

MARCH 25, 1920

PUBLISHED EVERY WEEK. \$1.50 PER YEAR.

# THE FARMER'S ADVOCATE

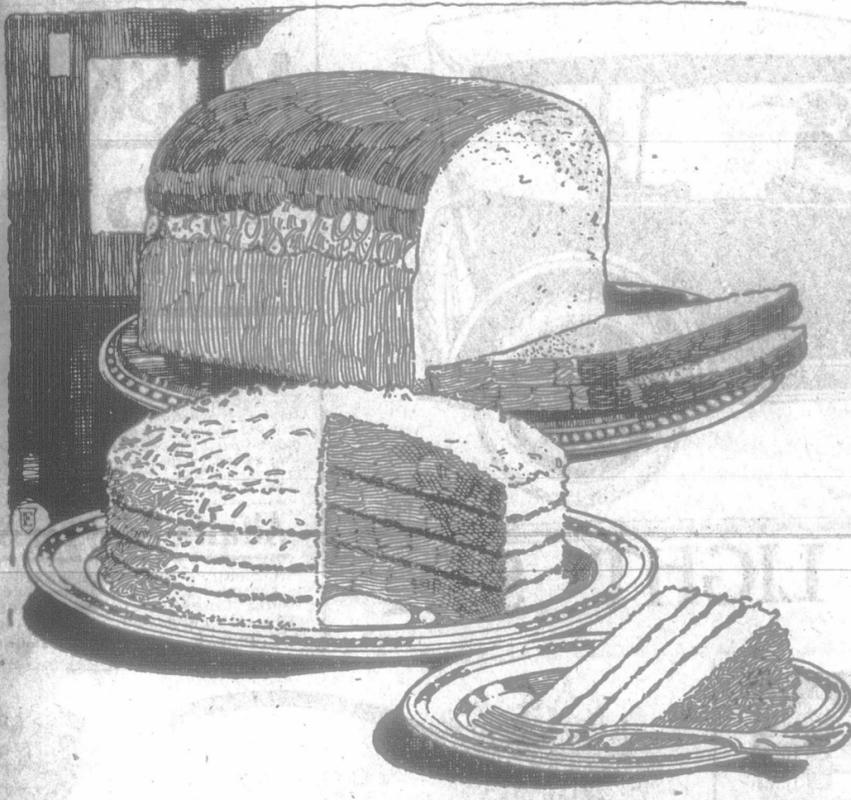
AND HOME MAGAZINE

PERSEVERE  
SUCCEED  
FOUNDED

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

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LONDON, ONTARIO, APRIL 1, 1920.

No. 1436



**Good Food**  
**Healthy Food**  
**Food that is**  
**Delicious**  
**is the**

**Bread and Pastry**  
Baked from

## PURITY FLOUR

Western Canada Flour Mills Company, Limited  
Toronto - Head Office  
Branches at Winnipeg, Brandon, Calgary, Edmonton,  
Montreal, Ottawa, St. John, Goderich.



### PURITY FLOUR COOK BOOK COUPON

Please mail to.....  
Your 180 page.....  
Cook Book, postpaid.....  
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# RESULTS

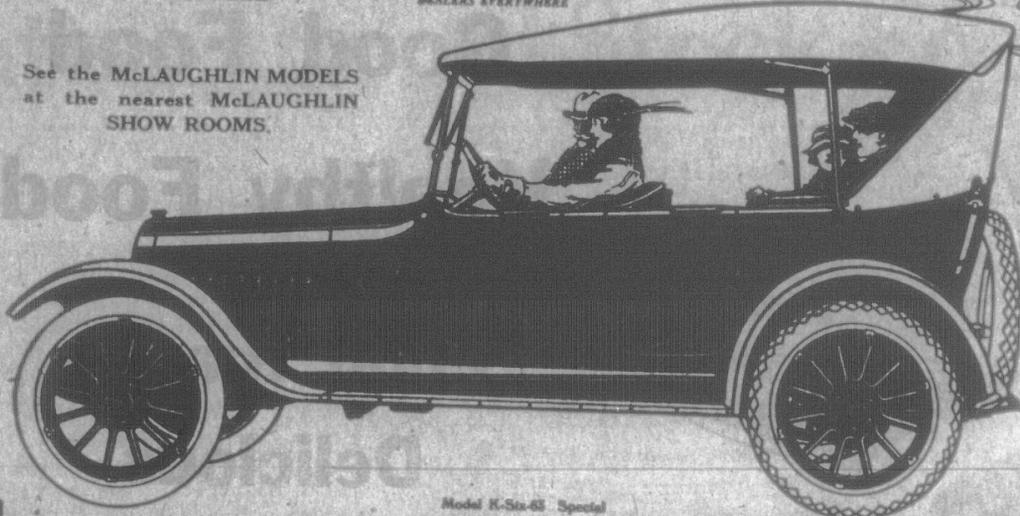


THE growing demand in motor cars is for lightness in weight without the sacrifice of strength and efficiency. Just as the light battle cruiser proved its efficiency with the British Fleet so the McLaughlin Light Six is establishing new efficiency and economy records with thousands of Canadian owners.

McLAUGHLIN MOTOR CAR CO. LIMITED  
OSHAWA, ONTARIO

BRANCHES IN LEADING CITIES DEALERS EVERYWHERE

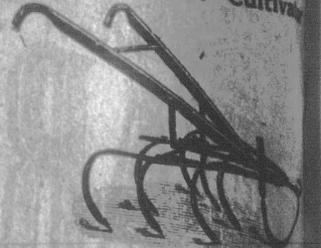
See the McLAUGHLIN MODELS  
at the nearest McLAUGHLIN  
SHOW ROOMS.



Model K-Six-61 Special

## The McLAUGHLIN LIGHT SIX

### One Horse Spring Tooth Cultivator



Greatest labor saving implement invented for further particulars to  
The **HALL ZRYD FOUNDRY COMPANY**  
HESPELER, ONTARIO

### London Concrete Mixer No. 6



EQUIPPED WITH "New" Gasoline Engine. Capacity 4 cu. yds. per hour. Suitable for any kind of concrete or mortar. Especially suitable for utility work. Portable. Saves the price itself the money.  
days it is in use. Send for catalogue No. 14.  
London Concrete Machinery Co., Ltd.  
Dept. B, London, Ontario  
World's Largest Manufacturers of Concrete Machinery.

## MUSK

E. T. CARTER & Co.  
77 Front St., E. Toronto, Can.

## RATS

The best strains of standard varieties: William Improved, Senator Dunlap, Gen. Mary, Gen. Parsons' Beauty, Stephens' Champion, Super etc.; \$5 per 1,000, or \$1 per 100. Superb Progressive, everbearing varieties, \$10 per 100 or \$1.50 per 100.  
WM. WALKER, 11 Port Huron, Ontario

## Alfalfa Seed For Sale

A quantity of No. 1 Grimms' Alfalfa Seed grown by a member of the Grand River Alfalfa Seed Centre. Price \$50.00 per bus., bags 60c extra. Cash with order.  
A. C. Phipps, R.R. 4, Cambridge, Ont.

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THE everlasting silo—yields 100% profit on the investment every season—sweet, fresh ensilage down to the last forkful.  
Exclusive patented features of great value—specially selected, imported material of the highest quality, and careful workmanship, explain why the Hilo is the choice of the most progressive and prosperous farmers in each community. Some territories still open for live agents.  
Write for free silo book today.  
**GILSON MFG. CO., LTD.** 849 York St. Guelph, Ont.  
**SAVES ITS COST IN SIX MONTHS**

*Goes Like Sixty* **We Want to Demonstrate on Your Farm**

We will send a Gilson Engine, any size, without charge, to any responsible farmer in Canada to try out on his own farm, at his own work.

Write for further particulars of free trial offer, catalogue, and special introductory prices.

**GILSON**  
Gilson Mfg. Co., Limited  
269 York St., Guelph, Ontario

**90% No. 1's!**

Isn't it worth a little extra time and money to be sure of trees bearing like that on the left?

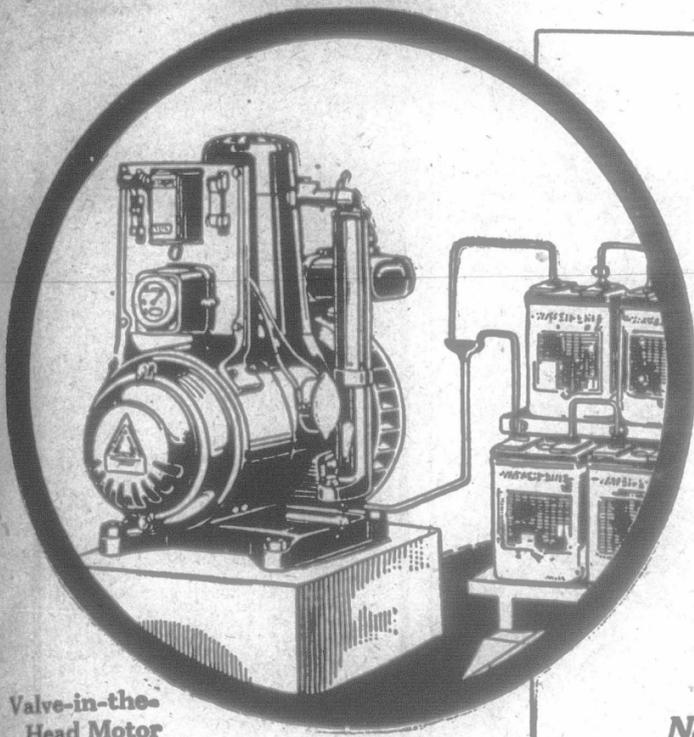
Trees such as that on the right, left to the mercy of insects and fungous growths, are a luxury none can afford these days.

Ensure a big and profitable yield by careful spraying with reliable and economical J. C. sprays.

ARSENATE OF LEAD  
CAL-ARSENATE  
POISON BORDO DUST

**John Cowan Chemical Co. Limited**  
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**THE FARMER'S ADVOCATE AND HOME MAGAZINE, London, Ontario**



Valve-in-the-Head Motor Runs on Kerosene

**D**ELCO-LIGHT is a complete electric light and power plant. It is easy to install, needs little attention, costs less than oil lamps for lighting, and will give you twenty-four-hours-a-day service.

Delco-Light consists of an engine, electric generator and switch-board built as one simple compact unit. This, together with the storage batteries, comprises the complete equipment.

**Note these features:** It is **DIRECT-CONNECTED**—there are no belts to slip or break. It is **SELF-CRANKING**—pressing down a lever starts the engine. It stops automatically when the batteries are fully charged. It is **AIR-COOLED**—there is no water to carry, freeze, or boil away. There is only **ONE PLACE TO OIL**—a gear splash system carries oil to all required parts. A simple **MIXING VALVE** takes the place of a complicated carburetor. Ball and Roller **BEARINGS** cut down friction to a minimum.

And it runs on **KEROSENE**, gasoline, or gas.

The **DELCO-LIGHT** battery has been especially designed by experts for use with **DELCO-LIGHT**. Glass jars make it easy to see when water is to be added. Extra sediment space at the bottom of jars prevents short circuits. Both wood and rubber separators are used. The plates are extra thick. These things mean long-lived batteries.

It will give you **POWER** to run light machinery—cut down the time wasted on the drudgery of chores.

It will bring untold conveniences and comfort—from electric iron, toaster, fan and washing machine, to running water for the bath, kitchen, stable, lawn, and for fire protection.

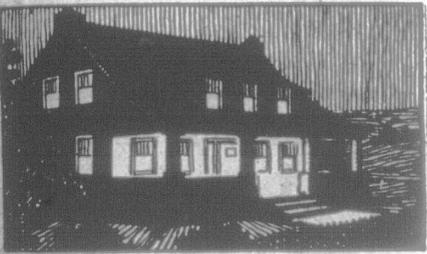
Over 100,000 satisfied users are evidence that Delco-Light is simple, practical, and wonderfully economical.

Delco-Light Co. - Dayton, Ohio

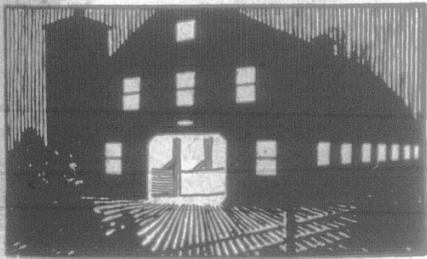
**Electrical Systems Limited**  
Toronto, Ont.

Delco-Light will flood your home with brilliant, cheerful electric light—every room in the house, from cellar to attic, at pressing of a button.

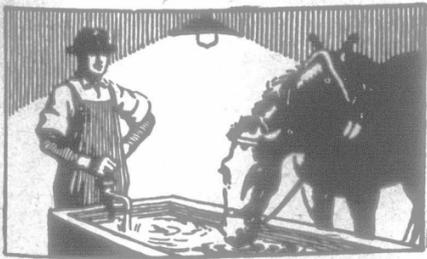
It will light your barn, out-buildings, yard, with convenient, bright, **SAFE** electric light.



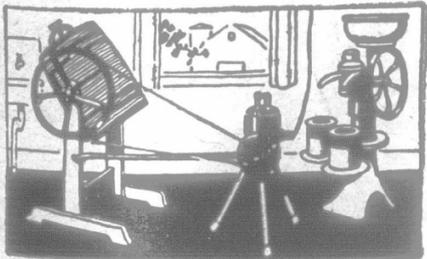
Lights the House



Lights the Barn



Pumps the Water



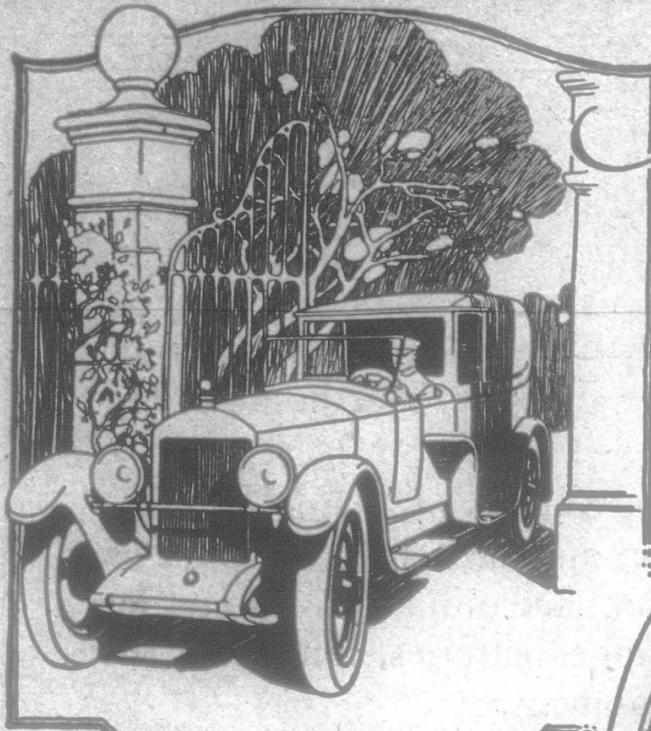
Runs Light Machinery

# DELCO-LIGHT

The Complete Electric Light and Power Plant

There's a Satisfied User near you

Practical  
we will advance the  
RGE.  
London, Ontario



How much do you care for your Car?

Do you think enough of it to equip it with the best tires?

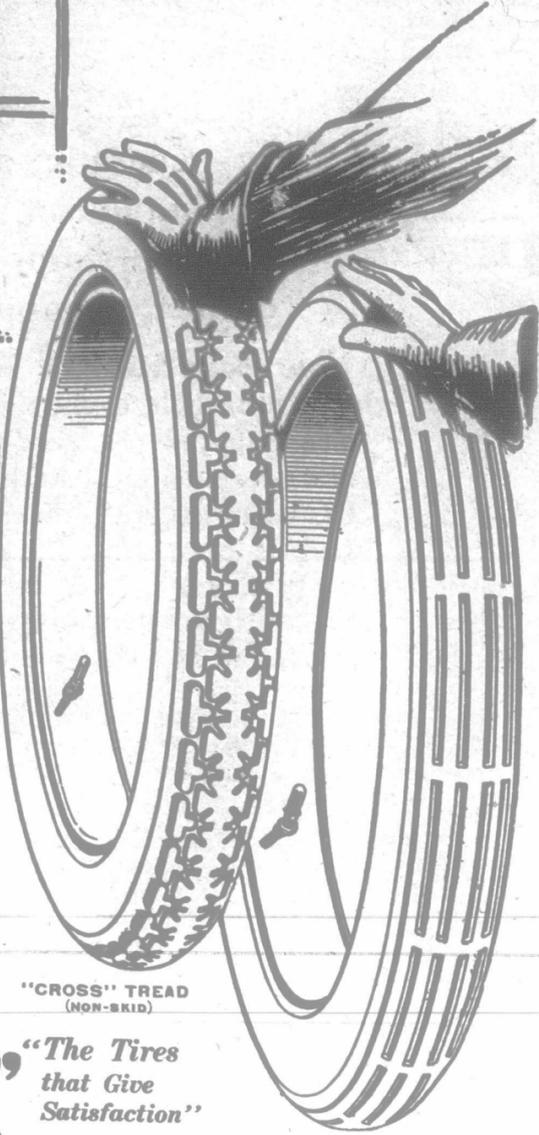
Every car owner is in love with his machine. It is his pal, his road comrade. He cherishes it for the jolly good times it gives him, and the valuable service he gets out of it. You love your car, don't you? Do you think enough of it to equip it with the Best Tires? Protect your car; safeguard its value to you and guarantee its continued service by fitting it out with these famous, long-mileage tires—MALTESE CROSS TIRES—"The Tires that Give Satisfaction."

