Kol, 10 years old, from the herd of Stevens Bros.; also the two valuable yearling bulls, King Keyes Walker Segis, (Sire, King Segis Alcartra Spofford; dam, Inka Sylvia Walker Segis;) Count Spofford Segis Keyes, (Sire, King Segis Alcartra Spofford; dam, Countess Segis Keyes). The breeding of above animals speaks for itself. Write for prices and photographs.

WILLIAM COX, WOODBURN, ONTARIO

CHOICE BULLS—READY FOR SERVICE

No. 1.—By a son of *May Echo Sylvia*. His two nearest dams (both Canadian champions) average 5.62 lbs. butter in seven days. *Price \$1,000.00*

No. 2.—By a son of *May Echo Sylvia*. His two nearest dams (one a four-year-old) average 34.17 lbs. butter in seven days. *Price \$600.00.*

We have sold thirty-five bulls this winter.

Highland Lake Farms, R. W. E. Burnaby, (Farm at Stop 55, Yonge St. Radial) Jefferson, Ont.

Roycroft Farm Holstein-Friesians

Our 30-lb. bulls have all been sold, but we still have several sons of *Pontiac Korndyke of Het Loo*, that are just nearing serviceable age. Get one of these for your next herd sire, have a brother of *Het Loo Pieterje*, the world's greatest junior two-year-old, at the head of your herd. We also have a 9-months, 27.78 lb. son of *King Segis Alcartra*; and one other, same age, by *Dutchland Colantha Sir Mona*. See them at once or write early.

W. L. SHAW - ROYCROFT FARM - NEWMARKET, ONTARIO.
 Take Yonge Street Radial Cars from N. Toronto

WILLOWBANKS HOLSTEIN-FRIESIANS

Herd headed by King Walker Pride (C. H. B., 17362), (A. H. B., 207261) who is a son of the famous King Walker and the great show cow, *Pride Hengerveld Lennox*, 30.12, who is a granddaughter of *Blanche Lyons De Kol*, 33.31 and *King Segis*, who is a grandsire of world-champion cow, also of the two highest-priced bulls of the breed. Young stock for sale.

C. V. Robbins Bell Phone Wellandport, Ontario.

EVERGREEN STOCK FARM HOLSTEIN-FRIESIANS

Our unparalleled success at the Toronto and London Exhibitions during the past five years places Evergreen Holsteins in a class by themselves. The strong combination of size and type found in our individuals makes record producers. Your next herd bull should be carefully selected. See our offering before buying elsewhere.

A. E. HULET, (Oxford County) NORWICH, ONT.

MAPLE SOIL STOCK FARM OF HOLSTEINS

I am offering a few choice heifers, sired by *King Segis Pieterje*, that have just been bred to *Finderne King May Fayne*; also some heifers and cows due to freshen all the way from February until April. All bred to *Finderne King May Fayne*; a few heifer calves sired by *Finderne King*. Get some good ones.

H. C. HOLTBY R. R. No. 1 GLANWORTH, ONTARIO.

Gossip.

I. B. Vannatter, of Georgetown, Ont., is holding an auction sale at his farm on March 27. The Shorthorns are a money-making bunch; the females include several local show animals. The cows are all breeders and right good milkers. The bulls offered are thick, low-set individuals, and some of them will make show stock with a little more fitting. Besides the Shorthorns, a quantity of O. A. C. No. 21 barley, Banner oats, Irish Cobbler and Green Mountain potatoes, will be disposed of. Write Mr. Vannatter, R. R. No. 1, Georgetown, for a catalogue, and plan to attend the sale on March 27.

High Prices for Aberdeen-Angus Cattle

The high altitude season for cattle has begun early in Britain this year, on February 6th and 7th, to be precise, and at Perth, and in the Aberdeen-Angus breed, to be further precise. Of course Perth is virtually the home of the "Doddie", and when at the end of January a sale was held in Birmingham by the English Aberdeen-Angus Cattle Society and it ended in some very poor prices for bulls, some of the prophets shook their heads and thought the year of 1918 was going to be a bad one for holders of male stock, but the Perth yearly sale, just held, has knocked the bottom out of that fear and we look to be in for another big year for high prices. The "lines" of Daddies most in demand were the inevitable "Blackbirds" and the stylish Trojan-Erics, a combined flush of blood, which is virtually a guarantee of rare conformation, shapely to a degree.

TO THE WOODSTOCK SALE, MARCH 20

I am consigning to this great sale one cow by *Grace Fayne 2nd Sir Colantha* that will be 5 years old sale day, with a junior three-year-old, 7-day record of 19.25 lbs. butter, and due to freshen about the middle of April. One 2-year-old heifer from *Butter Baron* and a daughter of *Prince Abbekerit Mercena*, that is due to freshen May 7th; also one bull rising 1-year-old, from *Butter Baron*. Parties wanting good females to freshen about grass time will do well to look these over before buying.

M. H. HALEY, SPRINGFORD, ONT.

LOW BANKS HIGH-RECORD HOLSTEINS. Only one bull left of last season's entire crop of calves. He is a beauty—straight as a string. Dark colored. His dam, "Hester Pieterje Netherland" record 30.14 lbs. butter in 7 days, and her first two daughters have each made over 19 lbs. butter in 7 days as junior two-year-olds. Remember—his sire is a son of *Pontiac Korndyke*, and his ten first daughters tested average 19.64 lbs. butter and 436 lbs. milk at an average age of 2 years and 17 days. He won't be here long. Write for pedigree and price.

K. M. DALGLEISH KENMORE, ONTARIO

Riverside Holsteins

We still have some good bulls on hand, including two half-brothers of *Toitilla* of Riverside, former Canadian R.O.P. Champion. Write or phone your wants to—**J. W. Richardson, Caledonia, Ont.**

CLOVER BAR HOLSTEINS

We are now offering a number of young bulls, sired by our senior herd header, *Francy 3rd's Hartog 2nd*, the noted son of the famous old *Francy 3rd* and *Canary Mercedes Hartog*; also a few females—all choice individuals.

P. SMITH, PROPRIETOR, STRATFORD, ONTARIO

SILVER STREAM HOLSTEINS

Present Offering—six extra well bred bull calves, sired by bulls with 34-lb. backing, and from tested dams, individually as good as their breeding. For fuller particulars and prices, write, or better come and see them.

J. MOGK & SON, R. R. 1, TAVISTOCK, ONTARIO

DUMFRIES FARM HOLSTEINS

Present Offering—A few bull calves.

S. G. & ERLE KITCHEN ST. GEORGE, ONT

Here's a Top-notch!

Sire, *King Segis Walker*; dam, 30-lb. daughter of *Pontiac Korndyke*, who herself has a 30-lb. daughter. He is a youngster, but he'll grow.

A. A. FAREWELL, Oshawa, Ont.

LYNDALE HOLSTEINS—One 13-months-old bull—Sire, May Sylvia Pontiac Cornucopia (34 brother to Champion Echo Sylvia Pontiac) whose two grandams are K.P. Pontiac Lass, 44.18 lbs. butter in 7 days, and May Echo Sylvia, 41 lbs. in 7 days, 152 lbs. milk in one day. Dam of bull offered—*Pieterje Inka Pieterje, jr.* 4-year-old; butter in 7 days, 30.77 lbs.; 30 days, 124.34 lbs.; milk in 1 day, 10 1/2 lbs.; 7 days, 669 lbs.; 30 days, 279 lbs. Other young bulls of choice breeding and of serviceable age for sale. **Brown Bros., Lyn, Ont.**

Save Butter-Fat, Time and Labor for Yourself and for the Empire with a NEW DE LAVAL CREAM SEPARATOR

Save for Yourself Butter-fat right now is selling at the highest price in many years, and you can't afford to waste an ounce of it.

Save for the Empire It is the patriotic duty of every cow owner to save butter-fat. We are a nation at war, and not a particle of fat should be wasted. When all European countries are encouraging the use of the best cream separator, can we do less?

Buy Your De Laval Now Railway delays are so serious that deliveries can't be depended upon, and if you don't order your De Laval early there is no telling when you can get it. Then, too, labor and material conditions may compel higher prices. The sooner you get a De Laval saving butter-fat and labor for yourself and the Empire, the sooner it will pay for itself.

If you haven't the spare cash right now, that need not stand in the way of your getting a New De Laval at once. We have an arrangement with De Laval agents which makes it possible for any reputable farmer to secure a De Laval on the partial payment plan—a small payment at the time of purchase and the balance in several installments—so that your De Laval will actually pay for itself while you are using it and getting the benefit from it.

Why not see the nearest De Laval agent at once? If you do not know him, write to the nearest office for new catalogue or any desired information.

The De Laval Company, Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES in Canada. Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns and Butter-Workers. Catalogues of any of our lines mailed upon request.

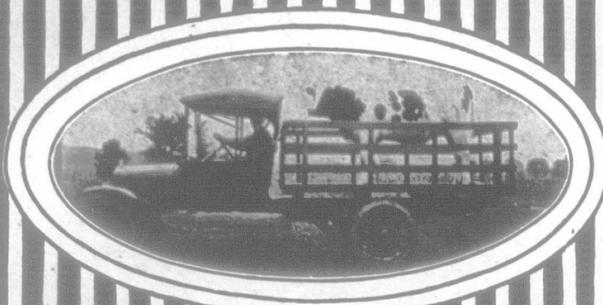
MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

Now to the Perth sale of Angus which was conducted on the days named, by Messrs. Macdonald, Fraser & Co.; Lovat Fraser slinging the hammer. All told 445 Angus cattle were sold for £28,557 18s. or a general average of £64 3s. 6d. apiece. This meant a rise of £4 9s. 4d. per head on the 1917 figures. The 323 bulls of all ages made £65 5s. 9d. each; the 16 aged cows realized £46 6s. 8d.; 40 two-year-old heifers fetched £76 0s. 10d.; and 66 yearling heifers £55 17s. 2d.