**"GUTTA PERCHA" TIRES**

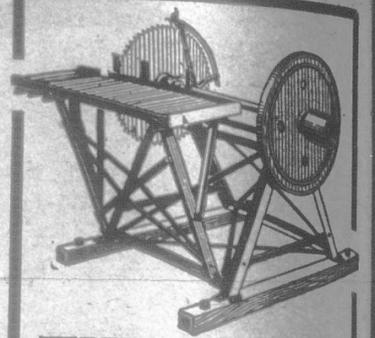
"CROSS" TREAD (NON-BRID)

"The Tires that Give Satisfaction"

Gutta Percha & Rubber, Limited.  
Head Offices and Factories, TORONTO, ONT.  
Branches in all Principal Cities in Canada.



"RIBBED" TREAD



**THE LUNDY SAW FRAME**

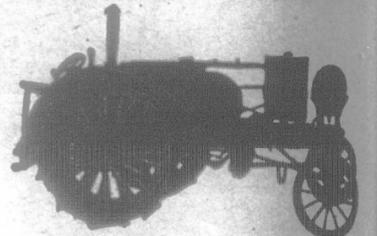
is of extra heavy steel, well braced, ensuring rigidity. The 17-inch balance wheel, weighing 80 lbs., gives a smooth, steady running only found in the Lundy.  
A feature appreciated by all operators is the guard that is adjustable to any sized blade from 20" to 30". The roller on the tilting table for convenience in handling long poles is something you will find mighty useful. There are adjustable, dustproof bearings on the line shaft. These Saw Frames are all Lundy built, and contain the best material that money can buy. Only \$52 f.o.b. Toronto.  
Saw Blades may be had from 20" to 30" with any size hole. The following prices are f.o.b. factory, and terms are cash with order.

**SAW BLADES:**

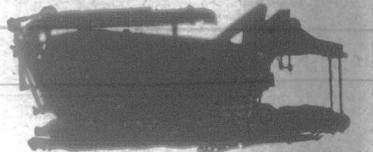
20-in. Saw Blade.....	\$ 6.30
22-in. ".....	7.25
24-in. ".....	8.35
26-in. ".....	9.80
28-in. ".....	11.40
30-in. ".....	12.65

Write if you want further particulars.  
**A. R. LUNDY**  
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**Tractors and Threshers**



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



Individual Farmers' Threshers, suitable size to be driven by small Tractors and Gasoline Engines. Do your own threshing. Keep your farm clean and save expense.  
Write for free catalogue, prices and any information wanted.  
**THE ROBT. BELL ENGINE & THRESHER COMPANY, LIMITED, Seaford, Ont.**  
Also Steam Tractors and large size Threshers.

**The O-K Canadian Two-Row Sprayer**

Strong recommendations reach us for our Two-Row Sprayer which operates to save time and labor and crops. It throws two fine streams of mist to every part of the plant and is as simple to operate as a wheelbarrow.  
We have bought the manufacturing rights of the Aylmer Barrel Sprayer, which, added to our line, makes it more complete. If interested write for more particulars.  
Valuable spraying calendar suitable for Canadian conditions supplied with each sprayer. Write for literature.



Two-Row Sprayer

**Strong Testimony for O-K-Spra**

That the O-K-Spra stands up and justifies every claim we make for it is clearly shown by unsolicited evidence. Every letter is favorable, and sometimes glowing in its praise. Here's a sample:

Gentlemen:—Enclosed you will find express order for which send to my address, Paris, Ont., one of your O-K-Spras with curved lance, non-clog nozzle. We have used the one we secured from you some weeks ago and find it is very satisfactory and have decided to send one to our summer home in Muskoka, for use in our garden there. Yours truly,  
—John Penman, Paris, Ont.

CANADIAN POTATO MACHINERY COMPANY  
54 STONE ROAD, GALT, ONTARIO

Makers of the O-K Canadian Four-Row Sprayers and the famous O-K Potato Planters and Diggers.

"Made of Mileage."



**K & S TIRES**  
always give more care-free miles per dollar than any other make.

Ask for them at all good dealers and garages

**K. & S. Tire and Rubber Goods, Limited**

Branches: Toronto Montreal Hamilton Winnipeg Weston





# YOUR Home can now have the comfort and health of a proper heating system

## NO PIPES! The HECLA PIPELESS Furnace can be put in your home in one day

CLARE Bros.' engineers have produced in the "Hecla" Pipeless Furnace a heating system that can be installed in one day. That saves expense as well as time in installing. That does away with the need for tearing up floors and mutilating walls, ceilings and partitions! That makes the air in every room as cosy, comfortable, healthful and warm as a June day!

Only a small cellar is needed to install the "Hecla" Pipeless Furnace. No overhead pipes to clutter up the cellar—it is ideal for new homes! Instead of having several pipes for cold and warm air, the Hecla Pipeless has but a single large register. (See Illustration). Because no heat is lost in friction the Hecla Pipeless is the most efficient heating system devised. Its economy is amazing!

**Owners are Enthusiastic!**

**J. G. KARN, WOODSTOCK, ONT.**: "Your No. 123 Pipeless Furnace installed in my store is giving perfect satisfaction. It saves coal and also room in my cellar."

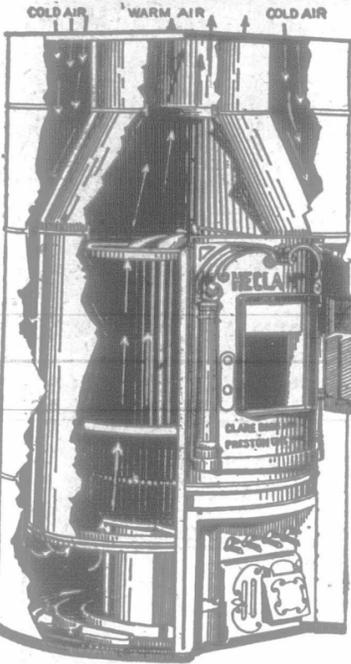
**LUKE BROS., OSHAWA, ONT.**: "We desire to inform you how much pleased we are with the new Pipeless Furnace installed in our premises this winter. We find it particularly good as regards the coolness of our cellar, even when the fires are very heavy."

**J. E. JOHNSTON, FORT ERIE, ONT.**: "The downstairs we have no difficulty in keeping at 76 degrees Fahrenheit—upstairs is 4 or 5 degrees cooler."

**STEWART DEVAULT & CO., LIMITED, ST. JOHN'S, QUE.**: "We are using a Hecla Pipeless in our Grocery Warehouse and heating three floors. We have found it very satisfactory."

**LOUIS WEBER, ZURICH, ONT.**: "My cellar is as cool as if it never had a furnace. I can heat my house up to 75 degrees in the coldest days. Although I never had a furnace in my house before, I claim it to be a fuel saver over any system I have had heretofore."

# HECLA PIPELESS FURNACE



### Sixty Years' Experiment and Study Have Produced This Furnace

The Hecla Pipeless Furnace embodies basic ideas and principles essential to efficient pipeless heating. Like our famous Hecla Furnace it has the Steel-Ribbed Firepot, that gives three times the radiating surface, saves coal, gives quicker heat. It is built with our Patented Fused Joints—a guaranteed safeguard against leaks of gas and dust. It has an extra large Circular Waterpan supplying to every room the proper degree of health-giving moisture. Likewise, the large Hecla firing door and heavy durable triangular grate bars. At every point of construction, as high-grade a job as could be built! Burns coal or wood.

## Guaranteed to Heat Your Home Properly WE STAND BACK OF THAT—ABSOLUTELY

No matter what reason you have had in the past for denying yourself the comfort and health-protection of proper heating, the "Hecla" Pipeless Furnace has solved your problem. Old house or new, we guarantee that unconditionally! We guarantee it because we have installed hundreds—and have not had a single complaint!

Let us send you our booklet "Buying Winter Comfort," which describes the "Hecla" Pipeless Furnace fully, together with our book of testimonials that prove the success of this fine, efficient heating system. Write to-day!

CLARE BROS. & CO., Limited, Dept. D<sup>2</sup>, PRESTON, ONT.  
Winnipeg, Saskatoon, Calgary, Edmonton, Vancouver.

# SEEDS

Alfalfa Genuine Ontario Variegated	Per bush	\$4.50
" No. 2—No. 1 Purity (local grown)		4.00
Red Clover, No. 1 Govt. Standard		4.00
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Alsike No. 2—No. 1 Purity		4.00
Sweet Clover—White Blossom, No. 2		2.00
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Situated in one of the best seed-producing districts in Ontario, and having the very best of cleaning machinery, we are in a position to offer high-grade seed, acclimatized and much superior to imported seed.

Write for catalogue—mailed free.

**Douglas & Roy SEEDMEN**

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GOVERNMENT STANDARD		Per bush
No. 1 Red Clover		\$4.00
No. 2 " "		4.00
No. 3 " "		4.00
No. 1 Alsike		4.00
No. 2 " "		4.00
No. 3 " "		4.00
No. 1 Alfalfa (Northern grown)		7.00
White Blossom Sweet Clover		2.00
No. 2 Timothy (No. 1 purity)		9.00
No. 3 " "		8.50

Timothy and Alsike Mixed..... \$3.00  
Timothy and Red Clover Mixed..... \$3.00

On all orders of \$50.00 or over we pay the freight east of Manitoba. Bags extra, at 65c. each. Terms—Cash with order. Ask for samples if necessary.

**TODD & COOK**  
Seed Merchants  
Stouffville Ontario

FARMERS! Order now if you want a set of "Cooke" Step Wagon Wheels



Owing to the great scarcity of raw materials our factory will be able to fill only a limited number of orders this season. FIRST COME, FIRST SERVED. OUR WHEELS ARE MADE TO FIT ANY SIZE AXLE OR SKID. Satisfied customers in all parts of Canada cheerfully testify as to their labor-saving qualities and durability. They make a wagon out of an old one at small cost. Write today for price list, illustrated circular and testimonials, together with order blank and free chart showing how to take measurements correctly. Remember we quote price delivered to your nearest railroad station.

THE COOKE METAL WHEEL COMPANY,  
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## It's a Fact-You Know Every Farm Needs Fertilizers

Try as you will, you cannot get bumper crops from your soil if you don't fertilize it. There is no mystery about this. It simply means that, as soil gets worn out, Fertilizers must replace the elements that have been used up.

### "Best-by-Test" FERTILIZERS

Best-by-Test Fertilizers have full analysis strength—guaranteed. Write us for particulars and we will advise the kind of Fertilizer to order. We are exclusive Fertilizer experts and can supply all and every chemical required. Farmers can club together and buy in car-load lots. Prices on application.

Write for interesting book on Fertilizers—FREE.  
CANADIAN FERTILIZER CO., LIMITED  
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# SOW SIMMERS' SEEDS



### Successful Since 1856

It is easy to make claims for seeds—it is another thing to be able to substantiate them. We are emphatically able to make our claims good because our record for "seeds that grow" has gone unbroken for 64 years. For seeds, bulbs, plants of all kinds, trust Simmers' goods.

THEY GROW!

Write for our handsome new 1920 Catalogue today.

J. A. Simmers Limited, Toronto

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

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 Ontario Variegated... \$43.00  
 No. 1 Purity (local)..... 45.00  
 1 Govt. Standard..... 47.00  
 2 Govt. Standard (local)..... 45.00  
 No. 1 Purity..... 45.00  
 White Blossom, No. 2..... 26.00  
 Yellow " " Can. Al-  
 Purity..... 27.00  
 No. 1 Purity..... 9.50

one of the best seed-pro-  
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 of cleaning machinery,  
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**SEEDMEN**  
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**PRIO GROWN**  
**OVERS**  
 TMENT STANDARD  
 Per bu.  
 \$45.00  
 42.00  
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 Steel-Wagon-Wheels

Owing to the great ac-  
 city of raw material our  
 factory will be able to fill  
 only a limited number of  
 orders this season. **FIRST**  
**COME, FIRST SERVED.**  
**OUR WHEELS ARE**  
**MADE TO FIT ANY**  
**SIZE AXLE OR SKEIN.**  
 Satisfied customers in all  
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 testify as to their labor-  
 saving qualities and dur-  
 ability. They make a new  
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 today for price list. Illustrated  
 manuals, together with order  
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**TAL WHEEL COMPANY,**  
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# SEEDS

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 te them. We are  
 r claims good be-  
 ds that grow" has  
 For seeds, bulbs,  
 immers' goods.  
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 Catalogue today.  
 ed, Toronto

## Help your seed to Make a Big Crop!

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

### Peter Hamilton SPRING TOOTH CULTIVATOR

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

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

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

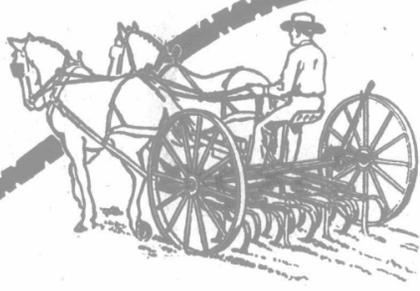
For exterminating weeds this cultivator is essential, and for this purpose extra wide steels can be provided to be used in place of the reversible points.

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

Write now for further information.

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

Peterboro, Ont. 30



### Plant corn this year and put it in an IDEAL GREEN FEED SILO

Good silage, such as the Ideal Silo insures, is the cheapest and best cow feed. It provides succulent, nourishing feed at considerably lower cost than any dry ration. The cows thrive on it, eat it eagerly and produce 25% more milk.

The Ideal Green Feed Silo will make better silage, because it is better built and of better material. For the same reasons, it will last much longer. At the present prices of milk and the high cost of hay and other dry feed, an Ideal Silo will pay for itself in a short time.

Send for Silo Catalogue to nearest sales headquarters

### THE DE LAVAL COMPANY, Ltd.

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Keith's Seeds are thoroughly reliable. They pass a high germination test before being sold. Our 54 years of seed experience and garden-craft, coupled with ceaseless experimenting and testing have produced hardy, vigorous seeds, yielding maximum crops. If you haven't a copy of our 1920 Seed Catalogue, send for it at once. Because of our policy of selling direct to the consumer, you will find our prices lower.

### VEGETABLE SEEDS

Direct to You—No Middleman's Profit

Buying from the House of Keith saves you money. Selling direct reduces costs—eliminates the middleman. Get our catalogue and compare the prices.

Our 1920 Catalogue is an invaluable aid to every market gardener. It will tell you when and how to plant, aid you in selecting the best seeds, bulbs, tools, etc. Above all, it will show you how to obtain the best seeds—at lower prices. Write for it, addressing Dept. G. A. It is free.

Railway Freight Prepaid in Ontario and Quebec on Orders for \$25.00 or over.

# GEO. KEITH AND SONS

124 KING ST. E. — TORONTO

### Shinn-Flat Protects Property

#### A Circle of SAFETY

Shinn-Flat throws a safety belt around every building on which it has been installed. With thousands of buildings throughout Canada and the United States protected for years, it is a fact that no building has ever been damaged by lightning that was properly rodded with

#### Shinn-Flat Lightning Rods

Make yourself, your family, your cattle, your crops, and your buildings safe against Lightning, by having them protected by Shinn-Flat Lightning Rods.

The cost of Shinn-Flat is very small compared to the value of the protection. It is money well spent if only for the comfort of mind it gives.

Write for full information and a copy of Prof. Day's interesting book on "Lightning, its Cause and Control." It is free.

SHINN MFG. CO. OF CANADA, LIMITED

Prof. W. E. DAY, Secretary and General Manager.

Manufacturers of Shinn-Flat Lightning Rods

"The Kind That Are Guaranteed"

110 Woolwich St. GUELPH, ONT.



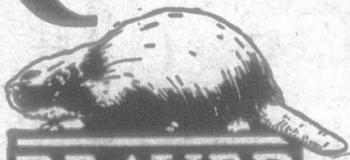
### BISSELL Double Action Harrows will thoroughly cultivate and pulverize any soil.



One Harrow is Out Throw; the other is In Throw. They are simply constructed, rigid and durable. The Gangs are flexible and the Disk Plates are so designed that they "hang" right into the soil. Bissell Harrows are built in sizes and weights suitable for horse or tractor use. Write Dept. W for free catalogue.

T. E. BISSELL CO., LTD., Elora, Ont.

# BEAVER BOARD FOR BETTER WALLS & CEILINGS



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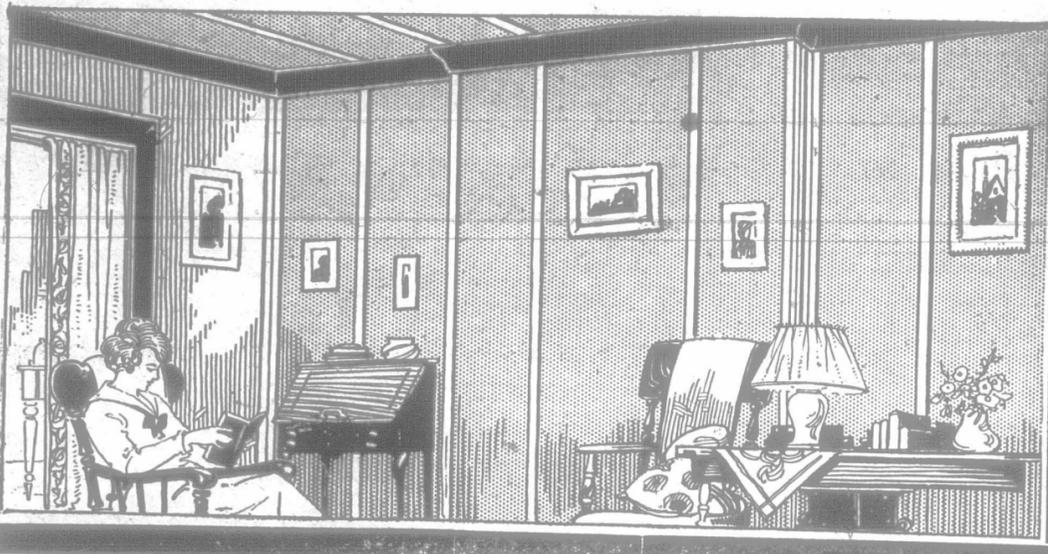
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# The Farmer's Advocate and Home Magazine

PERSEVERE  
AND  
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ESTABLISHED  
1866

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875

LV.

LONDON, ONTARIO, APRIL 1, 1920.

1436

## EDITORIAL.

Less talk and more thought will help to stabilize conditions and bring about the desired end.

The bright, warm weather in March would lead one to think that it is time to oil up the farm machinery.

Harden idle horses with good feed and regular exercise. The horses should be ready as well as the implements.

Cattle free from vermin will be much more contented in the stables while waiting for the season when they can go out on grass.

The season of the year is approaching when farmers adopt the eight-hour day—eight hours in the morning and eight in the afternoon.

Is the spraying outfit complete? Don't delay and then attempt to spray with leaky hose, with out-worn nozzles, or with a pump that needs packing.

All breeds of live stock have been improved and brought to their present high standards largely through selection. It is a practice that all can follow—it is the one road to success.

Sanitation in the stable will prevent many diseases that are not understood and which cause heavy losses. Sanitation is easily practiced, is based on common-sense methods, and is more effective than drugs.

Seeds for our farm crops should be selected with the same care that we select a sire or foundation females for a breeding herd. With high-priced labor, or no help at all, the farmer must make better use of his own time by sowing the best seed obtainable and producing more per acre.

The poultrymen of Canada are to be complimented on the step taken toward the registration of their birds. The fact that a bird comes from pure-bred stock does not entitle it to registration; it must measure up to certain standards and have a record-of-performance guarantee as well.

It has been rumored that some Commoners at Ottawa favor a second session of the House. Last year the second and short session cost the country over \$500,000 in sessional indemnities alone, and the total cost would run up close to a million dollars. Such extravagance and folly should never be repeated.

Tuberculosis not only means a very considerable loss to the live-stock industry, but scientists are laying increasing stress on the danger of humans contracting the disease. The Dominion and Provincial Governments would be warranted, we believe, in making very liberal appropriations for a campaign against this scourge.

No Government can successfully abolish the patronage system unless the people demand it, and cease to worry the Cabinet Ministers and the chiefs under them with requests for petty appointments and little favors. We send representatives to the House of Commons and the Legislatures to transact the country's business, and they are not expected to waste their time and worry the Governments with minor matters which concern individuals only.

## Tuberculosis and the Live-Stock Industry

The first step in eradicating tuberculosis from the live stock of Canada, and protecting the people of this country against this dread disease, will be to awaken a public interest and bring the public to a realization of the loss financially and in human lives. The accredited herd system will do much to clean up the pure-bred herds and show breeders where tuberculosis does and does not exist, but it would be some years before its influence would be noticed on the commercial stocks of this country, and it is in the commercial stocks where the loss and danger lie. The Veterinary Director-General, Dr. F. Torrance, states that the number of hogs showing infection has increased one per cent. per annum during the last ten years. This does not represent the financial loss, but it indicates a steadily increasing amount of tuberculosis in the herds of the country. Swine contract the disease from following cattle, or through the consumption of milk, and they constitute a fairly reliable index to the condition of our herds. Every year at the Government-inspected abattoirs a large number of cattle and hogs are thrown into the tank because they are unfit for human consumption, and only as fertilizer are they of any value to the country. It is in the commercial live stock where the greatest loss occurs, and it is upon this branch of the live-stock industry that the prosperity of our country depends. Through the "packers insurance," a charge of approximately one and one-half per cent. of the selling cost exacted at the stock yards, and the loss is distributed over the whole body of producers in Canada. The man with a clean herd pays for the condemned animals his neighbor markets, and thus it is that few realize what this loss through tuberculosis means to raisers of live stock. There would be a sudden awakening if every man who sold a tuberculous animal was obliged to suffer the full extent of the loss when it is condemned and "tanked." We are of the opinion that no effective campaign has yet been set on foot which will clean up our commercial stocks, but stock raisers should demand it and look to the Dominion and Provincial Governments for co-operation and action in this regard.

## We Should Pay as We Go

The practice of paying one's way as he goes is sound in principle, and our Dominion Government will be obliged, sooner or later, to get down to this basis of financing the country's operations. Canada's revenue must be boosted; her expenditures must be decreased. It is quite possible to reduce our expenses in many respects, and there is not the slightest doubt but that the revenue can and must be increased. Much as we may dislike taxes, each and every one must do his rightful part in bringing the country's revenue to a par with the expenditure. We have preached thrift and retrenchment, and have no apologies to make for again introducing the subject here. We are coming to a period when Government and people alike will be forced, perhaps, even if it be against their wishes, to spend more modestly and get down to a basis of essentials and actual values.

In attempting to increase our revenue, the tariff has nothing to promise. The Government has practically admitted that the tariff is high enough, and one thing is certain, the people will stand for no higher tolls in this regard. It would seem that the only way to increase the revenue would be through an extension of the direct tax system. At present we make no suggestion as to how it should be applied. It will have to be worked out on the basis of taxing wealth where it is found to exist, and permitting those to pay who are in the best position to do so. No taxation system is ever popular. We have never had heavy taxation in Canada before, and, when the tentacles of a really efficient system

begin to reach out and touch those who have heretofore escaped, there is sure to be complaint. However, the money must be raised and the Federal Government must devise a method whereby it is to be raised. We cannot go on spending more than we earn, and then borrow on loans to meet our obligations and to retire previous loans. The sooner some system of taxation is devised to meet the expenses of the country, and the sooner the expenses of the country are pared down so they will in some degree correspond with our revenue, the better it will be for all concerned.

## The Eight-hour Day

The fact that the eight-hour day was dragged into the Peace Conference does not dress it up in any more attractive form to present to the Canadian electorate, and it is evident that our parliamentarians and legislators realize how ill-timed any eight-hour-day legislation would be at present. In fact, none of them show any desire to risk burning their fingers by enacting an eight-hour day, which they must know is not in the best interest of agriculture, manufacturing industries or the nation as a whole. This is a time for work. The need of more work is becoming apparent every day, and we should cease looking for that substitute for work, in the search of which so much time has been lost and so much trouble caused during the last year or two. There is a good deal of quibbling going on regarding the powers of the Provincial Governments or the Dominion Governments to enact such legislation. In more colloquial language, they are all "passing the buck." The Minister of Justice is not sure who has the power to enact the eight-hour day, and a conference between Dominion and provinces has been suggested. Premier Drury took the stand in the Legislature that it is more of a federal than provincial matter, and he furthermore opined that possibly eight-hour-day legislation would be efficient and successful only on an international basis.

One thing is certain, Canada or her provinces would be ill-advised to enact the eight-hour day and attempt to compete with other nations which have not gone so far as to adopt this legislation. Capital will naturally flow to those countries which have the fewer hampering restrictions. There may be certain industries where the eight-hour day will be quite in keeping with the nature of the work, but our legislators should know full well that the eight-hour working day at this time does not harmonize with the demands for greater production. There are certain lines of work in industry where eight hours is plenty long enough to work, and we believe that legislation regarding the hours of labor in certain lines of work would meet the needs of the country better than legislation covering industries in their entirety. The object of such legislation should be to protect the laboring man against undue exposure to injurious conditions under which he works, and this could be effected quite as well by specifying the lines of work which are injurious, rather than naming industries with all their branches.

Some of our academic legislators are explaining that agriculture would be exempted from the influence of this legislation. Such a stand is ridiculous, for any set length of day or conditions of labor covering a broad field will influence the whole market, and agriculture would, in the end, be obliged to conform to any legislation enacted. Farmers cannot consider employing labor on the eight-hour-day plan; therefore, if our legislators, federal and provincial, wish to see a well-balanced, productive nation, they will leave this eight-hour-day bug-aboo strictly alone.

A sane, progressive, though steady, policy is the surest to bring the best results, and such a policy is the one best suited to the circumstances and conditions at present.

## The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE  
DOMINION.

Published weekly by  
THE WILLIAM WELD COMPANY (Limited).

JOHN WELD, Manager.  
Agents for "The Farmer's Advocate and Home Journal,"  
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### Nature's Diary.

BY A. BROOKER KLUGH, M. A.  
Birds on the Farm—4.

In attracting birds about our homes in the summer a bird-bath is a very useful device. In times of drought, when most of the pools and streams have dried up, the birds are in great need of water to drink and to bathe in.

A bird-bath may be as simple or as ornamental as one desires. A rough earthenware saucer from six to twelve inches in diameter, with half an-inch of fresh water in it, will serve fairly well and will attract many birds. In the case of any bird-bath the first consideration is the depth of water. Very few birds will bathe in water that is deeper than two and a half inches, and most birds will refuse to jump into water even of this depth. The best construction for any bird-bath is to arrange it so that the water is less than half an inch deep at one end, or all round the edge, and two or two and a half inches deep at the other end, or in the middle. The bottom should be rough, as the birds object to a slippery bottom to their bathing-place just as much as we do. It is decidedly advisable to place the bath on a support of some kind, so as to raise it three or four feet from the ground, as there is danger of the birds being pounced upon by a cat while they are engaged in their ablutions if the bath is on the ground.

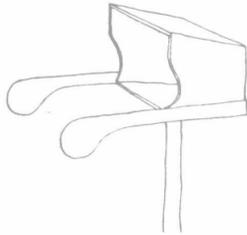
So far we have confined ourselves to the means of attracting birds in spring and summer, but there are several hardy species of birds which remain with us throughout the winter and also a good many species that come down in the winter from northern regions. It is of particular interest to have these birds about our homes at this season when bird-life is at its lowest ebb. The first thing to consider in attracting birds in winter is the presence of trees and bushes which produce fruits that are relished by many species of birds and which remain on the branches throughout the winter. With such trees and shrubs growing about the house one will be certain to entertain interesting bird guests every winter, and will also see some of the rarer winter visitors, such as the Evening Grosbeak, and the Bohemian Waxwing, which would not otherwise be seen.

Some of the best trees and shrubs for this purpose are the following: Manitoba Maple (*Acer negundo*), Red Cedar (*Juniperus virginiana*), Common Juniper (*J. communis*), Smooth Sumach (*Rhus glabra*), Staghorn Sumach (*Rhus typhina*), Wild Rose (*Rosa lucida* and other species), Mountain-ash (*Pyrus americanus*), Snowberry (*Symphoricarpos racemosus*), Sheepberry (*Viburnum lentago*), High-bush Cranberry (*Vib-*

*urnum opulus*.) Climbing Bittersweet (*Celastrus scandens*), Gray Birch, (*Betula populifolia*), Hawthorn (*Crataegus punctata* and other species and Hemlock (*Tsuga canadensis*). Many of these species not only furnish food for winter birds, but are highly ornamental at all seasons, so that they greatly enhance the surroundings of the house.

Many other winter birds feed almost exclusively upon seeds and in times of deep snow, when many of the seed-bearing plants are covered up, they will be attracted by a supply of seeds. Suitable seeds for such use are hemp seed, millet, sunflower seeds, and cracked corn, and other foods which will be eagerly received by many species are bread crumbs, cake crumbs and broken nuts. For success in feeding native birds with these foods it is absolutely necessary to eliminate the House Sparrow or else they will drive away the other birds and get most of the food.

In feeding seeds and crumbs it is much more efficient to place them on a food-tray rather than to scatter them on the snow. Such a tray should be made about three feet long and a foot and a half wide, with laths nailed on to form a rim, a hole bored in each corner to drain off water from rain or melting snow, and fastened on a pole three or four feet high, or attached to the window-sill. The very best kind of food-tray is the weathercock tray, which is both a food-tray and a shelter and eliminates the difficulty of keeping the tray free of snow. This tray, which is shown herewith, is set on a pole in such a way that it revolves and the wings keep it with the opening facing away from the wind. The pole should project up through the floor of the tray, and the end of the pole should enter a hole in a block on the inside of the roof, the top of the pole being rounded and a smooth rounded head of an iron nut in the top of this



The Weathercock Bird-tray.

hole should bear on the rounded end of the pole, so that it will revolve easily. The box should be about 2 feet long, 15 inches across and 16 inches in height at the front, and the back should consist of a sheet of glass. The wings should project 15 inches from the box and their rounded portion should be 7 inches in diameter.

Many birds, particularly the Chickadees, Nuthatches, and Woodpeckers, are very fond of suet. Lumps of suet may be tied securely to trees, or if it is found that squirrels cut the strings and carry off the lumps, they may be fastened down with half-inch wire netting.

We have now briefly dealt with the chief means of attracting birds at all seasons of the year. Like everything else worth doing it involves a little trouble and a little foresight. But it is work that repays with compound interest the effort expended, and one of its great advantages is that by this means the birds are brought where we can enjoy their lively company at all times, brought where both the aged and the very young can enjoy watching them, and children who thus grow up with a love for their feathered neighbors will have a most valuable asset which will remain with them all the days of their lives.

### The Rising Generation Won't Rise Very High Without Good Teachers.

BY SANDY FRASER.

I've been hearin' an' readin' quite a bit lately about the school teachers in this part o' the country, an' in the ither parts o' the country as weel. There are those that say that they are no' gettin' pay enough for the work they do an' maybe there's somethin' in it. It's the fashion to be goin' on strike these days, but there's no muckle chance for the teachers to be strikin' unless it's what they can be dacin' wi' a ruler on the heids o' some o' their pupils. They could dae that, I mind, in my young days.

There was a teacher we had that used to go by the name o' "old Gray" an' if it wasn't that he'd deid an' gone noo I'd be sayin' he was an "auld deil" as weel. He seemed tae think that the only way to put knowledge into a youngster's heid was to hammer it in. An' many's the strap an' birch switch he wore oot in the process.

Ony o' his scholars that were afraid o' him had a hard time o' it, but there was some o' the big chaps, that used to gang to school in the winter time, that he kened enough aboot to leave alone. My auldest-brither was one o' these.

There was a knot-hole in one o' the boards in the door o' the school an' it was a trick the auld fellow had, to be watchin' the bairns at play outside, through this hole. If he saw anything that wad gie him an excuse for usin' his strap later on you may be sure he made guid use o' the opportunity.

One day my brither found oot about this trick o' the auld chap's and makin' a guid big snowball he cam' aroond to the front o' the school an', all at once, he flung the ball straight for the knot-hole. He was a guid shot, was my brother, an' the hole stay'd plugged for the rest o' that day, an' when auld Gray called us in after recess he kept winkin' his right eye as though it was hurtin' him. He'd got a wee bit o' that snowball in it, a'richt. But he never said a word tae ma brither. Gin it were I who had done the trick he'd have skinned me an' tanned the hide. I mind o' him takin' hault o' my ear one time, for somethin' o' ither that I'd done, an' I imagine I can feel the twist he gave it to this day. It was naething short o' a crime to cage up a bunch o' wee lads an' lassies wi' an auld bear like that.

I suppose there was something that could be said for the man, if it came to that. He was an unco' guid writer an' he had the reputation o' bein' a master-hand at figures, although, sae far as this goes, there was mair o' his figures, that I mind of, on my back than there was on the blackboard.

And his salary was na so big that ye could call him vera muckle o' a Jew. It was twenty-five pounds a year. That wou'dn't keep the clothes to his back noo-a-days, but it was different then. The rest o' us all thought it was plenty, onyway.

But later on teachers' salaries went up to as high as two hundred dollars a year, an' they were in a position to save money. An' lots o' them did it, too. The regular price for board was five dollars a month. An' if the teacher happened to be a young woman, an' was guid-lookin' tae boot, the auld farmer that she had been boardin' with wad, very aften, throw off half a dollar a month. "But dinna tell the auld wumman," he'd say.

Some o' these teachers o' a by-gone day were pretty guid examples o' the saying that it depends mair on what ye are than on what ye get, how much money ye'll have. At the same time, I canna say that I've ever found ony o' them mean or miserly, as ye might say. I'll gie ye an example.

Ye ken all aboot this Forward Movement that's been going on among the Churches? Weel, as ye may guess, they appointed me as one o' the canvassers. Gin there's a job going that the ither fellow won't do, I get it. I aften wish that song that I will be hearin' them singin' noo an' again, "Have courage my boy, to say No," had been going in my young days. I might ha' got a lesson oot o' it. But "No" is an unco' big word to begin to use in yer auld days when ye have been in the habit o' saying "Yes" all yer life.

However, be that as it may, they sent me oot wi' the cards. And, by way o' gettin' a guid start, I went to one o' my farmer-friends that had been stackin' up the bawbees for quite a while and, sae far as givin' away money was concerned, belonged to the class that "could if they would." Puttin' him at the head o' the list ought to coax somethin' worth while oot o' him, I thought to mysel'.