The champion bull was J. E. Kerr's Eilenach of Harviestown and in the sale he fetched 1,400 guineas, a record price at Perth, falling to the bid of Charles Penny of Skillymarno, who outstayed James Kennedy, Doonholm. The 1916 bull, Etrurian of Bleaton, bred by J. M. Marshall, made 600 guineas to Captain Scott, Buckland Manor, Worcestershire. J. E. Kerr's three bulls sold at an average of £666 10s. each. Best price for cows was 250 guineas paid for one of H. M. the King's from Abergeldie.

Next day at Aberdeen a sale of 363 Doddie bulls saw a general average of £54 17s. 10d. apiece. Top figure was 450 guineas for an Erica calf. The champion, a bull calf bred by J. R. Findlay, Aberlour, only made 210 guineas. A lot of English buyers were operating at these two events. The "All Black" breed is catching on in Southern England.

Canada's cry "Keep a Sow" has reached England. There is a revival in the keeping of the Cottager's pig. Allotment holders are seeking powers to have rural by-laws altered so that they can keep pigs on their gardens.



A 29-pound sire going to head the herd of W. T. Davidson & Son, Meadowvale, Ont.; 10 months old. Note the splendid development. Perhaps I have the one you want.

Gordon S. Gooderham
Manor Farm Clarkson, Ont.

MAPLE LANE HOLSTEINS

The Entire Herd in Complete Clearing
Selling at the Farm near

Solina, Ont., Tuesday, April 2, 1918

The Maple Lane herd is one of the smaller, but select, herds of high-testing Holsteins in Eastern Ontario, and while Mr. Washington has done very little testing, the herd was founded with only the "best" from high-record families, including the blood of such noted sires as Hengerveld DeKol, King Segie, Abby Hartog Clothilde, Pieterje Hengerveld Count DeKol, Paul Beets De Kol, etc. There are thirteen females, including a number of heavy milking cows, and others freshening soon.

Write for particulars and watch these columns for further particulars.
Address all Correspondence to:

N. S. WASHINGTON : Maple Lane Farm : SOLINA, ONT.

HOLSTEINS

OUR CONSIGNMENT TO THE WOODSTOCK SALE

Wednesday, March 20th, 1918

Includes PIONEER DUCHESS HARTOG 39722. On her dam's side she is sister to Duchess Wayne Calamity 2nd, Canadian Champion in the R.O.P. with 16,714 lbs. milk, 846 lbs. butter in 365 days, and as junior 4-year-old, 29.28 lbs. butter in 7 days. She is also sister to Duchess Wayne Calamity, 25.20 lbs. butter in 7 days. Her sire is Canary Hartog, whose three nearest dams average over 30 lbs. butter in 7 days and 108 lbs. milk in 1 day. Her grandam is Royalton De Kol Violet, 29,963 lbs. milk, 1,300.4 lbs. butter in 365 days. This handsome heifer will freshen before the sale, and will be just through the 7-day test as a 2-year-old. We are also consigning a choice 3-year-old, due to freshen the day of sale, and a good, young bull, sired by Canary Hartog, out of a sister to Calamity Snow Mechthilde 2nd, just finished a record of over 23,000 lbs. milk and over 1,000 lbs. butter in 365 days.

WALBURN RIVERS & SONS, R.R. 5, Ingersoll, Ontario

Questions and Answers. Veterinary.

Diarrhoea in Pigs.

We have had trouble with our small pigs dying. The sows are fed on shorts, oat-chop and bran, and given buttermilk regularly. The pigs are strong and smart when born and do well until four or five weeks old, then take acute diarrhoea and some die.

Ans.—Provided the pens and surroundings are sanitary, the trouble is due to the buttermilk. At about this age the pigs should begin to drink, and when they have access to the feeding troughs will take more or less of the food and drink supplied their dams—The digestive organs of the young things cannot withstand the action of sour buttermilk, hence the diarrhoea. The addition of 1 part lime-water to 3 parts buttermilk might prevent the trouble. If this should not act well it would be wise to not give the sows the milk until the litter is weaned, else arrange matters so that the young cannot get the milk. If curative treatment is necessary, give 5 drops of laudanum in a little new milk every 4 hours until diarrhoea ceases. V.

Gossip.

The Bender Sale of Holsteins.

Attention is directed to the advertisement of Noah S. Bender appearing in the advertising columns of this issue, in which he is offering his entire herd of high-testing, pure-bred Holsteins by public auction, on Tuesday, March 19. The sale will be held at the farm, near Tavistock, and a choice selection of thirty-five high-quality Holsteins which were with one or two exceptions, all bred on the farm on which they are to be sold, will be offered to the public. Thirty-three of the lot are females, the majority of which are of breeding age. These will all have calves at foot, or will be freshening within the month, or early in April. Only one cow in the herd is over five years old, and while many have creditable official records themselves, every one catalogued has officially-tested ancestors. Those in need of choice stock to strengthen their herds, or for foundation stock, will find Mr. Bender's offering attractive. For further particulars see the advertisement elsewhere in this issue, and write Noah S. Bender, Tavistock, for a catalogue, mentioning this paper.

35 PURE-BRED

HOLSTEINS

The entire herd of Noah S. Bender, selling in a great Unreserved Sale

at the Farm, Near Tavistock, Ontario

TUESDAY, MARCH 19th, 1918

Just a Few Pointers Regarding This Offering:

This is not a weeding-out sale; the entire herd sells without reserve; of the thirty-five head, thirty-two are females; there will be twelve fresh cows; there is not one defective udder; there are ten daughters of King Lyons Colantha; there are six daughters of King Lyons Hengerveld.

A Good Clean Herd of High-Class, Choicely Bred Holsteins.

Write for Catalogue Now. Remember the Date, March 19.

TERMS: Cash, or 6 months' credit on bankable paper, at 7 per cent. per annum.
Noah S. Bender, All trains met at Tavistock on day of sale. Tavistock, Ont.

29.68 lbs. butter, 563.7 lbs. milk

as a junior three-year-old

This is the official record of

Burkeyje Hengerveld May Echo (12658)

Her dam "Burkeyje Hengerveld", is Canada's first 20,000 lb. 4-year-old. Her sire is a son of "May Echo" and a $\frac{3}{4}$ brother of the great "May Echo Sylvia" (world's champion).

You can buy her son, sired by "Hillcrest Ormsby Count", a son of "RAUWERD COUNT DEKOL LADY PAULINE," 29,000 lbs. milk, 1,113 lbs. in 1 year, 112 lbs. milk in 1 day. Dam of K. P. Rauwerd, 3,413 lbs. butter as senior 3-year-old, 103 lbs. milk in 1 day.

Where Can You Equal This for Production and Re-Production?
He is largely white in color—a beauty. Write us for Price, etc.

JOS. O'REILLY, R. R. No. 9, PETERBORO, ONTARIO

HOLSTEIN BULLS

Bulls of serviceable age and younger, from tested and untested dams. Write:
R. M. HOLTBY, PORT PERRY, ONT.

Gossip.

Oxford District Holstein Breeders' Sale.

In the Oxford District Holstein Breeders' Consignment sale, to be held in Woodstock, on March 20, are such animals as Pioneer Duchess Hartog, a sister on her dam's side to Duchess Wayne Calamity 2nd, the Canadian champion two-year-old in the R. O. P., with 16,714 lbs. of milk and 846 lbs. butter in a year. As a junior four-year-old she made 29.28 lbs. of butter in seven days. Another sister is Duchess Wayne Calamity, with a butter record of 25.20 lbs. Her sire is Canary Hartog, whose three nearest dams average over 30 lbs. of butter in seven days, and 108 lbs. of milk in one day. His grandam is that great cow, Royalton De Kol Violet, with a record of 29,963 lbs. of milk as a ten-year-old. There are some excellent heifers, due to freshen just previous to the sale, which will be tested. Others will be freshening about the time of the sale. There is a son of Canary Hartog in the sale that has excellent backing on his dam's side. Bessie Posch Cornelia, with an official record of 26.14 lbs. of butter, and her bull calf sired by Prince Echo Sylvia, whose two nearest dams averaged 33 lbs. of butter in seven days, and Countess Cornelia Mercena, with a milk record of 615.8 lbs. in seven days, sired by Count Calamity Mercena, will be offered. There will also be a three-months-old bull calf, whose four nearest dams average over 32 lbs. of butter and 107 lbs. of milk in seven days; a son of a 33-lb. cow; a four-year-old cow with a 28.57-lb. record, and another one of the same age with a 26-lb. record. The majority of the females to be sold are either in the R. O. M. test, or from R. O. M. dams with good records. They are sired by some of the best bulls in Canada. There are a number of choice young bulls; in fact, the consigners believe they are offering the best lot that has ever been sold at Woodstock. This is a semi-annual sale that has become well established. Write the Secretary, W. E. Thompson, Woodstock, for a catalogue, mentioning the Farmer's Advocate. Plan to attend the sale on March 20. There is excellent railroad connections, the sale is held under cover, and choice stock will be offered.

On Feb. 26 the Teutons made another air-raid on Venice and dropped many bombs, some of which fell close to the Ducal Palace and the Church of St. Mark's which was slightly damaged. One third of the houses of the city are now said to be in ruins.

Questions and Answers.
Miscellaneous.

Rabbits.

Where can I purchase tame rabbits?
J. R.

Ans.—A small advertisement placed in our columns would undoubtedly furnish you with the names of persons having rabbits for sale.

String Halt.

I have a valuable mare nine or ten years old of a very nervous temperament. She appears to be developing string halt. Is there any cure for this?
S. K. S.

Ans.—This is more or less of a nervous disease and medical treatment has practically no effect. An operation which consists in severing the tendons sometimes effects a cure, but in other cases it does not. If the operation is performed it should be done by a qualified veterinarian.

Examinations—Feeding Pigs.

Are pupils who obtain their lower or middle school certificates by trying the farm labor examination at Easter compelled to try these exams. again when they attend normal school.

2. Is it advisable to use warm water instead of cold when mixing feed for pigs?
J. S.

1. We understand that the examination had to be taken last Christmas. Whether or not this is to be continued for those leaving school at Easter to work on the farm, we cannot state definitely.

2. In extremely cold weather the warm water might be an advantage, but in ordinary weather we cannot see that there would be much advantage.

Colt Stiff in Fore Leg.

I have a colt that appears rather stiff in the fore leg. I have examined it but can find nothing wrong. What is the cause, and what treatment would you advise?
A. H. B.

Ans.—It is possible that the colt has sprained some of the muscles in the leg or shoulder, which would make it go a little stiff. Of course, it may be that the colt has a slight attack of rheumatism. Keep the colt dry and comfortable and bathe the affected parts with hot water. After bathing, rub well with a liniment made of 4 ounces of alcohol, 1 ounce oil of turpentine, 4 drams of camphor, and water to make a pint. Administering 2-dram doses of salicylic acid three times daily is recommended for rheumatism. A veterinarian examining the leg or foot might discover some other cause for the stiffness.

Roots for Ewes.

I am wintering 100 ewes and have been feeding oats during the cold weather but they are costly, I have plenty of turnips but have been told that they are not good for ewes in lamb. Would I be safe in feeding them?

2. What is the name of a good book on care and management of sheep?
J. C. D.

Ans.—Ewes require a little grain. A mixture of oats, bran, and a few peas is highly recommended. However, we realize that these feeds are expensive. The grain ration may be kept at a minimum up to within a month of lambing, by feeding clover hay, or pea straw and roots. In the last month there should be a reduction in the amount of roots, with an increase in the amount of grain.

2. "Sheep Farming" by Craig; "Modern Sheep" by Shepherd Boy or "Sheep Farming in America" by Wing are very good books.

Swollen Leg.

I have a mare rising five years old, used up in the left hind leg. She is quite lame. The cord swells up first then the whole leg swells up until she is very lame. She is thriving all right. She seems to be rubbing one leg against another often and stamping the foot on the floor. Her legs are not broken out with scratches. I have closely examined them. What is the cause and what remedy do you advise?
W. B. S.

Ans.—The symptoms are somewhat like those of lymphangitis or weed. Prevention of this consists in daily exercise and reducing the grain ration. The trouble is very often brought on by high feeding during a few days' rest. Give a purgative and follow with 3 drams nitrate of potash three times daily. Long continued bathing of the limb with hot water, exclusion of drafts, and the application of a liniment will very often relieve the trouble.

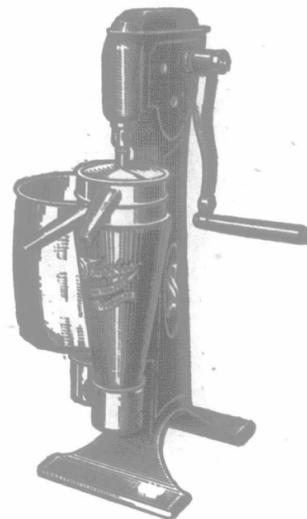
Are You Working for the Machine or Is the Machine Working for You?

No one wants to be bossed by a bell, or chased by a speedometer. Fixed-feed separators are hard task-masters, unless cream waste means nothing to you. How much better it is to have your separator skim clean at any speed—working *for* you, not against you. Only one separator does this—the Sharples suction-feed. It skims equally clean at all speeds, averaging a saving of 10 lbs. of butter per cow yearly over any other separator. Every time you turn a Sharples you are saving the butterfat that will help win the war.

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- the *only* separator that will skim clean at widely-varying speeds
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TORONTO, ONT. **The Sharples Separator Co.** REGINA, SASK
THE MITCHELL & MCGREGOR HARDWARE CO., Brandon, Man.
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ONLY THREE BULLS LEFT

- (1) A splendid fellow, more white than black, born May 1917. He is a grandson of Dutchland Sir Mona, and his dam is a half sister of the famous Toitilla of Riverside.
- (2) Born September and December, 1917, of A. 1. R.O.P. dams.

APPLY TO SUPERINTENDENT.

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We offer a fine young bull from our senior sire and from a 29-lb. cow; also a young bull from Sir Veeman Hengerveld and from a 15-lb., 2-year-old, who is a granddaughter of Diona Konigen Pieterje, 37-lb. Write for prices and pedigrees. Address

Grandsons of Rag Apple Korndyke 8th

We have four young bulls of serviceable age, by our herd sire, *Sir Waldorf Korndyke*, who is a son of the mighty Rag Apple Korndyke 8th. Their dams' records run as high as 31.31 lbs butter and 704 lbs. milk for 7 days, and *every calf is a show individual*. We also have one 8-months bull by a grandson of May Echo Sylvia and from a daughter of a 31-lb. cow. Extended pedigrees mailed on request. *Are you interested?*
Write J. W. STEWART - North Star Stock Farm - LYN, ONTARIO

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A number of choicely-bred bulls. One a real show bull, beautifully marked, dam a 30.76 junior four-year-old; sire's dam 34.60. The three nearest dams average over 100 lbs. milk a day. Can spare a few good heifers.

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Don't throw away your Pots and Pans. "Vol-Peek" will mend Graniteware, Tin, Aluminum, etc., in two minutes without tools. Always keep it in the house. At dealers or from us, postpaid, 15 cents. Vol-Peek Mfg. Co., Box 2824, Montreal, Can.

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and in prime condition by supplementing the feed with

LINSEED OIL CAKE "Maple Leaf Brand" With a trial ton order we will send you, free, "The Veterinarian," a valuable book about the diseases of cattle.

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For Milk, Butter, Cheese, Veal, Holstein Cows Stand Supreme

If you try just one animal you will very soon want more.

WRITE THE HOLSTEIN-FRIESIAN ASSOCIATION W. A. Clemons, Sec'y. - St. George, Ont.

White Blossom Sweet Clover—Have a limited amount for sale—\$16.00 per bus. f.o.b., our station. Bags 45c. extra. GEO. MCNERNEY, Ennismore, Ont.

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More calves have been raised on Blatchford's Calf Meal than on all other milk substitutes combined.

100 lbs. makes 100 gallons of milk substitute, costing only one-third as much as milk.

Prevents scouring and insures the early maturity of sleek, handsome calves.

It is steam-cooked and no trouble to prepare or use.

Write for Pamphlet "How to Raise Calves Cheaply and Successfully with Little or No Milk." At dealers, or

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A SOLID PROPOSITION to send new, well made, easy running, perfect skimming separator for only \$17.50. Closely skims warm or cold milk. Makes heavy or light cream. Bowl a sanitary material, easily cleaned. Different from picture, which illustrates larger capacity machines. See our easy **Monthly Payment Plan**. Shipments made promptly from Winnipeg, Man., Toronto, Ont. and St. John, N. B. Whether dairy is large or small, write for handsome free catalog and easy payment plan. **AMERICAN SEPARATOR CO.** Box 3206 Bainbridge, N. Y.

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The thick layer of asphalt mastic prevents dampness; the stucco or plaster is held by the dove-tailed lath, while the sized sulphide fibre board holds the material firmly together, and is a non-conductor of heat and cold.

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should be used, applied with the lath to the studding and the sized fibre board ready for any class of decoration, exposed.

It is easily and quickly applied without creating muss and dirt, saving lath and plaster, and about 50% of the labor cost.

If you are building or intend to remodel the house or barn, write us for descriptive and illustrated booklets, telling in detail the facts about Bishopric products.

BISHOPRIC WALL BOARD CO. LIMITED

529 P Street, Ottawa, Ont.

Questions and Answers.

Miscellaneous.

Sweet Clover.

Will sweet clover grow up from seed if sown without a nurse crop? How much seed per acre would you advise sowing?

2. What kind of ground is most suitable for growing it?

3. Does it grow up from the root the same as other clovers when once it is seeded down?

4. What time of the year should it be sown? A. T. B.

Ans.—1. Sweet clover is a crop which is becoming popular. It is usually sown with a nurse crop in the spring and gives its main crop the following year, similar to red clover. There will, of course, be a considerable amount of feed after the nurse crop is harvested. From 18 to 20 lbs. of seed is the customary sowing.

2. It is a crop which will do fairly well on comparatively poor soil. It is found growing on heavy clay, on light, sandy soil and on good loam.

3. It is a biennial plant similar to red clover. It sends down a tap root and the stems grow from a crown. The first crop of the second year is ready to cut about the middle of June, or gives good pasture quite early in the season, and continues to seed up new shoots until fall. If cut for hay and the crown is not injured, there will be a second crop to be harvested later in the season.

4. Seeding takes place at the time of sowing the regular spring crops.

Hoof Ointment—Feeds for Calves and Colts.

I have a mare with very dry, brittle hoofs. What is a treatment for them? Would oil of any kind help?

2. Are the commercial calf meals as good for calves as oil-cake meal?

3. I am feeding a colt one pint of whole corn, one quart of whole oats and one pint of shorts or middlings twice a day, with clover hay. Is this a good ration?