Can ye guess how muckle I got from him? One dollar, neither mair nor less. He had a lang story aboot what it took tae rin the hoose noo-a-days, but I dinna mind all what he said while I was makin' oot his card. I was thinkin' o' ither things.

The next person I happened to come across was one o' these school teachers, that we have been talkin' aboot. She has been teachin' no' far from her hame in a small school that never paid her mair than four hundred dollars a year in all the time she has been in it. "I suppose I shouldn't ask her," says I to mysel', "but maybe she'd like to double the amount I noo have on my list?"

"Well, I was thinking," she said when I asked her, "of giving a hundred dollars. Would that be all right?" says she. Just a quarter o' her last year's salary. Thinks I to mysel', "Hats off to our teachers, gin they're all li e you."

I often think that, some way or other, the profession o' teaching should hae as guid an effect on the teacher as on the scholars. Maybe better, for the teacher is generally the one that learns the lesson best. She has to, to teach it. And she measures the result o' her work in lives and developed character, while the rest o' us measure ours in dollars an' cents, mostly.

So, if there's one profession in this country that we should look after and pay well, it is that o' the teachers. If we pay good living wages we'll get plenty o' the right kind o' men an' women to take up the work. If we don't we won't. For if we don't give the rising generation the best in the way o' teachers an' leaders it won't rise very high, ye may be sure o' that. When a man is picking out his life-job he's got to ken what kind o' pay goes with it. Low wages will mean poor teachers in the end. We all ken this and then, when it comes to putting a couple or three hundred dollars to the teacher's salary, we forget everything but the fact that we will have to put up the money.

Sure we'll have to put it up, but it's the best investment that we'll ever put our money into. This life doesn't amount tae a hill o' beans unless taken in connection wi' the future. That's the one thing worth working for, the future of the country and the race. And if there is any person who will have mair to do with what the next generation, an' the next, an' the next, will be than the school teacher, I'd like to ken who it is an' where ye'll find him.

We're at the deciding point right now. Make things better for our educators, pay them wages that would look decent to a section hand on a railway, at least, and things will keep movin' ahead, as Nature an' everything else intended. But hold back the money, and in this case, whatever, we'll hold back the world. We get what we pay for, nine times oot o' ten, be it teachers or preachers or town-lots.

# THE HORSE.

## Sore Shoulders—Prevention and Cure.

The season for "sore shoulders," especially in rural districts is approaching. Horses that have been worked more or less regularly during the winter should still be "fit," hence under careful handling and attention should not suffer; but young horses that have not been prepared for work, or older animals that have had several months idleness are necessarily predisposed to the trouble.

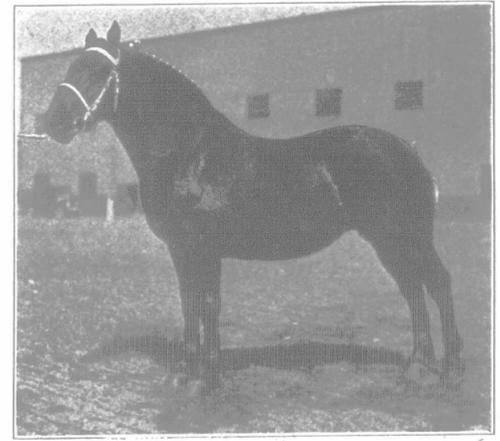
Probably the most essential preventive treatment is having properly-fitting collars. The collar should fit the horse. It should be neither too long nor too short, too wide nor too narrow. The bearing surface should conform to the peculiarities of the surface of the shoulder with which it comes in contact; while the shoulders of some horses differ from the general conformation, hence require collars "made to order," this is rare and a collar of standard pattern, of the proper length and breath, usually gives results. As the lower part of a horse's neck expands some when he is putting force against the collar, it is necessary that the collar be a little longer than the neck when the animal is at ease. It should be long enough to allow the hand of the teamster to be inserted between the collar and neck at the bottom. It must be wide enough at the top to prevent danger of pinching the neck at the same time not wide enough to allow empty space. It must fit nicely all the way down the shoulder. If too wide it allows a rolling motion and if too narrow it pinches, either of which must cause trouble. A large percentage of sore shoulders is due to ill-fitting collars. The face of the collar and the surface of the shoulder should be thoroughly cleaned, regularly. On general principles it is good practice to remove the collar each time the horse is put into the stable, even for a short time, as at noon. This applies especially to horses that have not been properly prepared for steady work. It allows both the collar and shoulder to become cool and dry and the former should be thoroughly cleaned and the latter well brushed and rubbed before again putting the collar on. We have little faith in the common practice of "toughening" the skin by rubbing with agents of a tanning nature, as oak bark boiled in water, a solution of formalin, etc. It is good practice to wash and bathe the shoulders with cold water, but the action of tanning agents on the skin does not appeal to us. Every horse should be properly fitted with a collar by a man who understands, and of course, the collar should continue to "fit." Some new collars, after having been used for a time, lose to some extent, the normal shape of the bearing surface, hence become too wide in places. In other cases the shoulder of a horse that has not been accustomed to work, and especially if he be quite fat, after being worked for a time become less in volume, either by loss of flesh or by the muscular tissue becoming more condensed, and less bulky, hence the collar no longer "fits". In any such cases the vacant space between collar and shoulder should be filled, either by having the collar re-stuffed or using a sweat-pad. Of course, in order to avoid trouble the hames must be properly adjusted so that the draft will be in the proper place. The hames should be adjusted to fit the collar (not to make the collar fit the shoulder) and should not be buckled tight enough to change the shape of collar, pinch the neck, etc., nor loose enough to allow movement between hames and collar. The proper adjustment of the draft cannot readily be explained hence should be made by a person who understands. It should be so that the draft will be straight, so that there will not be a downward pressure upon the top of the neck, nor an upward draft with a tendency to cause pressure of the collar against the bottom of the neck.

If, from any cause the horse has a heavy coat of hair, that portion of the shoulders that come in contact with the collar should be clipped. A heavy coat of hair under the collar tends greatly to cause trouble. In fact it is good practice to clip the whole body as soon as the weather will permit, but under any conditions the shoulders should be clipped. Care should always be taken to move the mane from under the collar when the animal is at work.

Sore shoulders are of different kinds. The most common is probably, practically a scalding. The skin becomes sore, there is little swelling, more or less of the hair falls out and the surface of the skin becomes more or less raw. In all cases, where possible, the animal should be given rest or worked in a heavy breast collar; where this cannot be done in some cases an old collar can be made to fit, and the packing pounded down, or some of it removed, so as to make a surface that does not press heavily upon the sore spots. As a dressing for this trouble nothing gives as good results as the ordinary "white lotion" made of 1 oz. each of acetate of lead and sulphate of zinc in a pint of water. This should be applied several times daily. In other cases, probably the first intimation the teamster has of trouble is a somewhat diffused swelling on the shoulder, manipulation reveals a fluctuation. The enlargement appears to contain fluid and there is little soreness or heat. This is called a "Serous Abscess" and has been caused by bruising of the shoulder by the collar. Local applications are useless. The tumor must be freely lanced at the lowest part to allow escape of serum, (a fluid of the consistence of water, probably containing some shreds of connective tissue and of a somewhat pinkish color). The cavity should then be well flushed out 3 times daily until healed, with a 5 per cent. solution of carbolic acid or one of the coal tar antiseptics. In

cases of this nature the animal must not be worked with a neck collar until the wound is healed. Another shoulder trouble does not occur so suddenly. When the animal experiences pressure by the collar in the morning or after a period of rest, he flinches, squirms and appears to suffer pain. These symptoms disappear and he does not appear to suffer acutely until after another short or long period of rest. An examination reveals a circumscribed enlargement of the muscle, which is hard and tender to the touch. The enlargement usually gradually increases in size and soreness becomes more acute. In most cases, after a variable time, a soft spot appears at the most prominent part and manipulation reveals fluctuation. The enlargement contains pus or matter, and is known as a "purulent abscess." Treatment is the same as for a serous abscess. In some cases the enlargement does not "point" (the soft fluctuating surface mentioned is called "pointing") In such cases it is not possible to say definitely whether that is a purulent abscess with very thick walls, or a fibrous tumor. In order to determine it is necessary to explore by making a small incision through the skin at the most prominent part, then forcing a director or a probe through the tissues towards the centre of the enlargement. If pus, even in small quantities appears, of course, it proves the trouble to be a purulent abscess and the treatment noted will be effective, but if no pus be present the trouble is a fibrous tumor and the only effective treatment is dissection. The whole mass must be carefully dissected out, the wound stitched with the exception of an opening at the lowest part for escape of pus, and then treated as an abscess until healed.

What is known as a "set-fast" is a case of scalding where the skin becomes separated from the healthy tissue, but remains connected by a healthy portion in the centre. This must be severed and the raw surface treated with white lotion until healed. W.H.P.



**Mildred.**  
A winning Percheron mare at the large shows and champion female at the Ottawa Winter Fair for the Lafayette Stock Farm Company of Canada, London, Ont.

## LIVE STOCK.

J. S. Howard one of our subscribers writes that he has used goose grease in place of castor oil with good results for lambs showing signs of constipation.

Breeders are beginning to find out that it doesn't pay to consign poor stuff to a big sale. There are many pure-bred bulls on which the knife should have been used.

Robt. Nichol of Hagersville, held a Shorthorn sale recently when females averaged a little over \$200 and the males \$150. The animals sold below their value considering the quality.

While a large percentage of our bacon hogs are placed in the first grade there is a slight tendency towards lack of depth and length of body. We must not sacrifice in substance and constitution.

### A Noted Live-stock Breeder Passes.

Through the decease of Robert W. Hobbs, of Maisve Hampton, England, agriculture lost one of its most distinguished and successful stock breeders. The late Mr. Hobbs was in the foremost rank among breeders of dual-purpose Shorthorns, and the herd of five hundred head together with the large flock of Oxford-Down sheep, and the Shire horses, made Kelmescott famous the world over. The love for these breeds was inherited from his father, who established a notable herd and flock, and the work of selection and breeding which he did brought the stock nearer perfection. Breeding stock from Kelmescott have on more than one occasion been imported to America and have proven their value and high quality in both show and sale-ring. The late Mr. Hobbs took his sons into partnership with him, and now one is responsible for the sheep, another for the Shorthorns,

another for the Shires, and a fourth, on being released from the army, has joined his brothers on the farm. One other son is a noted live-stock auctioneer, and two others are in business. Of late years Mr. Hobbs, having been more or less relieved of active work on his estate, has devoted considerable time to public affairs relating to live stock, and has been active in the work of the various live-stock societies. His services were much in demand as a judge of the three classes of stock above named.

## Character and Type in Stock Breeding.

EDITOR "THE FARMER'S ADVOCATE":

"A thing of beauty is a joy forever." As human beings we are naturally inclined to love and admire that which is beautiful or graceful to the eye. This pertains to nature; to things which are produced, patented or perfected by the hands or brains of man, and last but not least, to the form and appearance of our domestic animals. There are a great many things which go to make up this appearance in beast, which brings forth the comment such as, "Is not this a beauty?"

A few things to outline this characteristic of beauty are general, such as expression of the eye. In the horse or cattle beast, the head and eye particularly are the things first inspected in judging. The eye will, to a great extent, express the temper or disposition, as well as thriftiness; a bright, bold, clear eye denoting a vigorous constitution, etc. These mentioned characteristics are general to all breeds of live stock,—yes, to all living creatures. Apart from these it is mostly a study of conformation and type of the different breeds.

With reference to the breeding of live stock, we know that this is a calling which is taken up as a hobby, by many wealthy commercial men. We know of hundreds of business men who operate and own a pure-bred herd and farm aside from their business. The breeding of pedigreed stock is not fully appreciated by the man not interested. To accomplish the art of mating and breeding stock, to produce animals of a kind and form to win highest honors and bring comment from the public, is together with the benefit to the general public in the production of these types or seed stock, the greatest pleasure to the man who is honestly engaged in this business. In other words, it is not so much the "dollars" the good stock breeder is after, as the feeling and pride of having produced something superior and better from the materials at hand. I do not wish to impress that the financial rewards are small from good stock breeding, but simply that the public, the buying public as well, does not fully appreciate or give credit to the improver of the herds, at least not to the extent the manufacturing world does when they pay fabulous prices to men who do patent or perfect a pattern or machine.

I have too often heard people say when cattle are selling: "It certainly is a choice beast, but the price—no animal is worth it." Too few realize in the proper sense the benefit to the community and to themselves the labors of the constructive breeders. The only possible way to improve the stock of any country is through the use of the good pure-bred sire, one with quality, character and prepotency besides a fine pedigree. This is a known fact and preached every day, and must and will eventually work a great benefit in this Province.

The pure-bred stock breeder must always keep in mind the type which will most economically reproduce such stock that will make the most profitable kind to supply our markets with prime beef, butter, and cheese. Huron Co., Ontario. W. E. OESTREICHER.

### Aberdeen-Angus at Cold Creek Farm.

The Aberdeen-Angus sale, held by G. A. Ritchie at his farm near Plainville, offered to the public a number of choice individuals of the breed. There were only fifteen animals selling, and a number of these were but young calves. The herd sire, Balmedie Pride's Lad, went to E. Brisbin, of Cobourg, at \$200. The animals were all in very good condition and should do good for their new owners. The following is a list of the animals sold for \$100 and over:

Balmedie Pride's Lad, Edgar Brisbin, Cobourg	\$200
Kyma Nannette G. Lad 3rd, Geo. Falls, Bewdley	155
Cold Creek Laddie, Whitehead Bros., Rossmount	191
Mirabel, Jas Thompson, Cambourne	150
Lizette, Herbert E. Moore, Port Hope	160
Fair Maid of Cold Creek, Duncan Ferguson, Cobourg	227
Moss Rose 3rd of Cold Creek, John Underwood & Son, Grafton	250
Kyma Nannette 3rd, Herbert E. Moore	150
Lela of Cold Creek 2nd, Geo. Davidson, Cambourne	200
Cold Creek Fair Maid 2nd, Alex. Campbell, Baltimore	225
Lela of Cold Creek 3rd, Edgar Brisbin	161
Moss Rose 4th, Edgar Brisbin	205
Mirabel 3rd, Justin McCarthy, Cobourg	100
Lela of Cold Creek 4th, Thos. Robson, Harwood	103
Cold Creek Fair Maid 3rd, Alex. Campbell	180

We recently heard of a drover who for several years has made a practice of purchasing high-quality rams and distributing them, at less than cost, in the district from which he buys several carloads of lambs every fall. He says this is a good investment. If there were more drovers and stockmen of his temperament there would be more first-grade stock going into our markets.

## Look Well to the Natural Increase in Flocks and Herds.

At this season of the year one expects to see, on entering the average farmyard or stable, young pigs, lambs, calves and colts idling their time away in the pen or else frolicking about in the sunny yard. It is the happiest season of the year for the man who loves live stock, and there are few who do not take delight in looking after the young things in the stable and assisting in giving them a good start in life. It is also an anxious time. A little carelessness in the attention to the pregnant females and to the young things after they are born may result in considerable loss. The good herdsman is always on the job; and may be found in or about the stable at almost any hour of the day or night during the spring-time. His presence saves many a young animal from an untimely death. A simple operation or a little assistance, by the man who knows how, can often save a lamb, pig, calf or colt. Some of the troubles common to our domesticated animals were practically unknown when the herds and flocks ran wild. The perfecting of our farm animals has, in some cases, tended to develop weakness. It is important that we copy nature as closely as possible in the care of the herds and flocks. At the present time the loss of a young animal means a good deal, owing to the enhanced value. Even under the best of care, the young or dam may be lost, but such should not be the result of neglect.

A good deal depends on how the dams are looked after during the gestation period. Some feed liberally and so pamper the animals that their constitutions are weakened; some go to the other extreme and are utterly neglectful of the animals under their care. It is important that a liberal ration be fed, so that the dams will be in a thrifty condition, but with the good feeding there should be moderate exercise. Towards the end of the gestation period the animals should be watched, and a clean, carefully disinfected box-stall provided for them.

### THE COW AND HER CALF.

The practice of wintering the dry cow on straw is now about obsolete, farmers realizing the importance of having the dam in good condition at time of freshening. If there is a body reserve built up, the cow can feed her offspring more liberally than if the system is weak through lack of proper nourishment. Good silage, straw and a little hay will put flesh on most dry cows. It is advisable to grain some cows, the amount to feed depending upon the condition of the animal. As parturition draws near it is advisable to put the cow in a box-stall. She is more comfortable than if tied, and being free to rise and go to her offspring she invigorates it by her maternal care in licking. This sets the blood in circulation and dries the calf, so that there is less danger of it taking a chill. But, whether the cow is in a loose stall or not, it is a good practice for the attendant to keep close watch, as he may be able to render valuable assistance, thus lessening the suffering of the dam and possibly saving the life of the calf. During parturition, it is not wise to interfere except in the case of abnormal presentation. It is important that the animals be kept as quiet as possible, and if any operation is necessary it should be done by a skilled person. With normal presentation the fore feet appear first, with the nose between the knees. Assistance may be given by pulling outward and downward. Using a light block and tackle gives a steady pull, but care should be taken not to pull unduly hard as such practice has, on more than one occasion, broken the pelvic bones. The cow should not be allowed to labor too long without results before an examination is made. The foetus may be coming wrong, and the straining only weakens the dam. We recall one instance where there was little or no straining. The cow had evidently been sick when in the field, and the water bag had broken. Had an examination been made when she was brought to the stable the calf would undoubtedly have been saved. As it was, twenty-four hours elapsed before assistance was given and the calf was lost. The calf was lying on its back in the womb with the hind feet pressing against the kidneys, so that pain was caused each time the cow strained, thus the cause of little laboring. If the afterbirth does not come away in twenty-four hours it should be removed by an experienced person. Care must be taken not to injure the parts, as every abrasion makes a place for infection.