4. Where can I get a few bushels of O. A. C. No. 3 oats and Green Mountain potatoes?

5. When should fertilizer be put on fall wheat? Would it hurt the plants to sow agricultural lime or Basic Slag on it this spring? Could this be applied by hand? R. P. B.

Ans.—1. The following is a hoof ointment which has been recommended: One-quarter pound each of raw linseed oil, crude petroleum, Neat's foot oil, and pine tar. Mix well and apply every night with a brush over and under the hoof. Almost any kind of oil would help the hoof.

2. Many stockmen claim to get exceptionally good results from some of the commercial calf meals. They may contain certain nutriment beneficial to the calves which are not found in oil cake. When there is a scarcity of milk, the calf meals are very often fed. Oil-cake meal is good to add to the ration of practically every farm animal.

3. The ration is not one which we would care to feed. The corn and oats are all right, but shorts or middlings are not a particularly good horse feed. The amount to feed depends on the age of the colt. For a growing colt, whole oats, a little bran and clover hay, with a few roots added occasionally, make a splendid ration.

4. Persons having these commodities for sale frequently advertise in our columns. If none are advertising at the present time, a small advertisement giving your requirements would undoubtedly put you in touch with someone having these seeds for sale.

5. Fertilizer is usually applied previous to sowing the wheat. If only a small quantity is being used it can be sown by hand but, where several tons are being applied, it would be found to be a rather laborious job. The fertilizer drill distributes the fertilizer evenly over the ground. The plant food in the materials mentioned are not readily available to the plant, consequently they should be applied some time previous to the time required. We do not know that it would particularly hurt the plants if agricultural lime or Slag were spread on this spring.

The Irish Convention has resumed its sittings at Trinity College, Dublin. Meantime the Sinn Feiners still continue to agitate and there is a strong sense of insecurity throughout Ireland, and troops have been sent to preserve order in County Clare.



Mother Wasn't Worried

"Not at all anxious. Just pinned my faith to Dreadnaught Tire Chains and they got us home safely."

Nothing like "Dreadnaught" chains to get you home when the roads are skiddy—makes motoring more certain and gives the motorist a real feeling of security.

Dreadnaught TIRE CHAINS

Can be quickly attached by anyone, by means of the handy Long Lever Rim Chain connector. They are electric welded and case hardened. Will give more service at less cost than any other chain made. Order from your supplyman or write us for price list and descriptive circular.

McKinnon Columbus Chain Limited

Manufacturers of Electric and Fire Welded Chains

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Stoneycroft Stock Farm

ENTIRE DISPERSION SALE OF PURE-BRED

Ayrshires, Grades AND Clydesdale Horses

Our Ayrshire herd, in uniformity of type, breeding and production, will compare favorably with any similar lot ever before offered to the public. A special feature of the sale will be the herd sire—HOBSLAND RECORD PIECE = 54821=, a son of that undefeated champion and grand champion, Hobsland Perfect Piece (10665), while is paternal grandsire is the Ness Champion Hobsland Masterpiece = 8795=, whose get have always won first prize wherever exhibited. His dam is Hobsland Mary 3rd, the only living cow by the world-renowned sire, White Cockade of Nether Craig (2852). She has an A. R. Scottish record of 9,290 lbs. milk at 3.74% in 320 days, and she made this record at 15 years of age. As an individual he upholds that perfection and symmetry of form possessed by his paternal ancestors.

Herd sold subject to tubercular test. The place is

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Tuesday, March 26th, 1918

AT 12 O'CLOCK

TERMS OF SALE: 25% cash. Balance four months credit on furnishing approved joint notes.

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The Omega is R. R. Ness, of importers and cattle in Can... Omega as follo... machines beate... those celluloid... pall hanging on... the floor, the... are held insur... milking know... WRITE NOW l... let, describing... the OMEGA.

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Twenty-Five Y... Jerseys

We have bred ov... champions for lar... We bred and h... champion Berks... improvement, wr... and prices.

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are heavy milk... a...

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Young bulls fo... from one to 1... closely to the... clough May 1...

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Choice Off

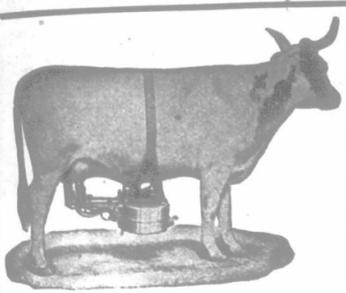
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ability from 8,600... production appeals... and young bulls fo... Rockton, Ont.

CITY M

One bull, ten mont... milk, 4.64% fat a... calves—might sp... S.-C. Reds, White... now ready. Jam



THE Omega Milking Machine

has these advantages over other machines. Transparent celluloid milking tubes instead of rubber ones, which harbor germs and are difficult to clean. Pail and teat-cups are suspended from the back of the animal. The udder has no weight to carry. The pail cannot be knocked over and the teat-cups cannot fall on the stable floor and suck up straw or filth. The Omega milks fast and milks clean.

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The Omega is used and recommended by Mr. R. R. Ness, of Howick, Quebec, one of the largest importers and breeders of record Ayrshire cattle in Canada. He writes regarding the Omega as follows:—"It certainly has all other machines beaten in point of cleanliness, with those celluloid tubes instead of rubber. The pail hanging on the cow's back never touching the floor, the position in which the teat-cups are held insuring the most cleanly way of milking known to-day."

WRITE NOW for our FREE illustrated booklet, describing the many superior features of the OMEGA.

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

Ontario Creameries, Limited
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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.

AYRSHIRE COWS

are heavy milk producers, rich in butter-fat and very prolific.

WRITE W.F. STEPHEN, Secretary
CANADIAN AYRSHIRE BREEDERS' ASS'N
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Young bulls for sale (out of R. O. P. dams) from one to fifteen months old; tracing closely to the world's champions, Garclough May Mischief and Jean Armour.

COLLIER BROS., Beachville, Ontario
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Kelso Farm R. O. P. Ayrshires. Herd headed by Palmston Speculation Imp. We never had a stronger line-up of R. O. P. producers than we have at present. Our 1917-1918 young bulls are sure to please. D. A. MacFarlane, Cars Crossing, G. T. R., Athelstan N. Y. C.; Kelso, Que.

Choice Offering in Ayrshires
At Special Prices. Several young bulls of serviceable ages. All from R. O. P. sires and dams. Come and see them.
John A. Morrison, Mount Elgin, Ontario

Glencairn Ayrshires Herd established 40 years. Producing ability from 8,600 to 11,022 lbs. If that sort of production appeals to you, we have heifers all ages and young bulls for sale. **Thos. J. McCormick, Rockton, Ont. Copetown Station, G. T. R.**

CITY VIEW AYRSHIRES
One bull, ten months old; dam's R.O.P., 6,500 lbs. milk, 4.64% fat as a two-year-old. Several bull calves—might spare a few females. R.-C. and S.-C. Reds, White Wyandottes—eggs for setting now ready. **James Begg & Son, St. Thomas, Ont.**

Questions and Answers. Miscellaneous.

Fertilizer for Garden.

What fertilizer would you advise applying to a vegetable garden. Stable manure is difficult to secure. Would it be advisable to throw the fertilizer on top of the snow?

Ans.—As a rule, nitrate of soda, acid phosphate, and muriate or sulphate of potash are the commercial fertilizers usually applied to garden soil. The nitrate of soda and potash are very difficult to secure at the present time. If they could be purchased, the amount recommended for such crops as onions, celery, cabbage, etc., is around 200 lbs. of nitrate of soda, 400 lbs. of acid phosphate, and 160 lbs. of potash to the acre. The acid phosphate might be applied early, but the nitrate is very readily available and should be put on just before the crop is sown. In fact, part of the quantity might be saved and sprinkled along the rows after the plants are up. This material forces rapid growth. If wood ashes could be secured, they would supply a quantity of potash.

Twitch Grass—Feeds for Cows.

A rents a farm to B for seven years and then sells it to C, subject to the lease. To whom should B pay the rent? If there was no agreement, could C collect if the rent were paid to A?

1. What is the best method of eradicating twitch grass?
2. What is the best method of eradicating twitch grass?
3. Could a rich sod be worked down sufficiently fine for corn, beans, potatoes, peas and turnips this spring?
4. What would be the difference in rent for a fertile soil, but very bad with twitch grass and sow thistle, and the same farm clean and free from foul weeds?
5. What are some of the best concentrates to feed a milk cow along with oat straw, turnips and oat chop? I feed about half a bushel of turnips and a gallon of chop to each animal.
6. Does silage make a satisfactory feed for spring and summer?

Ans.—1. As A sold the farm subject to the lease, B would pay the rent to the owner unless otherwise specified in the agreement.

2. Twitch grass is a rather bad weed to eradicate, owing to the fact that the roots drag on the cultivating implements. The roots also possess great vitality. Summer-fallowing is about the only way to thoroughly clean the field. However, modification of what is generally known as a summer-fallow may be followed with a fair degree of success. When the crop is harvested, gang-plow the field and then work it regularly with a spring-tooth cultivator. This will bring many of the roots to the surface. If the field is very bad with twitch grass, it will pay to use a hay rake to rake up the roots and burn them. Before winter sets in the field could be again plowed. Regular cultivation should start again the next spring. During the hot days of June is possibly the best time to kill weeds with creeping root stalks. If the weather is at all dry during June, the weeds will be practically eradicated by regular and systematic cultivation. In order to avoid losing a crop rape may be sown in rows any time from the first to the tenth of July. This permits of using the cultivator to destroy any young roots which might have escaped the previous cultivation. Rape will give an abundance of feed for sheep or cattle.