For the first day or two it is advisable to give warm water to drink, as cold water may cause a chill, and in this condition the cow is more susceptible to cold than at other times. Feeding a hot mash for several days is commendable, but this is not practiced as much now as it was at one time. After freshening it is a very good plan to give from a pound to a pound and a half of Epsom salts. If there are signs of constipation before the end of the gestation period, a mild purgative, as a quart of linseed oil, is recommended and laxative feed, such as plenty of roots and bran, may be advisedly given. Do not put the cow on a full ration, but start lightly and gradually increase until the cow reaches normal condition. In the case of heavy milkers, it is not wise to completely empty the udder for the first two or three milkings. When the calf is left with the cow there is seldom any trouble. Milk fever is more prevalent with the dairy breeds than with the beef breeds, owing to the heavy milking propensities.

It is important that the attendant see that the calf is able to get on its feet and obtain the colostrum, or first milk. This has a corrective effect on the system. The majority of calves are able to look after themselves, but one never knows when the calf will be weak and a little attention may save it. When a calf is to

be raised by the pail, it is a good plan to wean it at the end of the first day or two. For the first three or four weeks new milk should be given, the amount depending on the size of the calf. Four or five quarts a day is usually enough to start with, and this should be gradually increased. The change to skim-milk should also be made gradually. Over-feeding will soon result in indigestion and diarrhoea, and the symptoms of under-feeding are all too common to need any comment. Scours is a common disease in the calf herd, unless the utmost care is exercised. The stable should be kept clean and the pails used for feeding scalded regularly. Feed the milk at a uniform temperature, and let one person look after the calves. Feeding cool milk very often starts indigestion. Calf troubles are more easily prevented than cured once the calves are affected. The breeder of pure-breds, or grades either for that matter, cannot afford to gamble with his calf herd. The youngsters need more attention than the older animals, and failure to give the proper care and feed very often results in under-sized animals at maturity, which would otherwise have been considered of good quality. We need to save all the calves we can and to keep them in a thriving condition.

### THE SPRING LITTER.

During the past winter hogs have not been as favorably thought of as they were a year ago, and some were rather dilatory about giving the young litters a chance. This spring the market has strengthened somewhat, and undoubtedly the spring litters will be worth saving. They can be carried through the summer at a reasonable cost, provided pasture crops are made use of, and will be ready for finishing when the new crop is threshed. It is very important that the brood sows have laxative feed and regular exercise previous to parturition. A good many of the vices to which sows become addicted after farrowing are preventable, if proper attention is given previous to and immediately after farrowing. The amount of grain to feed depends on the condition of the sow. Access to clover hay and plenty of mangels, with a very small quantity of grain, will carry the average sow along very nicely. They ought not to be too fat at farrowing time, but should be in good condition. Mineral matter, which may be supplied in the form of wood ashes, charcoal, bone meal, sulphur, salt, copperas, etc., should be fed. These may be mixed together and placed in a box to which the sow has access. A shed, or around the straw stack, is a good place for the brood sow to spend the winter. She will then receive the required exercise. When confined to the pen, there is a tendency for the sows to become over-fat and weak in the bone. In this condition there is considerable danger when moving them to the farrowing pen. The sudden violent exercise may cause them to stiffen, or injure them in some other way. It is also detrimental to the young.

The sow should be placed in the farrowing pen several days prior to parturition, as some are very restless when put in a strange pen. It is advisable to have a protecting rail against the wall. This should be eight inches from the floor and eight or ten inches out from the wall, to give the young pigs a chance to take refuge when the sow lies down. There is a difference of opinion as to the amount of straw to place in the pen. Some successful hog raisers advise using but a little chaff or cut straw, while others, equally successful, use an abundance of long straw. Their argument for this is that the sow will make a deep nest and there is no chance for the young pigs to wander about the pen and become chilled. The average sow is careful when lying down, but if one pig should be under her in a deep bed of straw it has a better chance of surviving than if there is but a little chaff on a board or cement floor.

When the sow is restless and cross the attendant should be on hand and place the young pigs in a basket or box. They may be kept warm by means of hot bricks. Pigs may be kept this way for ten or twelve hours and then, when the sow has quieted down, be placed with her. See that the sharp teeth are broken off so that they will not injure the dam.

For the first day or two warm slop is all the feed necessary, and then the ration should be gradually increased until the full feed is reached by the end of two weeks' time. Here again the amount to feed depends upon the size and condition of the sow. Some milk more liberally than others, and if the young pigs do not get exercise they may become affected by that serious ailment known as thumps. If the young pigs are becoming over-fat, force both them and the sow to take exercise. It is not unusual for vermin to bother the young pigs. By applying oil to the brood sow these pests may be destroyed. A dry, clean pen, on the sunny side of the barn, is an ideal place for the young litter, and if the weather is favorable it is a good plan to give them the freedom of the yard for an hour or two at mid-day. At three weeks of age pigs which are a little under-fed will commence drinking milk from a trough. If success is to be obtained, it is a good plan to give the young pigs a trough by themselves.

### INCREASES IN THE FLOCK.

Many of the principles regarding the care of the cow and sow also apply to the ewe. In some flocks there is a heavy mortality each spring, due very often to improper care of the flock during the winter and to failure of the attendant to be on hand at lambing time. The past year or two have been banner ones for the sheepmen, from the standpoint of the price of mutton and wool. To save a lamb is a good day's pay. One cause

of considerable mortality is narrow doorways in the sheep pen. The ewes become injured when crowding in or out of the pen, or if there is undue crowding at the feed trough. This very often results in still-born lambs. It is doubtful if there are any better feeds than oats, bran, peas, roots and leguminous hay. The amount to feed depends upon the condition of the flock. If the ewes have plenty of exercise during the gestation period there will be a good deal less trouble at parturition than if they have been closely confined. As soon as the lamb is born the mucous should be removed from its mouth and nostrils, and the weak lambs assisted in getting their first meal. It very often happens that their legs are too weak for them to stand alone, and they must be held. Then, too, some ewes do not take kindly to their offspring, and it is necessary to keep close watch for several days to see that the lamb gets sufficient nourishment. Dipping a chilled or weak lamb in real warm water and then wiping it dry will very often revive it. It is a good practice to make several small pens in the sheep barn by means of hurdles. A pen six feet square is large enough for one ewe. Symptoms of parturition are swelling of the organs, uneasiness, desire for separation from the flock, and bleating.

As the lambs develop they require more nourishment than what they receive from the dam. They have no chance at the trough along with the ewe, consequently it is advisable to provide a pen where the lambs may have access to a trough of their own and there pick at oats, bran, oil cake, etc. Some men seem to have a great deal more success with their flocks than others, due possibly to a natural instinct for looking after the ewes and their progeny. Not a lamb should be lost this spring through neglect. Canada requires more sheep.

### THE MARE AND HER FOAL.

As a rule, more attention is paid to the young colt than to the other classes of young stock on the farm, due possibly to the higher value of the horse, although at the present time a cow is a close rival from this standpoint. As with all pregnant animals, the mare requires steady and regular exercise, with a liberal supply of wholesome feed. Work does not hurt her, provided the ground is not slippery, the draw is steady, and there is no sudden backing. Using her on the wagon over rough roads is not a practice to be condoned. The mare may take her place in the team during seeding time. Care should be taken, however, that she does not become exhausted or over-heated. Clover hay, oats and bran, with a few roots every day, make a good ration, as they are nourishing and have a laxative effect. The mare in a good, strong, thrifty condition is better able to stand the strain of parturition than the fat, unexercised mare. The shrinking of the muscles and parts back of the hips may be noticed a week previous to foaling. Four or five days before the foal arrives the teats become filled, and when wax forms on the ends, parturition will not be long delayed. Seldom is assistance necessary, but the attendant needs to be on hand so as to look after the colt after it is born.

If the colt is to be born in the stable it is important that the stall be thoroughly cleaned and disinfected. It is a good plan to sprinkle lime on the floor. As a rule, the greatest success is obtained when the mare is on pasture. The fresh grass has a beneficial effect on the system, and there is less danger of disease in the foal that is born in the field than in the one born in the stable. As with other young stock, they very often require attention in order to assist them to take nourishment. Very often, too, the young colt is crooked-legged and wobbly, but it is surprising how quickly the most of them straighten up, and when a few days old are able to scamper around quite lively. If the mare is cross the weak colt needs attention. It is sometimes necessary to tie and hobble the mare to get her to allow the colt to suck. Constipation frequently occurs in young colts, and if not attended to will soon result in weakness. Some give a tablespoonful of castor oil and an injection of warm water; others have found that feeding unsalted butter is an excellent corrective for the trouble. If the meconium is not expelled after injections, it should be removed.

Joint-ill or navel-ill is a disease which proves fatal with many foals. Preventive measures should be taken. When cutting the cord, use a clean instrument, and tie with a string that has been disinfected. Apply tincture of iodine and dress it four or five times daily with a strong disinfectant until it is dried. Any of the coal-tar products may be used for disinfecting, and may be used up to a ten-per-cent. solution.

The mare should be given warm drinks and a mash for the first day or two. If reasonable, there is no place to equal the pasture for the mare and colt. In justice to the mare she should have two or three weeks' rest before being put in the collar again, and even then she should not be given a full day's work. Leave the colt in a box stall so arranged that it cannot injure itself. Do not allow it to suck when the mare is very warm from working in the field. Permitting the colt to follow the mare at work is too tiring for it.

It sometimes happens that the colt is left an orphan. It may be reared on cow's milk, but it is necessary to modify this slightly. A tablespoonful of sugar may be dissolved in warm water, three or four tablespoonfuls of linewater added, with enough milk from a fresh cow to make a pint. It is necessary to feed this mixture every hour or two at first, and a quarter of a pint is about all that will be taken at a time. Later the feeds

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Springtime Pals.



In the Heyday of Youth.



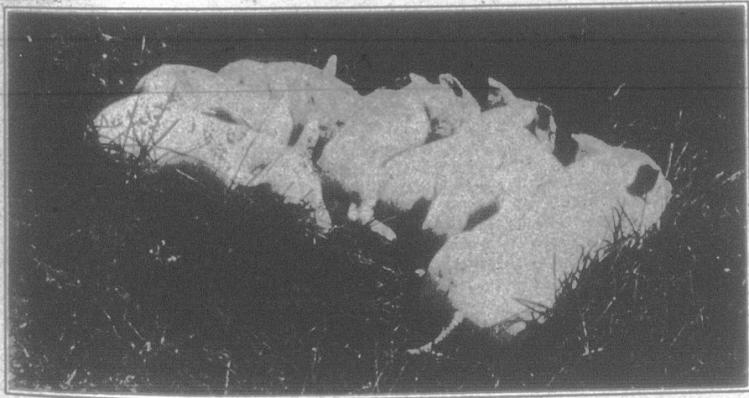
A Youthful Team of Clydesdales.



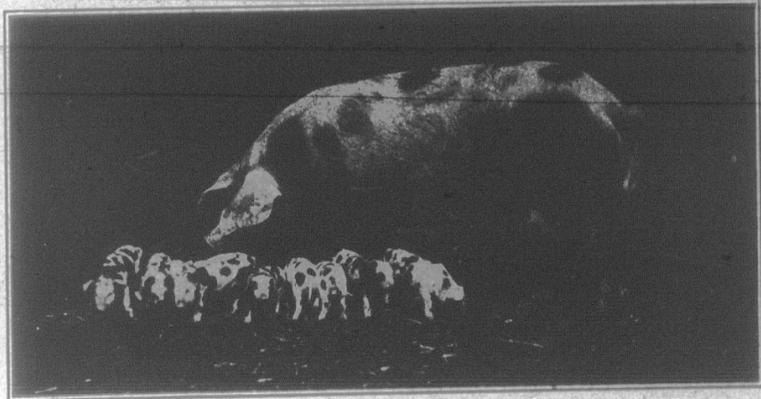
Three Roan Beauties.



A Contented Family of Herefords.



Asleep in a Secluded Corner.



A Litter of Glouster Spots.



Following the Leader.



A Suffolk Flock with Two Lambs to One Ewe.

may be less frequent and given in larger quantities. It is important that the milk be fed at blood heat.

As a rule, the farmer or stockman has plenty of work in the field to take his attention, but even so he should not neglect the young things which are arriving to increase his herds and flocks. It is important that the young get a good start, and this they cannot do if forced to shift for themselves. Attention to details in the care of pregnant animals, and of the dam both during and after parturition is important.

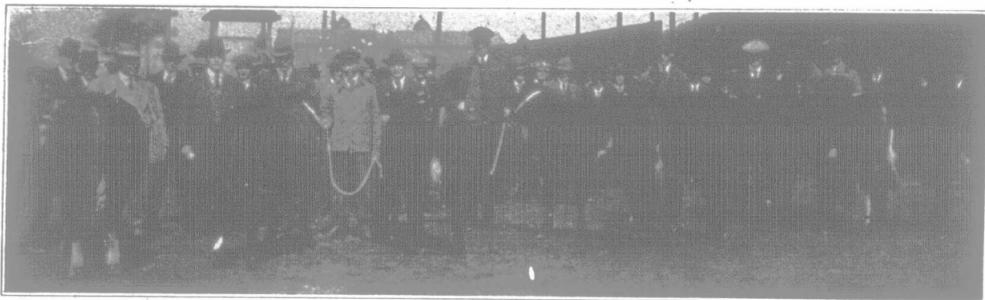
### A Successful Shorthorn Sale at London.

The Western Ontario Consignment Sale Company held their eleventh semi-annual sale of Shorthorns, in London, March 23 and 24, and were again favored with ideal weather. From a small beginning, this sale has grown into an event of great importance and is one of the largest annual sales held in the Province. Square dealing on the part of the management is to a large extent responsible for the confidence which consignors and purchasers place in the sale. Breeders from all parts of the Province, as well as from many States in the Union, make a semi-annual pilgrimage to London and take home with them some of the good things that are consigned by Shorthorn breeders of Western Ontario. Since the sale was first inaugurated there has been a steady improvement in the quality of stock offered, and consequently the average price received has steadily increased. Last fall sixty-eight animals made an average of a little over \$300. The top price of the sale was \$755. This spring, one hundred and thirty-one animals averaged \$367.86, with a top price of \$2,800, paid by Carpenter & Carpenter, of Barboo, Wis., for Broadhooks Prince, a ten-months-old roan bull, consigned by George Gier & Son. This calf is an outstanding individual of excellent conformation and pronounced Shorthorn character and quality. He is sired by Escana Champion, and is out of Findon Broadhooks 7th (Imp.) bred by P. B. McIntyre. This calf was first in a large class of junior bulls, and also the champion of the show which was held previous to the sale. Messrs. Grier also consigned the first-prize junior heifer and the champion female of the show in a straight-bred Shepherd Rosemary, also sired by Escana Champion. She went to the bid of E. Robson, Denfield, at

the contributors and visitors to the sale. There were six classes with prizes ranging from \$20 to \$3. There was as good a showing in the classes as is usually seen at our larger exhibitions. Several of the winning animals have already been commented upon. The following are the awards:

Bull, junior: 1, Geo. Gier & Son, on Broadhooks Prince, 2, R. & A. Murrell, on Browndale Regent; 3, R. S. Robson, on Vermont Chief; 4, J. White, on Lancaster Lord; 5, R. & S. Nicholson, on Gold Drop Junior; 6, Wm. Waldie, on Collynie Mark Imp. Bull senior: 1, J. T. Gibson, on Sultan Hero; 2, H. Smith, on Crown Diamond; 3, J. T. Gibson, on Lord Chesterfield; 4, R. & A. Murrell, on Browndale Courier; 5, W. O. Sale Company, on Browndale Eclipse; 6, P. Stewart & Son, on Royal Lustre. Cows with calves at foot: 1, H. Smith, on Parline Mollie 3rd; 2, E. Brien & Son, on Amine D.; 3, J. Chinnick, on Bonny Butterfly; 4, J. McLean & Son, on Canadian Roan Lady 20th; 5, P. Stewart & Son, on Maid of Varden; 6, R. S. Robson & Son, on Gipsy Gem. Yearling heifers: 1, Wm. Waldie, on Roan Duchess; 2, P. Stewart & Son, on Royal Lustre; 3, Kyle Bros., on Lady of the Valley 13th; 4, J. White, on Queen's Gift; 5, J. McLean & Son, on Roan Lady's Best; 6, R. S. Robinson & Son, on Augusta Pansy Blossom. Senior Heifers: 1, Kyle Bros., on Orange Blossom 11th; 2, Geo. Gier & Son, on Matchless 20th; 3, J. H. Lampman, on Wallflower; 4, Wm. Waldie, on Cherry Blossom 8th; 5, Oestreicher Bros., on Miss Ramsden 3rd; 6, W. Ruston, on Princess of Butterflies 2nd. Junior Heifers: 1, Geo. Gier & Son, on Rosemary; 2, R. S. Robson & Son, on Red Bellona; 3, Wm. Waldie, on Aaggie 9th; 4, H. C. Robson, on Lady Dorothy; 5, F. McDonald & Son, on Mina Jewel; 6, Wm. Waldie, on Winsome Maid. Champion bull: Geo. Gier & Son, on Broadhooks Prince. Champion female: Geo. Gier & Son, on Rosemary.