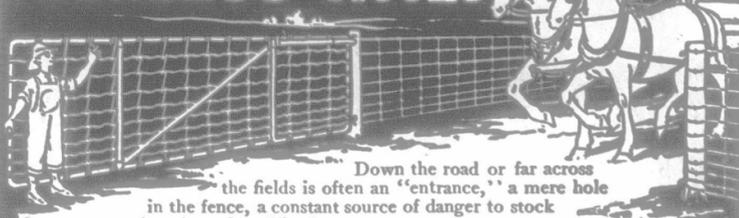
3. Corn, beans, potatoes and peas usually do well on good sod. It may be a little difficult to get the sod worked sufficiently to permit of drilling up for the turnips without bringing a lot of unrotted sod to the surface. If you can get sufficient loose earth on the top to make turnip drills, the turnips will do all right unless the season should turn out to be very dry.

4. The difference would depend somewhat on the nature of the crop grown. It is a question which is rather hard to decide. While the clean farm might be worth \$2 or thereabouts an acre more per year, than the same land if it were dirty, we doubt if in actual experience that difference would be paid.

5. Oil cake or cotton-seed meal would be found a very good concentrate for milk cows. For cows in full milk, a pound or two a day of either feed might be given.

6. Silage is good spring and summer feed for cattle. Dairymen in particular like to have a little silage left over for feed during the usual summer drouth.

PEERLESS GATES



Down the road or far across the fields is often an "entrance," a mere hole in the fence, a constant source of danger to stock getting through. The best way to

Keep Your Stock Where You Want Them

is to provide real gates, strong and durable. All Peerless Farm Gates are of heavy open hearth steel wire on strong tubular steel frames electrically welded in one solid piece, and braced like a steel bridge. No sag, no rust, no wearing out. Ask your dealer to show you Peerless Gates, also Peerless Perfection Farm and Poultry fencing with the famous Peerless lock at all intersections.

SEND TODAY FOR CATALOG.

It tells you how to put up a fence to "stay put."

The Banwell-Hoxie Wire Fence Co., Ltd.
Winnipeg, Manitoba Hamilton, Ontario

GREAT DISPERSAL SALE BY AUCTION OF

35 Head of Registered Jerseys

I will sell at my farm, 1 mile west of Dorchester on Hamilton Road, my entire herd of Jerseys on

WEDNESDAY, MARCH 27, 1918

Sale Starts at 1 p.m.

The herd is headed by Olines Oxford You'll Do. He is closely related on his sire's side to Oxford You'll Do, the greatest Jersey bull living, and on his dam's side to "Champion Flying Fox", who sold at auction for \$7,500.00. Among the matrons of the herd is Pride of Riverside, which gave on an average for a week, 54 lbs of milk a day, and a testing of 5.7%. Five of her daughters are in this sale.

Two Chester White sows (registered) in pig to registered boar.
TERMS: Cash, or 6 months' credit on bankable paper with interest at 6%.
Trains will be met at Dorchester. For full particulars write:—

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JERSEYS
LONDON, ONTARIO
Jno. Pringle, Proprietor

CANADA'S MOST BEAUTIFUL JERSEY HERD
Imported Champion Rower at its head.

This bull, with his get, won first prize on the island of Jersey, 1914, second in 1916, and again first in 1917. Present offering — A few yearling heifers in calf to our great young bull, Woodview Bright Prince (7788), and bred from imported sire and dams. We show our work cows and work our show cows.

BRAMPTON JERSEYS

SPECIAL OFFERING of fresh cows, in-calf heifers and Island bred bulls. Nearly all of the Champion R.O.P. cows are directly descended from the Brampton Herd. Buy at the fountain head.
B. H. BULL & SON, BRAMPTON, ONT.

RECORD OF PERFORMANCE JERSEYS

Choice Bulls and Females. We have six young bulls of serviceable age, all from R.O.P. dams. Three are by our senior sire, Brampton Dairy Farmer, and three are by our junior sire, Brampton Bright Togo. Write for records. We also have females.
R. & A. H. BAIRD (G.T.R. Stations—New Hamburg, Bright.) NEW HAMBURG, ONT.

THE EDGELEY CHAMPION HERD OF JERSEYS

Write us about your next herd sire. We now have sons of our present herd sire, Edgeley's Bright Prince, who is a son of Canada's champion butter cow, Sunbeam of Edgeley. Pay us a visit. Sunbeam of Edgeley is not the only high-record cow we have. We are pleased to show our herd at all times
JAMES BAGG & SONS (Woodbridge, C.P.R., Concord, G.T.R.) EDGELEY, ONT

SIXTH CONSIGNMENT SALE OF

50 Head Pure-Bred Ayrshire Cattle

FROM THE HERDS OF THE
SOUTHERN COUNTIES AYRSHIRE BREEDERS' CLUB

to be held at Dr. Rudd's Sale Stable, Woodstock, Ont.

March 27th, 1918

AT 1 P.M.

In this sale will be found representatives of the greatest producing strains of Ayrshires in Canada. JEAN ARMOUR, ex-world's champion; LADY JANE, Canadian R.O.P. champion cow; SCOTCH THISTLE, Canadian R.O.P. champion three-year-old; and LENORE, 2nd ex-champion butter-fat producer in 2-year-old class, were all bred by members of our club. In this sale, we believe, we have the best lot of cattle yet offered at any of our sales. There will be a few choice young bulls. Write the secretary for a catalogue, with full details of the sale.

F. H. Harris, Mt. Elgin, Ont. President
John McKee, Norwich, Ont. Sec.-Treasurer and Sale Manager
MOORE & DEAN, AUCTIONEERS

GLENHURST AYRSHIRES — ESTABLISHED 50 YEARS.

For a half-century Glenhurst Ayrshires have been noted for their depth and size, good teats and smoothness of conformation. Our famous Flos family has produced dozens of 60 and 65-lb.-a-day cows, many on twice-a-day milkings. We have young bulls up to twelve months, and females all ages. If you are looking for a combination of size, type and production—plus high butter-fat—write me or visit the farm. **JAS. BENNING, Summerstown, G.T.R., Williamstown, Ont**

RAVENSDALE AYRSHIRES

A few splendid 12-months-old bulls, out of R.O.P. and imp. high-testing dams. January test averaged 4.6%; also younger bulls and heifers. I have three registered Clydesdales for sale, eight months old. Write for prices or come and see stock. **W. F. KAY, PHILIPSBURG, QUEBEC**
50 miles south of Montreal. St. Armand Station, G.T.R.

SPRING BANK R. O. P. AYRSHIRES

Herd Sires; Netherton King Theodore Imp., and Humeshaugh Invincible. Grand champion London, 1917. Our herd at present holds the Canadian records for both milk and butter in the two-year the three-year and the mature classes. Let us tell you about the daughters of Netherton King Theodore. We have sons of both bulls for sale—all have R. O. P. dams. Visitors met at Hamilton by appointment.
A. S. TURNER & SON (3 miles from Hamilton) RYCKMAN'S CORNERS, ONT.

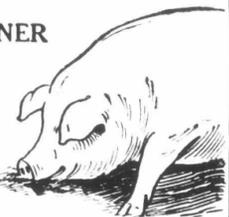
Between Weaning and Fattening, Feed

GARDINER'S PIG MEAL

With skim or separated milk it carries the young pigs along without a check from weaning, because it suits their digestion and contains the richness of the mother's milk. They build up on it very fast, and reach the fattening stage so quickly that you get a chance to make maximum profits on them.

Gardiner's Pig Meal comes in 25, 50 and 100-lb. bags. If your dealer hasn't it, write us for prices, and for information about Gardiner's Calf Meal, Ovatum, Sac-a-fat and Cotton Seed Meal.

GARDINER BROS.,
Feed Specialists,
SARNIA, Ont.
17



ROOFING AT FACTORY PRICES

THE HALLIDAY COMPANY, HAMILTON FACTORY DISTRIBUTORS CANADA

PATENTS Trade Marks and Design Procured in all Countries. Special attention given to patent litigation. Pamphlet sent free on application. Crown Life Bldg. Toronto, Ont.

RIDOUT & MAYBEE

LABELS Live-stock Labels for cattle, sheep and hogs, manufactured by the Kelchum Manufacturing Co., Box 501, Ottawa, Ontario. Write for samples and prices

SHROPSHIRE

30 Yearling Rams—12 Yearling Ewes. W. H. PUGH, MYRTLE STATION, R. R. 1, Farm 2 miles from Claremont

Cloverdale Shropshires and Berkshires—40 shearline rams, 70 shearline ewes, an exceptionally choice lot, true to type and well grown, neatly all sided by the show man, Nock 16 Tups. In Berkshires, the most strong offering in the show, sows just fresh. C. J. LANG, Burkton, Ont.

BERKSHIRE PIGS are the best of all the early keepers, easy feeding, and gain fast. At the Chicago International, 1917, the Berkshire won the Grand Champion Barrow, the Grand Champion Sow and the Grand Champion Carcass. These pigs are equalled by no other breed of any size. Write for literature.

We have a large stock of the pig, sows and all sizes. Write for literature. Do not miss this opportunity. Write for literature. Do not miss this opportunity. Write for literature. Do not miss this opportunity.

J. B. Pearson, Manager, Credit Grange Farm, Meadowsdale, Ont.

Sunnyhill Yorkshires

W. M. MANNING & SONS, WOODVILLE, ONTARIO

TAMWORTHS

John W. H. H. R. N. S. E. L. S. E. S. O. N. S.

Meadow Brook Yorkshires

W. MINERS, R. R. No. 1, E. M. L. E. S. O. N. S. CHOICE YORKSHIRES

E. V. K. M. S. Milton, Ontario

Questions and Answers. Miscellaneous.

Keeping Fence in Repair.

A and B own land adjoining. A pastures his, while B crops his land. The line fence is not in good repair, although A has kept his part in such a condition as to prevent the stock getting into B's crop. B has rented his land to C, and C says there is no arrangement with B for fixing the fence, and also claims that if A's cattle get into his field, he will expect damages. Should A notify B or C that he proposes having his land in pasture again? Could C collect damages? G. A. P.

Ans. A should notify both B and C after which if the cattle break through the portion of the line fence belonging to B, C could not very well collect damages from A.

Hog Pen.

I purpose building a hog pen this summer. The size is to be 20 by 60 feet, with the pen facing the south. The location is more suitable to have a long pen than to have it nearer square. I was thinking of having six pens about 10 by 12 feet, leaving around 8 feet for feed passage. What size should the windows be? Would you put windows in the east and west ends? Which is the best way to put in windows? What height should the ceiling be? Would it be satisfactory to build a cement wall about 2 feet above the cement floor? What slant should there be in the floor to give drainage? S. K.

Ans. Having the pens on one side of the passage only is not the most economical of space. However, it permits of the sun getting into the pens better. Having the pen narrower than it is deep, lessens the amount of trough room, which must always be taken into consideration. A 6-foot passage would be found to be wide enough. A window 2 by 3 feet, placed vertically would give good light into each pen. The upper third of the window might be hinged to allow it to open inward from the top, so as to aid in giving ventilation. There should be about an inch fall from the trough to the rear of the pen. Concrete makes a permanent floor and building the walls 2 or 3 feet above the floor and then frame above that makes a very satisfactory pen. If the ceiling is 8 1/2 feet above the floor, it should be satisfactory. The partitions between the pens require to be around 4 feet high.

Hens Crippling.

I have two pens of pullets, of different breeds. They are in a new henhouse with plenty of room, well lighted and well ventilated. There is an earthen floor in the pen, and the straw gets a little damp. Two of the birds became crippled, or lost the use of their legs. Since the thaw, water has been running through the pen and it is very wet, and more of the birds are crippled. I am feeding about three quarts of oatmeal moistened with buttermilk and a peck of mixed grain in the morning. At night they get whole grain. Sprouted oats, potato peelings, a small quantity of meat and grit and oyster shell are before them. The quantity of feed mentioned was given to two pens containing over fifty birds. The pen has been kept clean and fresh straw was put in every week. Would it be advisable to breed from these? R. W.

Ans. From the symptoms given, we are inclined to believe that the birds are suffering from rickets. This can be cured by having dry, well ventilated pens, well lighted with tubulars, and by feeding a diet of whole grain, sprouted oats, potato peelings, a small quantity of meat and grit and oyster shell are before them. The quantity of feed mentioned was given to two pens containing over fifty birds. The pen has been kept clean and fresh straw was put in every week. Would it be advisable to breed from these? R. W.

FARNHAM FARM Oxfords

IN A COMPLETE DISPERSAL SALE

at the Farm, Arkell, Ontario Thursday, March 21st, 1918



The Farnham Flock was Established in 1881 Importations Added Yearly

Champions at Chicago, St. Louis, Detroit, Syracuse, Toronto, Ottawa, Montreal, etc.

Elkstone Hopman Imp., No. 79639, sold recently to Follett Bros., Sask., for \$250. All breeding ewes are bred to this ram.

FARNHAM FARM has been sold, and at one o'clock on Thursday, March 21st, this noted flock of 100 Oxford Down sheep, one of the oldest established flocks in America, will be dispersed by public auction. The flock consists of between forty and fifty breeding ewes, between one and four years of age, and these were all bred to the superior imports from Elkstone Hopman, in the month of November. These ewes weigh from 100 to 220 pounds and are of the low down, blocky type. There are also between thirty and forty ewe lambs of the very best quality. The flock throughout is well covered with a good covering of wool and traces to importations from such breeders as Haby, Brassey, Herk, Stiles, Brien, M. G. Reith and others. On these Mr. Arkell has in the past decade won hundreds of prizes, diplomas and medals at such exhibitions as Chicago, St. Louis, Detroit, Syracuse, Toronto, London, Ottawa, Montreal and Sherbrooke, and held the champion flock award in Canada up until the time he ceased showing in 1908.

At the same time there will also be sold all the horses, cattle, poultry, grain, implements and household furniture. Catalogue of sheep will be furnished as to age and record number of applications. There will also be given by private sale between 70 and 80 ram lambs.

Arkell is on the C.P.R. with excellent service between Guelph and Toronto, four trains daily connecting with Buffalo, Detroit, etc.

TERMS.—Sheep, poultry, hay, grain and furniture will be cash, or 9 months credit will be given on bankable paper, bearing interest at 6%. On horses, cattle and implements, 9 months credit will be given on sums of \$20.00 or over, with 5% per annum off for cash.

Henry Arkell & Son, Guelph, R.R. 2., Phone Guelph, 335 ring 2. JAMES McDONALD, AUCTIONEER

LINCOLNS C. NICHOLSON of Horkstow, Lincolnshire, England

Has for sale Pedigree Lines of Long Wool Rams and Ewes from his world-famous flock of ALL PUDDING-BRED SHEEP. By award of the CHAMPION and "ALL" prizes in the two show and four prize classes at the Royal Show of England, 1915, all previous records were broken. Contact with the ram and the Red Short-horn also for sale.

Inverugie Tamworths

LESIE HADDEN, R. R. No. 2, Pefferlaw, Ont.

OAK LODGE YORKSHIRE HOGS

J. J. BRUTHOUR & NEPHEWS, Burford, Ontario

CLEAR VIEW YORKSHIRES

ANTHONY GIES, ST. JACOB'S, ONT.

Featherston's Yorkshires

J. K. FEATHERSTON, ...

AVONHURST YORKSHIRES

R. Armstrong & Son, Osdington, Ont.

BERKSHIRES

JOHN DUCK

ELMICKS ENGLISH BERKSHIRES

H. M. ...



Did you ever have a Sale in Winter?

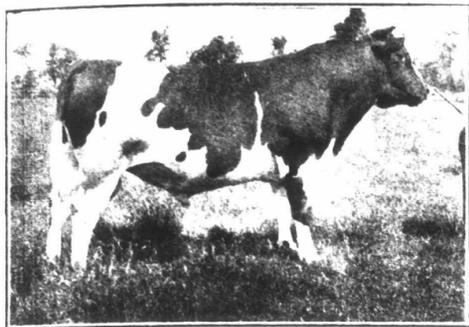
Did you ever have a Sale in Winter?

Did you ever have a Sale in Winter?

Did you ever have a Sale in Winter?

Did you ever have a Sale in Winter?

Did you ever have a Sale in Winter?



Hill-Crest Ormsby De Kol

Just a Sample!!
OF THE
**60 High-Class
Holsteins**



Hill-Crest King Pontiac Rauwerd

TO BE SOLD AT THE
Hill-Crest Dispersion Sale
Union Stock Yards

Toronto, Thursday, March 28th, 1918

Sale will Comprise:

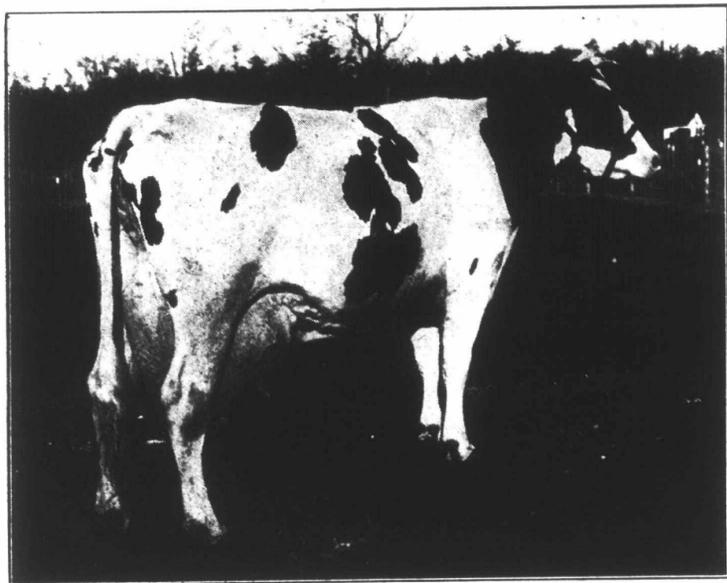
The Hill Crest Herd plus a draft from the Avondale and North Star Herds.

G. A. Brethen, Prop., Norwood, Ont.
Messrs. A. C. Hardy, Brockville, Ont.
and J. W. Stewart, Lym, Ont.
We are retaining our two old foundation cows and 8 baby daughters of our Herd Bull. All our splendid young 30 lb. cows, 100 lb. cows and 20,000 lb. cows, and their progeny, our Great Herd Sire, "Hill-Crest Ormsby De Kol" our Junior Herd Sire and all their great 30 lb. and 20,000 lb. sons and daughters are in this sale. No strings attached, and will go to the highest bidder.

Butter 7 lbs. 3 years 1099
Milk 7 lbs. 3 years 1088-9
Butter 30 days 4 1/2 years 11300
Canadian record
Milk 30 days 3 1/2 years 2781
Milk 1 day 3 years 1011

Her milk records are all highest in Canada on record. She has a 20,000 lb. dam and a 20,000 lb. 3 year old sister. Her son, our brother, the Herd Sire, and her son, our nephew, are also in this sale.

We don't own anything TOO GOOD to go in this sale and none will go in that require an apology.



May Echo Sylvia

May Echo Sylvia, the greatest and best cow produced in this country, is the only cow in the world that has produced 20,000 lbs. of milk in 30 days.