On the evening of March 23, many of the consignors and visitors to the sale met in Hyman Hall, where they were entertained with excellent music, and addresses from prominent live-stock men. Captain T. E. Robson occupied the chair. Professor Wade Toole, of the O. A. C., Guelph, gave a short address, in which he emphasized the fact that our commercial cattle depended upon the quality of sires used, and intimated that the class of stock going on to our markets was not a credit to the live-stock industry. Figures were given to show the



Line-up of Junior Heifers at London Show.

First heifer on the left was champion of the show. She was exhibited by Geo. Gier & Sons, of Waldmar, and sold for \$980.

\$980. Kyle Bros. had the first-prize senior heifer in Orange Blossom 11th, a white calf with excellent lines and character. She was purchased by Carpenter & Carpenter for \$710. She is sired by Oakland Marquis. A Lady of the Valley heifer, from the same herd, and sired by Sea Gem's Pride, was purchased by E. Robson, at \$760. She is a magnificent individual, and stood third in her class. The Experimental Farms, Ottawa, secured a dark roan, eleven-months-old Lancaster bull calf for \$600. He is a deep, thick, sappy individual, and both his sire and dam are imported. He was consigned by J. White. James Chinnick consigned a Butterfly-bred, seven-year-old cow that sold to G. Auld for \$1,200. She is a cow of splendid Shorthorn character and is a show individual. By her side was a roan heifer calf, sired by Lancaster Reserve, and she is again in calf to the same sire. Griswold Bros. paid \$805 for a ten-months heifer, consigned by R. S. Robson & Son. A straight Nonpareil five-year-old cow, consigned by R. & S. Nicholson, went to the bid of W. Ruston, Science Hill, at \$835. She had a red heifer calf at foot, sired by Browndale Winner. J. McLean & Son consigned an eleven-year-old Roan Lady cow, which went to F. B. Gosnell at \$930. She had a roan heifer calf by her side and was again in calf to Spring Valley. The highest-priced female of the sale was a three-year-old Duchess heifer, consigned by Wm. Waldie. She was an exceptionally pleasing heifer and was in calf to Maple Leaf Marquis.

On the whole, the quality of the stock was superior to anything previously offered. However, there are yet too many mediocre animals consigned. It is unfortunate that the average for the sale should be considerably reduced because of a few breeders consigning individuals which are not a credit to their own herds or to the sale. Four bulls were bought by butchers and it was a good thing for the breed that they were. There were two or three females which were not up to the mark. The facility of consigning animals of poor individuality to a sale of this kind was plainly demonstrated.

Previous to the sale the animals were judged by Peter Ross, of Mansfield, Ohio. This is an innovation for the London sale, but a practice which will undoubtedly be continued as it met with general favor, both from

value of using good sires. In regard to the future market, the speaker believed that live-stock men had little to fear, provided they produced animals of high quality. On the other hand, the man who is content to feed and breed mediocre stuff will find increasing difficulty in securing a profitable market for it.

R. W. Wade, of Toronto, gave an excellent address in which he dwelt on the history of cattle breeding from the very beginning, and showed how that centuries ago breeders endeavored to secure quality and vigorous constitution. It is important that our best bulls be kept for Ontario breeders, rather than allowing them to head the herds of breeders outside of our boundaries, so that the sons of these bulls may be available for the benefit of Ontario breeders. The commercial end of the live-stock business is very important, and the speaker pointed out that quality of breeding stock and commercial stock should be the watchword. The best is none too good, and Mr. Wade made reference to the purchasing of the champion bull in Scotland by Mr. Elliott, of Guelph. The speaker continued to show how Shorthorns had won a prominent place in the live-stock industry, and he was very optimistic regarding the future of the breed. Archie McCoig, of Chatham, and Peter Ross, of Ohio, also gave short addresses which were of interest to the large audience present. The evening's entertainment was instructive, and much enjoyed by those present.

The sale was under the direct management of Messrs. H. Smith and T. A. Attridge, and everything possible was done to arrange for the comfort and convenience of the large crowd which was in attendance. The sale went off without a hitch. A large number of animals were sold in record time by Captain T. E. Robson, assisted by Messrs. McCoig, Laidlaw and Johnston.

#### FEMALES.

Cherry Blossom 8th, Griswold Bros., Livingstone, Wis.	\$ 805
Roan Duchess, Griswold Bros.	1,450
Winsome Maid, H. Robson, Hrderton	410
Royal Lustre, Griswold Bros.	665
Missie Maid 8th, T. Henderson, Glencoe	320
Maid of Varden, F. W. Scott & Son, Highgate	510

Nellie Lind, Jas. Cormie, Elora	350
Ontario Lily, A. J. Erquhart, London	100
Ramsden Queen, R. & S. Murrell, Belton	370
Golden Mina, W. J. Sinclair, Croton	265
Lady Dorothy, Griswold Bros.	500
Oaklands Fanny, Bruce Co. Calf Club, Walkerton	260
Morning Rosebud, F. W. Darby, Fergus	125
Nonpareil Gem 11th, E. G. Emerson, Freeman	330
Fanny B., M. Winn, Lucerne, Ind.	270
Marquis Belle, W. G. Kelly, Ypsilanti, Mich.	135
Red Lady 2nd, J. Redmond, Kerwood	335
Oaklands Amine, Pettit Bros., Freeman	205
Wallflower, J. F. Stewart, Tilbury	255
Mildred Marchioness, R. & A. Murrell	330
King's Princess, E. H. Gillett, Chatham	255
Roan Lady's Best, L. Gosnell, Highgate	785
Miss Ramsden 11th, F. W. Scott & Sons	475
Canadian Roan Lady 20th, F. B. Gosnell	930
Village Princess, H. M. Lee, Highgate	275
Amine D., Griswold Bros.	560
Lady Ury, W. J. Bowes, Markdale	430
Miss Aberdeen, Griswold Bros.	400
Ury Rose, H. C. Robson	550
Ury Belle, V. Bowes, Meaford	360
Gipsy Gem, H. Bolton, Strathroy	425
Queen Elizabeth, T. W. Douglas, Strathroy	335
Glendower Ruby, P. G. Ross, Mansfield, Ohio	300
Lavender Pride 2nd, Griswold Bros.	715
Lovely Missie 2nd, J. B. Snyder, Floradale	425
Duchess of Gloster W., E. G. Emerson	505
Mina Lass, Carpenter & Carpenter, Wisconsin	600
Cantilius 8th, W. R. Green, Fergus	250
Aaggie 9th, F. W. Scott, Highgate	435
Nonpareil Lady 8th, W. Ruston, Science Hill	835
Merry Evening, A. A. Bragg, St. Mary's	315
Queen's Gift, E. Robson, Denfield	400
Pansy Ramsden, T. W. Douglas	360
Princess of Butterflies 2nd, J. D. Brien, Ridgetown	550
Helen Corday, E. Robson	410
Mina of Craiglea, Griswold Bros.	305
Mina's Hope, J. J. Elliott, Guelph	430
Mina Jewel, Griswold Bros.	355
Red Bellona, Griswold Bros.	305
Lady Rosewood, G. M. Dodge, Vermont	170
Highgate Lass, F. B. Gosnell	205
Highgate Lady, A. McTavish, Shakespeare	190
Lady Chesterfield 17th, J. F. Stewart, Tilbury	160
Princess Royal of Sunnyside 3rd, F. L. Lewis, Electric	150
Ivy Buckingham, Carpenter & Carpenter	535
Maxon Queen, E. H. Gillett	125
Fanny Countess, Griswold Bros.	360
Jean Browndale, John Redmond	140
Bonnie Butterfly, G. Auld, Guelph	1,200
Grace, E. Robson	205
Red Rosebud, G. Duncan, Glencoe	275
Red Primrose, Robt. Herron, Ashburn	200
Princess Molly 2nd, E. Harding, Ettrick	180
Oaklands Gloster, A. Leatherdale, Ridgetown	475
Lady Mina, Griswold Bros.	280
Miss Ramsden 3rd, Carpenter & Carpenter	500
Fluffy Girl, G. M. Dodge	315
Rosy, J. Redmond	185
Mysie's Queen, D. Donovan, Chatham	200
Corelli 3rd, F. J. Currie, Markdale	300
Marchioness 28th, Griswold Bros.	560
Strawberry Blossom 10th, Griswold Bros.	440
Lady Violet, F. W. Darby	150
Florence, J. A. Stanton, Thamesford	170
Parline Mollie 3rd, E. Robson	360
Matchless 12th, F. W. Darby	210
Augusta Pansy Blossom, H. C. Robson	430
Matchless 20th, T. W. Douglas	760
Red Ladybird, Griswold Bros.	265
Royal Beauty 2nd, H. J. Poland	430
Sadie Gloster, F. W. Darby	200
Scottish Lass, J. T. Smith, Thedford	275
Winnie Gloster, J. M. Dodge	305
Molly Buckingham, W. T. Moore, Chesley	275
Ruby 16th, Bruce Co. Calf Club	170
Orange Blossom 11th, Carpenter & Carpenter	710
Lady of the Valley 13th, E. Robson	760
Rosemary, E. Robson	980

#### MALES.

Collynie Mark (imp.), Griswold Bros.	700
Marquis Prince, H. Plumsteel, Clinton	350
Marquis Surprise, F. L. Lewis	260
Oaklands Mayflower, H. Robson	195
Gloster Heir, A. Bowering, Lambeth	330
Oaklands Rex, Jas. Pringle, St. Mary's	160
Mountain Side Boy, R. Menzies, Listowel	125
Jasper Marquis, P. McKinley, Tecumseh	190
Browndale Eclipse, H. Robson	250
Captain Alan, S. M. Reader, Shakespeare	170
Scottish Prince, J. Smith, London	105
Vermont Chief, H. E. Shaver, Embro	400
Crimson Stone, A. Smith, Embro	255
Fairholm Champion, H. C. Robson	160
Elmdale Crown, V. Bowes	170
Nonpareil Baron, L. Griffith, Byron	130
Gay Marquis, Geo. Birch, Harrow	200
Silver Chance, C. McFee, Ekfrid	175
Clipper Lad W. J. Nairn, St. Mary's	100
Craiglea Lad, J. Aitchison, St. Paul	125
Red Lord, H. McCorquodale, Embro	200
Prince of Scots, F. S. Bancroft, Mt. Brydges	120
Sultan Hero, E. Robson	550
Marquis, A. McIntyre, Burford	240
Lord Chesterfield, Russell Bros., London	155
Browndale Courier, I. Buchanan, Thamesville	300
Browndale Regent, T. S. Shantz, Kitchener	385
Royal Mina, R. E. Colthardt, St. Mary's	255
Orange Victor, A. J. Erquhart	145

Gold Drop Ju  
Lancaster Lo  
Beaufort Prid  
Jilts Butterfly  
Chu Chin Ch  
Crown Diam  
Sir Mortimer  
Glenlea Beaut  
Ramsden Vict  
Broadhooks P

### Select

By P. L. F.

There are of seed corn for these are at kernel grow locality? An Most of these study of the kernel of corn Each variety every other v than others. corn grows a most of them required to r later than the carefully selected as the later smaller stalk same variety. Ontario at price in tons of sila variety than Varieties of c Take for insta horses; there a of them. So thick, heavy- There are of he that are sm and slimmer i quality as the Clydesdales, l are strains in ears than oth may be as eq to breeding at the horse. The great varieties and s of both the ea the ground th Since we can stalk from look that any furtl which can be s The accom illustrate the length and cir later the corn shorter the ear There may b time of matur shown. Then controlling m dent is genera ears not so ro those ears sh the ear is, sh The slimmer a dent are the Now these with the spe Generally sp grows larger height from t stalk is also a per acre. Th from the grow of corn is wa ears, with go against any s rounded kern a rule produc Any variet properly mat germinate so one or all of too deeply to is deep enoug moisture at t too wet or ge causes the co in the fall w all season th it may be, an drying of th few years in to produce g husking, cor must be drie may be fully or if it is put not dry out amount of m

350  
100  
Belton..... 370  
..... 285  
500  
Club, Walkerton..... 200  
Fergus..... 125  
n, Freeman..... 330  
..... 270  
nti, Mich..... 135  
ood..... 335  
eman..... 205  
..... 255  
..... 330  
tham..... 255  
ngate..... 785  
Sons..... 475  
Gosnell..... 930  
gate..... 275  
500  
430  
400  
550  
360  
425  
rathroy..... 335  
sfield, Ohio..... 300  
s..... 715  
oradale..... 425  
rson..... 505  
Wisconsin..... 600  
s..... 250  
435  
cience Hill..... 835  
Mary's..... 345  
400  
360  
ien, Ridgetown..... 550  
410  
305  
430  
355  
805  
rmont..... 170  
205  
akespeare..... 190  
art, Tilbury..... 160  
s, F. L. Lewis..... 150  
535  
125  
360  
140  
1,200  
205  
275  
urn..... 200  
ttrick..... 180  
Ridgetown..... 475  
280  
carpenter..... 500  
315  
185  
m..... 200  
300  
500  
440  
Bros..... 150  
170  
d..... 360  
210  
310  
son..... 430  
700  
265  
430  
200  
d..... 275  
305  
275  
Chesley..... 170  
710  
Carpenter..... 760  
980  
700  
350  
aton..... 260  
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h..... 160  
ry's..... 125  
istowel..... 190  
umseh..... 250  
..... 170  
speare..... 105  
400  
ro..... 255  
160  
..... 285  
..... 130  
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s..... 100  
..... 125  
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..... 120  
Brydges..... 550  
240  
155  
ndon..... 300  
amesville..... 385  
chener..... 255  
ary's..... 145

APRIL 1, 1920

Gold Drop Junior, T. W. Douglas.....	\$ 400
Lancaster Lord, Experimental Farms, Ottawa.....	600
Beaufort Pride, W. J. McGregor, Muncey.....	350
Jilts Butterfly, C. Vanderwater, Belleville.....	175
Chu Chin Chow, J. F. Stewart, Tilbury.....	100
Crown Diamond, T. W. Douglas.....	400
Sir Mortimer Rosebud, D. Flanningan, London.....	105
Glenlea Beauty, J. Cunningham, Thorndale.....	185
Ramsden Victor, R. Woodworth, Port Burwell.....	135
Broadhooks Prince, Carpenter & Carpenter.....	2,800

**THE FARM.**

**Selecting Seed Corn for Silage Crops.**

By P. L. FANCHER, ONTARIO'S CORN SPECIALIST.

There are a few questions, that every purchaser of seed corn for silage will naturally ask himself. Among these are at least three important ones: Will every kernel grow good and strong? Will it mature in my locality? And will it yield a fair amount of silage? Most of these questions can be fairly well answered by a study of the size and shape of both the ear and the kernel of corn.

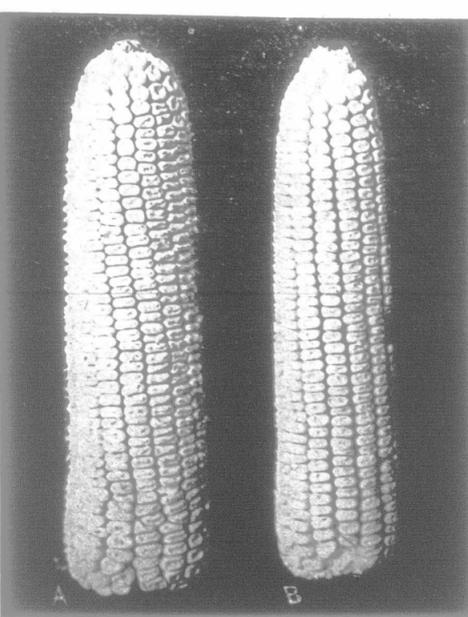
Each variety of corn, when pure, is different from every other variety, but some varieties differ far more than others. Nearly every variety and strain of dent corn grows a stouter stalk than the flint varieties, and most of them grow taller. The same is true in the time required to mature them. Practically all dents are later than the flints. If, however, a dent variety is carefully selected and bred, it can be matured as early as the later varieties of flints; but it will produce a smaller stalk and ear than other later strains of the same variety. Very little of this early dent is sold in Ontario at present. There is often a greater difference in tons of silage produced, between strains of the same variety than there is between two well-bred varieties. Varieties of corn are not unlike breeds of live stock. Take for instance, the well known breed of Clydesdale horses; there are differences in the size and the breeding of them. Some are of the heavy draft type, large, thick, heavy-boned horses, with plenty of substance. There are others that are not so large, and still some others that are smaller yet. These are finer in the bone and slimmer in the body, but may have just as good quality as the heavy horses. They are all pure-bred Clydesdales, but they differ. So it is in corn. There are strains in every variety that produce larger and later ears than other strains of the same variety, and they may be as equally well bred. This difference is due to breeding and selection, the same with corn as with the horse.

The great difference in time of maturity between varieties and strains of corn, is due to the size and shape of both the ear and the kernel, and to the height from the ground that the ear of corn is borne on the stalk. Since we can only know the height of the ear on the stalk from looking at it while growing, we will not discuss that any further, but will study the ears and kernels, which can be seen at the time of buying seed corn.