In the Uniform Excellence of Individuals of their World-Record Breeding or their Official and Semi-Official Production no Canadian Sale ever approached this one.

Rag Apple Korndyke 8th

Mr. F. W. Rag Apple, of the Rag Apple Farm, near Waterloo, Ontario, has produced a cow that has produced 20,000 lbs. of milk in 30 days. This cow is the only one in the world that has produced 20,000 lbs. of milk in 30 days. Her milk records are all highest in Canada on record. She has a 20,000 lb. dam and a 20,000 lb. 3 year old sister. Her son, our brother, the Herd Sire, and her son, our nephew, are also in this sale.

Did you ever hear of a Sale in America Where



Hill-Crest Pontiac Susie



Hill-Crest May Echo Countess

G. A. BRETHEN

Box 40
Norwood, Ontario, Canada

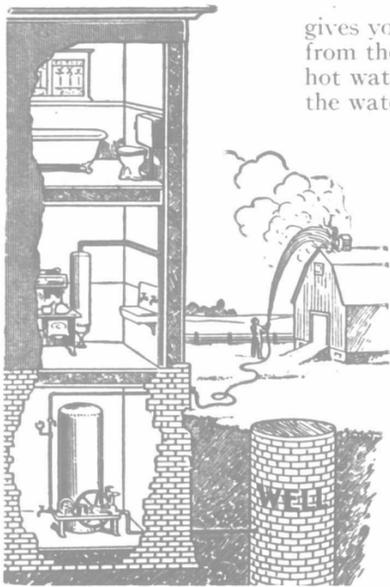
For catalogue and all information write

The Ontario Department of Agriculture Advocates the Use of

fresh running water in the country homes and on the farm, because it saves time, trouble and money and safeguards the health of the family.

Ask us to explain how you can secure, at reasonable expense, even a better water supply than is enjoyed by your city friends. The

Empire WATER SUPPLY System



gives you fresh, running water—right from the spring, well or cistern—and hot water also, if you want it. Brings the water any distance and maintains even pressure at the faucets.

Why not cut out that hard labor of carrying water and the trouble with frozen pumps? Put your water right in the kitchen, bathroom, laundry or the barn—any place you want it. Always ready for instant use.

SEND FOR OUR FREE BOOKLET

We want to tell you about the other advantages of the Empire System. Our free booklet gives descriptions and illustrations. We will also send you an Information Blank, which, when

filled out, will enable us to send you full particulars about the size and cost of a system adapted to your particular needs.

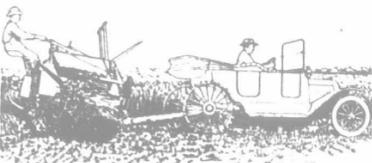
GET POSTED—WRITE US TO-DAY.

Empire Manufacturing Co., Limited

Head Office and Factory: LONDON, ONT.

Branch Office and Warehouse: 119 Adelaide St. W., TORONTO, ONT.

The Staude Mak-a-Tractor



The Staude Mak-a-Tractor is neither a novelty nor a toy. It has lightened the labour and put money into the pockets of every man who has used it, and over 7,000 Staude Mak-a-Tractors were at work taking off last season's crops.

Neither is the Staude Mak-a-Tractor a farm tractor which can only be worked profitably on a large farm. You will find the Staude Mak-a-Tractor on the largest farms in America but it has proven itself a money maker and a time saver on a multitude of little farms.

This machine costs \$240, and when not in use is taken off the Ford car. It does with ease the field work of 4 good farm horses and supplies an abundance of power at the belt.

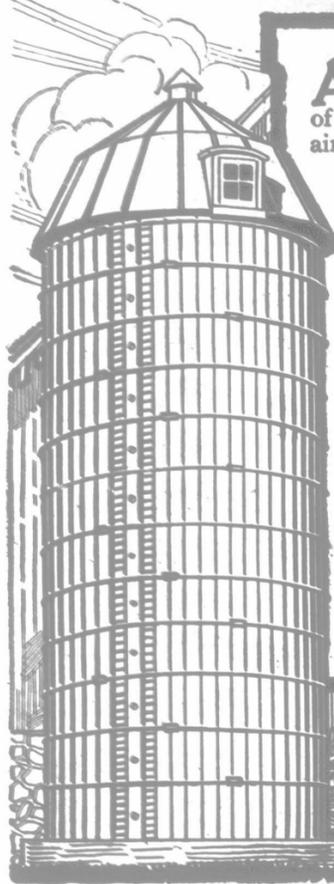
We ask you as a practical business man to inform yourself by turning to the Staude Mak-a-Tractor for information.

You are doing well to get a copy of our literature. We will send it to you free of charge.

The Ontario Auto-Tractor Co., Ltd., 157 Bay St., Toronto

TORONTO HIP ROOF SILOS

ONTARIO WIND ENGINE & PUMP CO. LIMITED

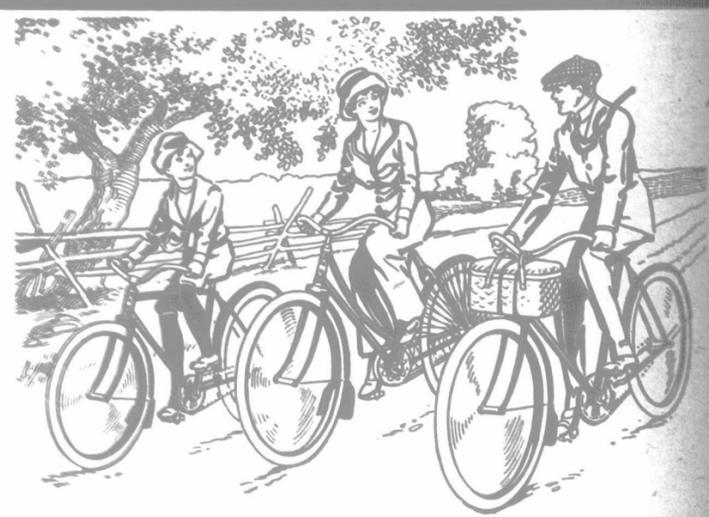


A TORONTO Silo has outstanding merits, the most exclusive of which are—extra capacity and airtight construction.

The Hip Roof adds several tons capacity at practically no extra cost. It makes it possible to tramp the ensilage thoroughly round the sides right to the top of the walls.

Toronto Silos are airtight because the spruce staves are DOUBLE tongued and grooved. The air cannot penetrate the double barrier. The construction is as thoroughly good, with all woodwork impregnated with hot tar and creosote, so that the farmer with an eye to profit and better ensilage will decide on the TORONTO Silo. Send for the booklet to-day. Address

Ontario Wind Engine & Pump Co., Limited
Atlantic Avenue • Toronto
12 St. Antoine St., Montreal



Why Not Ride a Wheel?

The Farmer's Advocate and Home Magazine

Will Enable You to Earn

A BRANTFORD RED BIRD ROADSTER

YOU CAN DO THIS BY GIVING US YOUR SPARE TIME FOR THE NEXT TWO OR THREE MONTHS. THERE IS NO LIMIT TO THE NUMBER THAT WE WILL GIVE. We will provide them in sizes for men, women, boys and girls.

The bicycle we are offering as a reward for securing subscribers is a beauty and retails for \$30.00, and, of course is equipped with coaster-brake, mud-guards, tool-bag, 1 1/2-inch. high-grade Dunlop tires, nickel-plated, rust-proof handlebars—in fact a bicycle you will be proud to own, and one that we are satisfied to offer.

We could have got others that would look as good for less money, but the name *Farmer's Advocate* stands for good things, and we want our subscribers to be as well satisfied with the bicycle we offer for their services as they are with the paper itself.

WOULD YOU RATHER RIDE THAN WALK?

You would be riding the horse either. It's just the thing you want for getting to town and for getting about the country on business.

IF YOU PREFER TO RIDE AND ARE NOT AFRAID TO HUSTLE.

Write us at the bottom of this advertisement and we will tell you how you can become the possessor of A HANDSOME WHEEL.

COUPON Farmer's Advocate and Home Magazine, London, Ont.

I will subscribe to a bicycle by securing new subscribers to The Farmer's Advocate.

Please send me instructions and supplies.

Name..... Age.....

Who subscribes in your house?.....



Dominion Sugar Company Limited

The Famous Dominion Crystal Sugars



Our Three Huge Refineries Will take all the Sugar Beets Ontario Farmers can Grow

This is Your Opportunity.

You know the sugar need of the world. You must realize that here is a wonderful opportunity for the Ontario farmer—a chance to co-operate with us toward greater sugar production—a chance, while doing this, to make a nice profit for yourself.

Canada's Beet production must be increased. All possible help and encouragement must be given the farmer. Recognizing this, the U.S. Government has authorized a large expenditure to buy artificial fertilizer—which is to be sold to farmers at cost.

We are doing the same thing—in our effort to stimulate the production of sugar beets in Ontario. We have purchased a large quantity of artificial fertilizer—and will sell it at cost to all farmers contracting with us to grow Sugar Beets in 1918. We also supply the best quality Beet Seed at exactly what it costs us.

The market price of sugar is now so high that the factory making sugar from Beets is in a position to pay amply for the product of Canadian farms. Always a profitable crop, Beets are now more than ever of interest to the Ontario Farmer.

Thousands of tons of sugar are lying at the bottom of the Atlantic. There is not nearly enough "cane" sugar grown and refined to supply the world's demands. Therefore, we must produce more Beet Sugar than heretofore. And in order to refine enough sugar for Canada's needs, we have to have more beets. We are prepared to pay well for them.

Not only is a crop of Beets at present prices more profitable than a crop of Oats, Barley or Corn—but it is moreover a crop that yields you a known figure—with guess work as far as possible eliminated.