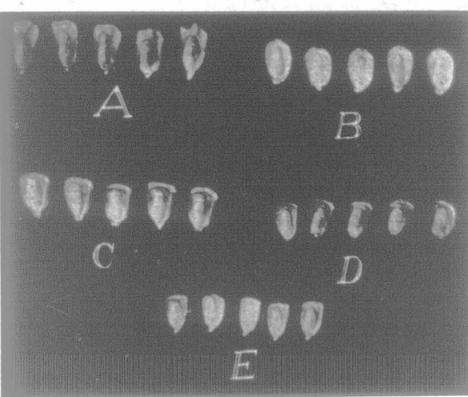
The accompanying photographs of ears and kernels illustrate the differences. The larger the ear both in length and circumference, especially circumference, the later the corn will be in maturing. The slimmer and shorter the ear is, the earlier it will be in maturing. There may be as much as three weeks difference in time of maturity between the largest and smallest ears shown. Then too, the roughness of the dent is a factor controlling maturity. A variety of corn with a rough dent is generally later in maturing than the same size ears not so roughly dented. Look at the kernels from those ears shown. The bigger around and rougher the ear is, the longer and rougher dented are the kernels. The slimmer and smoother the ear, the shorter and less dented are the kernels.

Now these same observations have something to do with the yield in tons per acre, as well as maturity. Generally speaking, a late maturing corn, not only grows larger ears, but also grows larger stalks. The height from the ground that the ear is borne on the stalk is also a controlling factor in yield in tons of silage per acre. This, as we said before, can only be observed from the growing crop. If an early strain of any variety of corn is wanted, choose one that has uniformly slim ears, with good kernels, that are not too long. Guard against any strain of dent corn, that has very short, rounded kernels with little or no dent. These strains as a rule produce small stalks and fewer ears of a good size.

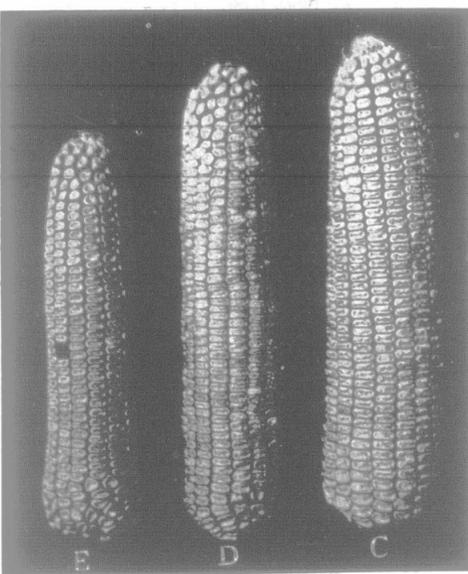
Any variety of corn will germinate well if it has been properly matured and cared for. Then why does corn germinate so poorly some years? It may be due to any one or all of three reasons. It may have been planted too deeply to ever reach daylight. An inch and a half is deep enough if the soil is in good condition and there is moisture at that depth. It may be, that the ground is too wet or gets too much cold rain after planting. This causes the corn to decay. Corn not properly dried in the fall will rot more easily and grow less vigorously all season than corn well dried early in the fall. Then it may be, and more often is, due to the lack of proper drying of the ears early in the fall. There are very few years in Ontario when corn is not mature enough to produce good seed if properly dried. At the time of husking, corn contains a large amount of water, that must be dried out of it before zero weather comes. Corn may be fully mature in the fall, but if it is husked late, or if it is put in too large or too tightly sided cribs, it will not dry out properly. If the corn contains a large amount of moisture, severe winter weather will weaken



Two Strains of Wisconsin No. 7, Showing Difference in Size and Roughness of Dent.



Kernels from the Ears of Corn Marked with Corresponding Letters.



Two Ears of Golden Glow (left) and One Ear of Bailey (right), All Well Bred.

or kill the germ, and turn it a dull color. Good ears of seed corn should be firm and should not twist when gripped in the hands. The kernels should be bright and have a good lustre. The tips of the kernels should never be mouldy nor shrunken. The germs should be broad and long, smooth and of a good bright lustre. This indicates strong vitality. The uniformly broad germs come only from careful selection and breeding. In order to help the purchaser of seed corn, and also the grower of good seed, the Seed Control Act was amended recently and a standard for No. 1 corn is defined as follows: "No. 1 seed corn whether on the cob or shelled, when sold, offered, exposed or held in possession for sale, for seeding in Canada, shall be plainly marked with: (a) the correct variety name, and (b) the Province or State where grown. "No. 1 seed corn on the cob shall consist of sound, well-developed ears that are reasonably uniform and

typical specimens of variety named, shall be well cured and shall be capable of germinating at least 95 per cent. "No. 1 seed corn shelled shall consist of sound, reasonably uniform and typical kernels of the variety named, shall be well cleaned and graded, shall contain not more than 16 per cent. moisture, and shall be capable of germinating at least 95 per cent." Every purchaser of seed corn should know and demand the per cent. germination of the corn to be bought, as determined by an official test. Good seed corn should grade No. 1 as defined above.

**An Agricultural Conference at Ottawa.**

A successful conference was held at Ottawa, on March 17, 18 and 19, when the Deputy Ministers of Agriculture and heads of various branches in the provinces met the Federal officers and engaged in an open and frank discussion of the whole work conducted by the Dominion and Provincial Departments. There has been no definite line drawn in the past between federal and provincial work, and in fact the line is not any too distinct yet, but certain principles were laid down and endorsed by the representatives and these will form the basis of an understanding between the federal and provincial departments. Toward the end of the conference several resolutions were introduced which crystallized the opinions and conclusions into concrete form, and they will direct, no doubt, the future activities of the Federal and Provincial Governments along agricultural lines.

The sessions were presided over by Dr. J. H. Grisdale, Deputy Minister of Agriculture, Ottawa, and the Minister, Honorable Dr. S. F. Tolmie, was present much of the time, taking a deep interest in the deliberations of the delegates assembled.

One of the big questions before the conference was the matter of experimental and research work and who should conduct it. After a free and open discussion of the matter it was finally decided that it was necessary to continue the investigational, experimental and research now carried on at the provincial agricultural colleges but work of this nature detached from the colleges should come under the jurisdiction of the Federal Department. All were agreed that the provincial authorities should be consulted, however, and provision was made, in the resolution covering this subject, for provincial advisory councils. Live stock and field crop topics were given a great deal of prominence and no problems arose in connection with the extension or administration activities of the federal or provincial departments that remained unsolved for want of a co-operative or tolerant spirit on the part of officials present. The conference was a decided success and will do much to harmonize the departmental activities of the Federal and Provincial Governments.

**Canadian Seed Growers' Annual Convention.**

The annual convention of the Canadian Seed Growers' Association was held at Ottawa on Saturday, March 20, with the President, Dr. James W. Robertson, presiding. The attendance was small and was no index to the importance of the Association, or the good work it is doing in maintaining the purity of our seeds and distributing them throughout the country. Members of the Association are scattered throughout Canada, from ocean to ocean, and distance prevents many from attending, unless they are officers whose presence at the annual meeting is a necessity. Honorable Dr. S. F. Tolmie, Federal Minister of Agriculture, was present and expressed his appreciation of the good work the Association is doing. The Minister stated that he was interested in good seed, and realized its importance to the country. He paid a tribute to plant breeders, and said they had never been given the prominence they deserved nor had they been recognized sufficiently for their good work in the interests of agriculture. "They are the Cruickshanks of the seed business," the Minister said. Dr. J. H. Grisdale, Deputy Minister of Agriculture, spoke briefly. He referred to the strategic position occupied by Canada in the markets of the world, and said that we needed a campaign for good and better seed. George H. Clark, Seed Commissioner, commented on the success of the Seed-Purchasing Commission, and said that in future it might well be a part of the work of the Canadian Seed Growers' Association. Mr. Clark discussed briefly the achievements of Canada in producing her own root and vegetable seeds, and said that now ninety-five per cent. of the turnip seed required in Canada was produced at home. He furthermore opined that British Columbia would become "the seed garden of North America." The Seed Commissioner also introduced an important resolution making it possible to multiply from pure foundation seed without requiring mass selection. As a substitute for the selection which has been a rule of the past he suggested rouging. This matter was left with the Committee with power to act.

The Secretary of the C. S. G. A., L. H. Newman, read a very long and comprehensive report, which covered fully the work conducted during the past year, and which contained also suggestions for future activity. One of these suggestions was the centralization of the registered seed trade in the West through the medium of elevator facilities, where the seed could be received, cleaned, bagged and dispatched to purchasers. The Secretary's report furthermore revealed a growth in memberships and enthusiasm among producers of pure

seed. Last year 1,111 farmers purchased registered seed for use on their farms.

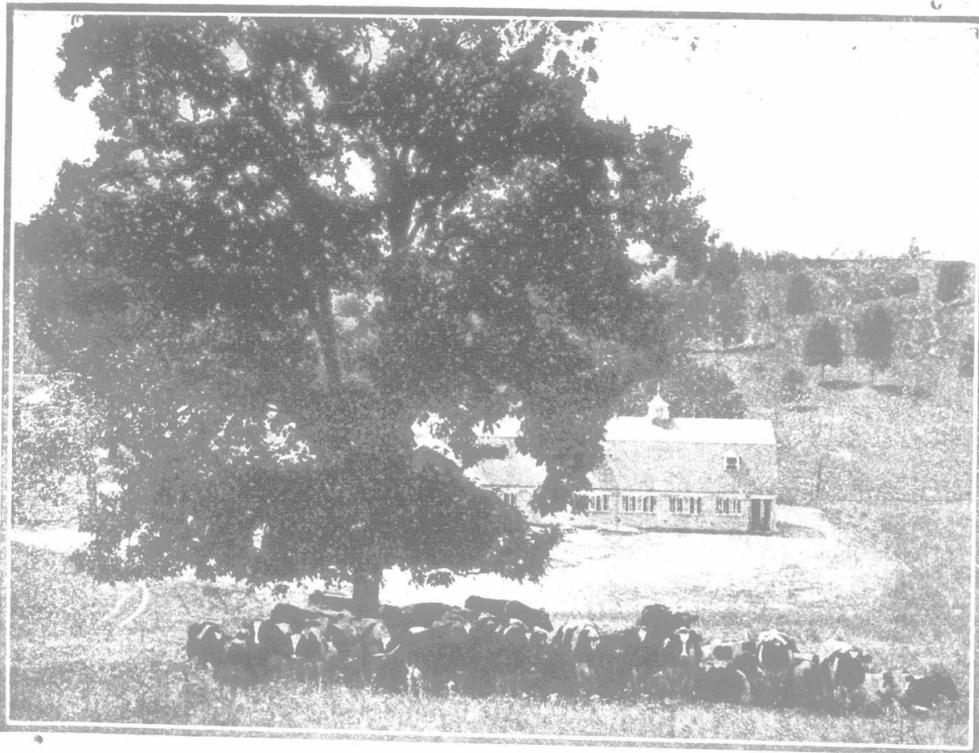
Dr. James W. Robertson was again elected President, and the directors are: G. H. Hawden, British Columbia; Prof. G. H. Cutler, Alberta; Prof. G. H. Bracken, Saskatchewan; George Dow, Manitoba; Justus Miller, Ontario; R. Summersby, Quebec; W. Palmer, New Brunswick; Dr. M. Cumming, Nova Scotia; W. McGregor, Prince Edward Island; and Saegar Wheeler, Saskatchewan. L. H. Newman, Ottawa, is the Secretary.

## THE DAIRY.

### Perth District Holsteins.

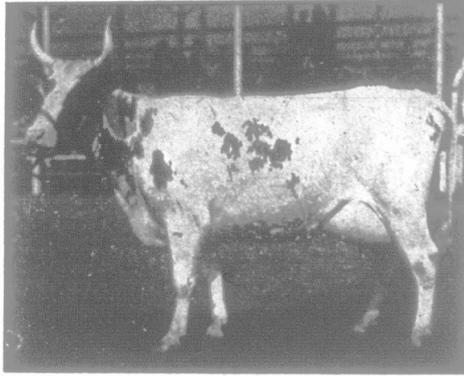
The Perth District Holstein Breeders held their third annual sale in the city of Stratford, on Wednesday, March 24, and while there were no sensational prices reached, the splendid average of \$228 was made on the 40 head offered. Twenty cows, three years old and over, sold for \$5,380, an average of \$269, and 13 heifers, two years and under, made an average of \$223. There were 7 young bulls, most of which were from low-record dams, and these brought \$910. The total proceeds for the day were \$9,195. Georgina Grange, a six-year-old daughter of Homestead Colantha Sir Abbecker, made the top price for the day. She had a 16.84-lb. seven-day butter record, made as a junior two-year-old, and she went to the Department of Soldiers' Civil Re-establishment, at \$370. Following is a list of the animals sold for \$100 and over, together with the names and addresses of the purchasers:

Countess Calamity, W. N. Jeffrey, St. Paul	\$250
Alcartra Butter Princess, J. S. Granter, Southampton	305
Nora Lyons, J. R. Archibald, Seaforth	190
Artis Posch Pietje, S. Adolph, Gowanstown	155
Greenfield P. W. Lass, Robt. Dunn, Owen Sound	250
Georgina Grange, Dept. Soldiers' Civil Re-establishment	370
Neirop Netherland Alcartra, E. J. Eckert, Sebringville	340
Snowball Grange, Dept. Soldiers' Civil Re-establishment	215
Perrina Butter Girl, J. S. Trawter, Southampton	310
Mercena De Kol Scott, H. Morrow, Stratford	245
Fineview Pontiac Colantha, T. Wood, Mitchell	180
Belle Favorit Fayne, H. Thistle, St. Paul's	290
Jewel Pontiac Schuiling, Jas. Finnegan, Stratford	225
Sunnyside Alcartra Lad, Jas. Newbigging, Atwood	125
Sadie Pietertje Calamity, Geo. Jackson, Stratford	210
Sunnyside Alcartra Susie, Dept. Soldiers' Civil Re-establishment	200
Nettie Ormsby Mechthilde, C. Ruby, Tavistock	220
Bull, J. J. Innes, Stratford	100
Vina Korndyke De Kol, Fred Dunseith, Stratford	250
Schuiling Maid Girl, W. D. Grey, Newton	220
Sir Scott Mercena, Jas. Smith, Stratford	100
Gipsy Abbecker Baroness, F. Willows, Carlingford	260
Alice Schuiling Korndyke, G. T. Thistle, Stratford	185
Sunnyside Alcartra Polly, A. Steinacker, Stratford	145
Imperial Segis Calamity, John Hargraves, Listowel	155
Patricia Ormsby Mechthilde, C. Ruby	245
Jlena Mechthilde, G. T. Thistle	180
Mechthilde Beauty Wayne, W. Bolton, St. Mary's	200
May Pontiac De Kol, Dept. Soldiers' Civil Re-establishment	280



A Splendid Herd of Holsteins Amid Attractive Surroundings.

Duchess Pontiac De Kol, S. R. Jermyn, Granton	140
Marigold Grange, Dept. Soldiers' Civil Re-establishment	280
Della Pontiac De Kol, Dept. Soldiers' Civil Re-establishment	280
Rosarden Segis Josie, Geo. Wickie, Sebringville	285
Rosarden Ann Posch, Dept. Soldiers' Civil Re-establishment	310
Rose De Kol Snowball, Otto Nickel, Gowanstown	200
Rose Grange, Dept. Soldiers' Civil Re-establishment	350
Colanthus Zozo, Dept. Soldiers' Civil Re-establishment	275
Lady Jane Dewdrop, J. Archibald	230
Perrina Favorit Butter Girl, T. A. Trick, Clinton	270



A First Prize Three-year-old Ayrshire Female at Toronto.