WHAT WE PAY YOU FOR BEETS IN 1918

On Sugar Beets, you have us committed—with a hard and fast contract—to a

\$9.00 per Ton minimum

(if you contract on a "flat" basis). Our contract calls for a still higher rate per ton if the net wholesale price of sugar rises above \$8.00 per 100 lbs.

The grower has the alternative of contracting with us on a "percentage" basis. In that type of contract, we agree to pay at the rate of \$8.75 per net ton—for beets containing 12% of Sugar—with substantial increase when sugar content is over 12% (last year's percentage was "over 16%.")

Beets Highly Profitable.

In the course of an address at the Lambton County Corn Exhibition, in 1916, the late C. C. James (Dominion Government Agricultural Commissioner) made the following weighty statement.

"Lambton County will find that there is no crop which, properly handled, will prove more profitable to the farming community than Sugar Beets. Sugar Beets are a crop which take almost all from the air and from the rain and very little from the soil. If the tops are left in the field there is practically no exhaustion. In that they differ from grains, which take much from the soil. It is a good sign that this industry is spreading in Canada. We have been importing from 12 to 15 million dollars worth of sugar that we might just as well be producing ourselves here at home."

Here is Actual Proof of the Profit there was in Beets last year. The Profit possibilities are greater still this year. Hundreds of Canadian Farmers can tell you Beets have made money for them.

Name	Address	Acres In Crop 1917	Gross Profit 1917	Profit Per Acre 1917	Name	Address	Acres In Crop 1917	Gross Profit 1917	Profit Per Acre 1917
Shuel, Jno. R.	Paquette	10 1/4	\$894.26	\$87.24	Bourassa, Felix	Pain Court	7 3/4	\$843.07	\$108.78
Ludwig, P. G.	Merlin	20	1,585.82	79.29	Ducette, Geo.	Arkwood	8	771.71	96.46
Donovan & Warden	Westlake	118	10,080.25	85.42	Campbell, D.M.	Bienheim	4	514.27	128.56
Agar, Fred.	Chatham	10 1/4	1,198.27	116.90	St. Denis, Adlor	Tilbury	12	1,096.31	91.36
Bourdeau, Thos.	Chatham	7 1/2	772.33	102.97	Langford, A. E.	Kent Bridge	36	3,446.31	95.73
Newkirk, Geo.	Pain Court	13 1/4	1,337.46	100.94	Hughes, Jas.	Kent Bridge	40	3,700.81	92.52
Fretz, Isaac	Thamesville	11	1,379.40	125.40	Wilcox, C. P.	Chatham	40	5,631.49	140.78
Frankforth, John	Comber	10 1/4	1,152.77	112.46	McCreary, D. L.	Wallaceburg	10	1,355.66	135.00
Gore, Jas. E.	Arkwood	20	2,075.70	103.78	Winter, Frank	Wallaceburg	4	547.26	136.80
Sterling, Jesse	Pain Court	12	1,253.12	104.42					

Space is not available for more than these few names—but these should be sufficient to show you that we are talking facts when we say "it pays to grow Beets."

Sign this coupon and send it to us NOW. It will bring a prompt answer with full particulars of our offer to supply Beet Seed and Fertilizer at just what they cost us. Act promptly, as it is necessary to plant early for this year's crop.

Dominion Sugar Co. Limited, 123 Tecumseh Road, Chatham, Ont.

Send me Contract Form and full particulars.

Name.....

Address.....

Any land that will grow a good crop of corn, wheat or oats will grow a profitable crop of Beets. Just HOW profitable you can realize from the fact that we are paying \$9.00 per ton net for beets (on a "flat" contract) as against \$6.00 last year.

Water Supply for Country Homes

The value of running water in the country homes, and the fact that not more than 12 per cent. of them anywhere have it, are good reasons surely for emphasizing the subject in a special manner. The inconvenience, and the danger to health of having to go out of doors in bitter winter weather to struggle with a frozen pump need not be put up with. And what about the fire menace?

An efficient water system, like any good machine on the farm, is a labor and time saving device and brings cheer and comfort to the user. It enables the housewife to use all the water she actually needs, and makes possible the installation in the home of those modern conveniences so much prized by every one. The value of an ever-ready supply of water for the stock, free from the delays of a frozen-up pump will be apparent, while in case of fire may be the means of saving your home and barn with their valuable contents.

There are three or four systems worthy of special mention and these are described briefly and illustrated in part below.

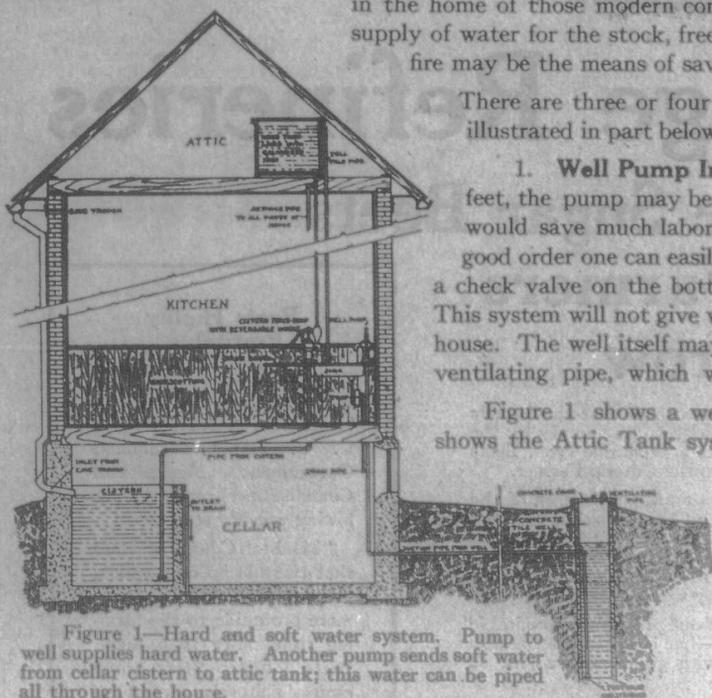


Figure 1—Hard and soft water system. Pump to well supplies hard water. Another pump sends soft water from cellar cistern to attic tank; this water can be piped all through the house.

BE SURE YOUR WELL WATER IS PURE.

If you are at all suspicious that the drinking water is impure write Professor D. H. Jones, Bacteriological Department, O. A. College, Guelph, Ontario. Prof. Jones will send a sterile bottle with directions for obtaining a sample. Upon receipt of the sample a test will be made free of charge and the analysis will be promptly returned. Meanwhile the water may be disinfected as follows: Dissolve a level teaspoonful of chloride of lime in a cup of water. Dilute this quantity with three cups of water. Then add a teaspoonful of the diluted solution to each two gallons of water and stir thoroughly. The water thus treated will be without taste or odor and safe for human consumption.

For practical and detailed information on (1) the relative value and uses of different kinds of pumps or (2) the installation of water systems for house or barn, or upon any other point of practical interest regarding wells, pure water or water equipment write the office of the Commissioner of Agriculture, Parliament Buildings, Toronto.

A Bulletin is being prepared upon this subject and will be ready for distribution in the near future. Send in your name for a free copy.

**The Ontario
Department of
Agriculture**

Parliament Buildings
TORONTO

SIR WM. D. BEAULT
Minister of Agriculture

DR. G. C. CREELMAN
Commissioner of Agriculture



ONTARIO

1. **Well Pump In-doors.**—If the lift to the pump cylinder does not exceed 20 or 25 feet, the pump may be placed inside the house. This arrangement is often possible, and it would save much labor, time, and severe exposure in the winter time. With the pump in good order one can easily draw the water 200 to 300 feet by hand power, especially if there is a check valve on the bottom of the suction pipe to keep the pump well primed all the time. This system will not give water on tap in the house but it will eliminate carrying water to the house. The well itself may be entirely closed in, with the exception of a small turned-over ventilating pipe, which will further guard the water against surface dirt.

Figure 1 shows a well pump installed at the right of the kitchen sink. Figure 1 also shows the Attic Tank system installed.

2. **The Attic-tank Method.**—The chief feature of this system is a storage tank in the attic for holding a few days' supply of water. A wooden tank about 3' x 3' x 3' and lined with galvanized iron gives good results. It may be filled by a power or a hand-pump with soft water from a cistern in the cellar for washing and bathing purposes, and also for flushing the water closet. Sometimes rain water can be run into this tank from the roof. This method is not, however, very satisfactory for storage of drinking water. Figure No. 1 shows this installation with pump in kitchen.

3. **Compression Water System.**—This consists of an air-tight metal tank about 30" x 6' for storing water and compressed air, a force-pump for filling it, and the necessary accessories as pressure gauge, water-glass gauge, pipe and connections, valves etc. This outfit is generally placed in the cellar. The water compresses the enclosed air in the tank and makes it a power to drive the water out whenever a tap is opened anywhere in the service pipes. The tank should be kept about two-thirds full when a pressure of 45 lbs. will result. In the picture below this system is shown and is also illustrated connected to a well and equipped for supplying water in both house and barns. If soft water is required on tap an extra tank is required.

The system illustrated shows a hand pump for filling the tank but there are in the market power pumping systems, the power of which can also be used for generating electricity for lighting and many other purposes. The power operated plants are automatic, and require very little attention.

4. **Gravity Method.**—Occasionally the source of water supply is high enough to get the water to the highest point required in the house by gravity through a pipe laid under the frost line. This is the simplest, cheapest and, in most respects, the best water system available, but the conditions for its installation are very rare.

This illustration shows how water pressure can give the convenience of running water all through the house, city fashion. The expense is more than repaid by convenience and safety to health.