### The Oxford Club Sale.

At Woodstock, on Wednesday, March 17, the Oxford District Holstein Breeders' Club held their annual spring sale and disposed of 59 females and 12 young bulls, for which they realized the splendid sum of \$18,535, making a general average of \$261 throughout. Forty-one cows, three years old and upwards, made an average of \$290; 18 heifers, two years and under, averaged \$233.50 and the 12 young bulls made an average of \$203. The top price for the day was bid on the seven-year-old 25.28-lb. daughter of Brookbank Butter Baron, Victoria May. She was consigned by Jas. G. Currie, of Ingersoll, and went to Wm. Robinson, of Williamsburg, at \$500. Mr. Robinson secured seven head, for which he paid an average of \$390 per head. He was by far the largest purchaser for the day. The top price in bulls was paid by Hugh Mitchell, of Niagara Falls, who purchased the year-old calf, Prince Colantha Echo, from A. E. Cornwell & Son's consignment, at \$325. This calf was sired by Prince Echo Sylvia, a grandson of May Echo, and his dam was a 19,456-lb., R. O. P., three-year-old granddaughter of Dutchland Colantha Sir Abbecker. Mr. Mitchell may well feel that he secured the bargain of the sale. Following is a list of the animals selling for \$100 and over, together with the names and addresses of the purchasers:

FEMALES.	
Woodside Lady Aaggie, Wm. Robinson, Williamsburg	\$475
Ormsby Beauty De Kol, E. Nevill, Woodstock	275
Gretqui Colantha Keyes, Haley & Lee, Springford	285
Dolora De Kol, A. N. Chalmers, Salford	305
Bessie of Belleview, E. Nevill	285
Countess Ladoga Mercena, Wm. Robinson	440
Nora Faustina, Ernest Young, Woodstock	210
Belle Favorit Mercena, D. W. Osmond, Ingersoll	165
Princess Jongste Ormsby, Wm. McGee, Woodstock	340
Rain Bow Delmar, J. D. Sibbald, Sutton West	200
Boutsje Pietertje Korndyke, C. W. Haeger, Port Robinson	295
Lady Boutsje Alcartra, N. Cocker, Woodstock	330
Korn Canary, W. A. Kerr, Hamilton	240
Oceola Shadeland, W. C. Prouse, Tillsonburg	450
Ena Alcartra Netherland, W. F. Hodges, Woodstock	295
Alfaretta Posch De Kol, John Loney, Newton	285
Baroness Mercedes Pansy, F. H. Peer, Norwich	255
Anna Mercena, J. D. Sibbald	300
Anna Princess Mercena, Biggar Bros., Oakville	225
Victoria May, Wm. Robinson	500
Bluebell Wayne Jongste, J. Hodgins, Welland	250
Abbecker Gray Lass, B. B. McCarty, Thamesford	275
Canary De Kol Albino, R. S. Gillespie, Innerkip	210
Colantha Beauty, C. W. Haeger	440
Ivy Lodge Rose Posch, E. Nevill	250
Ivy Lodge Rose De Kol, N. Cocker	285
Dot's Segis, B. H. Pullin, Ingersoll	250
Dot's Pride, Chas. Orum, Woodstock	265
Pauline Calamity Mercena, Wm. Robinson	335
Patsy Hengerveld, R. Taylor Jr., Woodstock	170
Cornelia Pontiac Segis, J. H. Schell, Woodstock	210
Pauline Pontiac Netherland, E. Nevill	230
Lowlands Pontiac Colanthus, R. W. Bedford, Chatham	215
Queen Pontiac Canary, E. Readhead, Eastwood	250
Calamity Belle Butter Girl, J. H. Turner, Milton	170
Pauline Aaggie Beauty, W. C. Prouse	180
Pioneer Aaggie Hartog, J. D. Sibbald	365
Pioneer Snowbird Wayne, Robt. Bowie, Beachville	260
May Pride De Kol, J. D. Sibbald	240
Molly Mercena De Kol, N. W. Gould, Woodstock	300
Nogi Isabella Walker, Chas. Orum	300
Pauline Butterfly De Kol, Russell Bryant, Strathroy	240
Cora Grey 2nd, Wm. Robinson	270
Korndyke of Campbelltown, Wm. Robinson	300
Ivy Lodge May, Chas. Orum	290
Baroness Klondyke, Chas. Venning, Mossley	185
Lady Segis Colantha, N. Cocker	280
Baroness Lucy Hengerveld, Biggar Bros.	190
Kate Mechthilde Butter Baroness, Wm. Prouse	215
Pauline Colantha Abbecker, A. E. Hulet, Norwich	400
Lottie Calamity Posch, Wm. Robinson	410
Center View Lady Colanthus, Ross Smith, Oxford Centre	285
Nina Mercena Posch, Biggar Bros.	250
Irish Molly 2nd, E. Nevill	105
Bleske Cornucopia May, F. H. Peer	230
Nancy Korndyke Segis, J. D. Sibbald	175
Daisy G. Mercedes, J. D. Sibbald	255

MALES	
Albert Canary Sylvius, Roy Siddell, Denfield	270
Colantha Fayne Cornucopia, Geo. Yeo, Innerkip	140
Sir Hartog Netherland, W. F. Hodges	180
Alcartra Champion Keyes, W. H. Kerr, Hamilton	180
King Lyons Joe, Carmichael Bros., Ilderton	295
Prince Colantha Echo, Hugh Mitchell, Niagara Falls	325
Sovereign Alcartra Keyes, L. Walton, Innerkip	150
Prince Abbecker Colanthus, R. McLeod & Son, Embro	185
Midnight Butter Boy, A. Small, Putnam	150
King B. B. Fayne, Russell Sage	130
Echo Sylvius, Alex. M. Davidson, Newton	250
Sylvius Echo, Chas. Orum	250
Prince De Kol, Colantha Posch, A. E. Bishop, Norwich	145
Baron Mechilde Schuiling, B. B. Kipp, Woodstock	110

### Glenroe Farm Holstein Sale.

On Thursday, March 18, F. V. Heeny, of Ingersoll, held a dispersion sale, when 32 head of high-quality Black and Whites went under the hammer. This was one of the best Holstein sales of the season, especially when it is considered that there were very few high records. The cattle were in the pink of condition and extraordinary fit. So carefully groomed were they that not a stain was to be seen on their bodies. Bidding was brisk at all times and remunerative prices were obtained. The highest priced animal of the sale was Gray De Kol Colantha, a five-year-old cow, due to freshen in April. She was sired by Sir Colantha Dewdrop, tracing to Dutchland Colantha Sir Abbecker. She was secured by W. Prouse, of Tillsonburg, at \$455. The Provincial Secretary's Department secured five head for their farms. These were good individuals with indications of heavy milk production. Following is a list of the animals selling for \$100 and over, together with the names and addresses of the purchasers:

King Marion Midnight, Robt. Harris	\$125
Glenroe Segis Alcartra, Wm. Batten	150
Glenroe Calamity De Kol, Geo. Way, Ingersoll	300
Snowball Alcartra, J. W. Nichol, Ingersoll	200
Johanna Wayne Keyes, W. Prouse, Tillsonburg	405
Christabelle Snowball, Wm. Batten	435
Queen Keyes De Kol, Provincial Secretary's Dept.	195
Queen Segis Dewdrop, W.E. Thompson, Woodstock	300

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Table listing names and prices for various items, including Grace De Kol Korndyke, Wm. Batten, Gray De Kol Colantha, W. Prouse, Segis De Kol Canary, Wm. Batten, etc.

Table listing names and prices for various items, including Dora Pontiac Korndyke, E. B. Martin, Daisy Korndyke Clyde, Mr. Ballantyne, Listowel, Dora De Kol Beet, A. E. Smith, etc.

Meadow Park Farm Holsteins.

Russell Bryant, Strathroy, recently disposed of his fine herd of Black and Whites. Comparatively few of the animals had been officially tested, but they had every indication of being able to produce a large flow of milk.

The breeding was popular, and bidding was brisk throughout the sale. Scarborough Beauty, an eight-year-old cow, topped the sale at \$420. She was purchased by E. Grier, of Woodstock.

This cow had great substance and has given 60 pounds of milk per day with ordinary care. Her owner believed that she was capable of doing considerably better if pushed for a record.

The purchasers got good value at Mr. Bryant's sale, as many of the cows will undoubtedly make creditable records when put on test. Following is a list of the animals selling for \$100 and over, together with the names and addresses of the purchasers:

Table listing names and prices for various items, including Margaret Hengerveld, John Tracey, Woodsley, Calamity Hengerveld Daisy, Mr. Ramsey, Strathroy, Victoria Starlight, Ed. Dunn, Woodsley, etc.

Peterson Holstein Sale.

On March 23, Gordon Peterson, of Elmira, disposed of his herd of 65 head of Holsteins at a high average, especially considering that the animals had not been tested. They were, however, in good condition and had excellent backing, therefore in all probability they will give a good account of themselves when put on official test.

The heifers and cows which had been bred made an average of \$255, while the yearlings, including calves born previous to July 15, averaged \$142. There was a large crowd present, and bidding was brisk throughout the entire sale.

The top price of the sale was \$455, paid for Minnie De Kol Mercedes by C. Trietz, Listowel. She was a three-year-old heifer of rare quality, carrying her second calf. The following is a list of the animals selling for \$100 and over, together with the names and addresses of the purchasers:

Table listing names and prices for various items, including Mundella Grace Fayne, J. B. Bingeman, Bloomingdale, Floss Korndyke Clyde, J. H. Dickson, Atwood, Marjorie De Kol Clyde, C. Fritz, etc.

Starting the Dairy Calf Right.

Notwithstanding the very great value of pure-bred animals and the specific advantages herds of pure breeding have over nondescripts on even good grades, it is probable that the process of grading-up herds will remain the most practicable for the average dairyman for many years.

The necessity for giving the calf a good start arises from the fact that the growth it gets during the first year will depend to a considerable extent upon the start it gets during the first month of its life. There is some difference of opinion as to when the calf should be taken from its dam. Some will declare themselves in favor of taking it away immediately it is dropped, while others, equally successful, prefer to leave the calf with the dam for three or four days.

All are agreed, however, that the calf should have the first milk from the cow and, in fact, where this is not done, the owner lays himself open to many serious difficulties, chief among which is white scours, a very pernicious and persistent malady. Generally, however, it seems better to leave the calf with the dam for about three days before separating the two, but the really essential thing is that for at least this period the calf should have its mother's milk.

The first milk, or colostrum, possesses some product or ingredient that seems absolutely necessary to stimulate the digestive machinery of the calf into operation. One should be careful not to allow overfeeding and this probability, together with the argument that calves learn more readily to drink if never allowed to suck the cow, are the two main reasons why many dairymen take the calf away from the cow at once.

In many instances cows suffer from caked udder immediately after calving and in such cases leaving the calves with them will assist materially in reducing the inflammation. The calf, however, should not be allowed to overfeed and gorge itself from the dam because this is one of the causes of common scours or indigestion and it is doubtful if a calf can take all the milk it can hold and keep healthy. The cow should be stripped clean after the calf has sucked, particularly if she is a heavy milker.

When taken away from the dam no method of teaching it to drink has been found superior to using the fingers immersed in the milk, and the lesson will be made much easier if the calf is allowed to get really hungry before hand. The difficulty with calf feeding devices, nipples, etc., is that they are apt to be positively dangerous unless they are kept scrupulously clean, but under proper conditions it is possible that they may aid digestion somewhat for the first two months. After this time, experiments have failed, so far as we know, to show any benefit from them.

The newly born calf has a small stomach and naturally, therefore, takes only a small quantity at a time. Feeding three times a day is for this reason preferable

to twice a day, and where cows are milked three times daily, the extra feeding will occasion little trouble. At first 5 or 6 pounds daily is sufficient for the ordinary calf and best results are always secured when the calf gets the milk fresh and at blood heat. Keep the calf a little hungry, but do not expect it to thrive in too much hunger; by which we mean that the individual should be watched, and the milk allowance increased gradually to suit the size and vigor of each animal.

If whole milk is available it is better not to begin substituting with skim-milk until the calf is from a month to six weeks old, but in many cases it is necessary to begin at from 2 to 4 weeks. The change should not be made rapidly and should extend over at least ten days, replacing the whole milk with from a half to one pound of skim-milk daily. Very rarely, where the whole milk is exceptionally rich, it may do no harm to dilute with a little skim-milk from the first. As the skim-milk is substituted it becomes necessary to provide a substitute also for the fat in the whole milk. Bulletin 253 of the Ontario Agricultural College says that for this purpose flax seed jelly is best and that this is made "by simmering a pound of ground flax seed in three quarts of water or by boiling one pound of ground flaxseed in a gallon of water until a thick jelly is formed."

Add at first a tablespoonful of this jelly to the milk, gradually increasing the amount until at the end of a month, a half cupful may be fed at each feed. The Central Experimental Farm, Ottawa, recommends a mixture of one part ground flaxseed, two parts fine, sifted cornmeal and two parts finely ground, sifted oatmeal for the same purpose. This mixture should be boiled and allowed to stand covered for twelve hours. One eighth of a pound daily may be fed of this mixture after the calf is a month old, the amount being gradually increased until one-half pound daily is being fed.

Henry, in his book on "Feeds and Feeding," says that calves will begin to eat hay at about the same age that they first eat grain, consuming nearly the same quantity of each at first. With increasing age the paunch or first stomach of the calf increases in size, so that the proportion of roughage in the feed should be increased until at the age of six months it will consume about three times as much hay as grain. Bright, early-cut hay, that is fine and leafy, is best for the calf because legume hay is more palatable than hay from a non-leguminous crop. Calves are likely to gorge themselves and develop stomach troubles if allowed to feed too heavily on alfalfa or red clover. It is a good idea to feed these hays in limited amounts, or else have it before them all the time so that they do not overfeed. It is advisable also, to encourage a heifer to eat a good quantity of hay, because the use of plenty of roughage assists in developing a large digestive tract, which is so necessary and desirable in the dairy cow. One should, however, be careful that the calves clean up their roughage after each feed, and the mangers should be cleaned thoroughly. It is also a good plan to feed the calves their roughage in the middle of the day so that the stomach will not become crowded with too great a bulk of feed morning and evening, when the milk and grain are fed. Silage may be fed when the calves are from six to eight weeks old, but it should be sweet and free from mold. A good idea is to offer only the leaves at first, and pick out all the ears or coarser parts. Some authorities recommend feeding two pounds of silage daily for calves old enough to eat roughage, and from five to ten pounds daily along with the dry roughage for older calves. Silage is useful in providing some succulence in the ration, and when roots are available they are a most satisfactory feed for the same purpose.

With regard to concentrates for calf feeding, there is probably nothing better than equal parts of bran and whole oats, fed in addition to the flaxseed or other feed in the milk. There are many different combinations of feeds for calves, the following mixture being the one used by a very successful feeder. It is made up of 100 lbs. of oat chop, 100 lbs. of bran and 25 lbs. of oil cake, fed at first to the extent of about a pound a day. Other mixtures that have been recommended, and may be more practical for certain conditions, are whole oats and corn chop. The latter gradually replaced by shelled corn in four to six weeks; whole oats, ground barley and bran; a mixture of 20 lbs. of cornmeal, 20 lbs. of oatmeal, 20 lbs. of oilmeal, 10 lbs. of bloodmeal, and 5 lbs. of bonemeal, changed to corn, oats and bran when the calves are three months old, or a mixture of 5 lbs. whole oats, 3 lbs. bran, 1 lb. of cornmeal, and 1 lb. of linseed meal. Henry recommends teaching a calf to eat concentrates, when it is from one to two weeks old, by placing such feeds as cornmeal, ground sifted oats, wheat bran, linseed meal, etc., in the bottom of the pail after the calf has finished drinking his milk. It is not advisable to add the concentrates to the milk. Sometimes a calf that is slow to take to concentrates may be given the taste of it by rubbing a little on its muzzle, but after once learning to eat grain or meal these feeds should be fed in a dry box, which is cleaned out regularly. At six weeks of age the calf will usually eat a half a pound of concentrates a day, increasing to a pound in another two weeks, and to two pounds daily at three months.

Bulletin 253 of the Ontario Agricultural College advises against the pasturing of calves under six months old, and warns dairymen against feeding skim-milk too heavily. The following two paragraphs are quoted:

In feeding calves, it must be remembered that skim-milk must be more carefully fed than whole milk. Lacking, as it does, the natural butter-fat, an overdose is almost certain to bring on indigestion and scours. If fed cold, when calves are used to warm milk, the same difficulty occurs. Care must also be exercised

in keeping the pails clean and sweet. Sour skim-milk can be safely fed after the calf is about three months old, if the calf is gradually made accustomed to it and it be fed entirely. Though skim-milk is the best feed on which to rear calves, sweet whey can be used, if the change is gradually made from milk to whey and the flaxseed or other jelly added the same as to skim-milk. Where neither whey nor milk can be procured, the use of hay tea has been found of help. This is prepared by boiling cut clover or timothy until a strong tea is obtained. This is fed exactly the same as milk. Calves may profitably be kept on skim-milk or whey till six or seven months old, and if extra size is desired it may be kept up until ten months.

The pasturing of calves under six months old is not to be advised. The digestive system of the calf requires feed in more concentrated form than does the older animal. Grass, therefore, has so much bulk in comparison with the nutrients supplied, that the calf's system cannot handle it economically until developed by age. Moreover, the thin skin and fine hair of our dairy calves cannot well stand the blistering effect of the sun and flies when pasturing in the open. The calves will do much better if kept in a dry pen or shed, where they can be conveniently fed. If the pen is darkened during the heat of the day, the flies will not cause much trouble. When, however, they have reached the age of six months, and the worst of the heat is over, and pasture plentiful, calves will do well to be turned out, and exceedingly well if the feeding of milk and a little grain (say one or one-and-a-half pounds each, per day) be continued for a month. Calves that have had a run at pasture during the fall months usually get thin, but seem to feed and grow better during the ensuing winter, than if kept stabled the entire first year.

## THE APIARY.

### Moving Bees.

EDITOR "THE FARMER'S ADVOCATE":

Young bees when they first start out, or old ones on the first flight of the season after a winter's confinement, hover in the air above the entrance, take a careful survey of surroundings, making wider and wider circles and each time taking in new objects by which they may familiarize themselves with the home. When the location is once carefully marked they will go back and forth without taking any note of distinguishing objects, but when the hive is moved only a few feet there is apparent consternation and confusion. One cannot, therefore, move his bees a few feet or a quarter of a mile without having the greater part of them go back to the spot, unless treated by other plans. Some strains of black bees when moved will find their hives. The bees lost perish, or possibly get into some other hive near their old location, with the result that there is a fight and many bees killed.

If one desires to move his bees, and wished to take them at least a mile and a half or two miles away, the problem is quite easy, for then they will stay wherever they are placed. As soon as they are liberated in their new position they will mark the location as thoroughly and carefully as when taking their first flight. After that they will go to and from the same spot as if it had always been their home. But to move bees from the front to the back yard, or from a fourth to a half a mile, is not so easy. They are familiar with the whole range of flight within a mile of the old stand, and when they go over their old hunting ground, so to speak, instead of returning to the hive from which they have just come they will return to the old location. How then shall we make them stay where placed? One way, and the very best one, is to wait till fall or winter, and after they have quit flying for the season move them to the spot desired. If they are confined a week or two weeks by cold weather, or longer, they will mark their new location and go back to it as their regular and permanent home. It will be better still if they can be confined for several months in the cellar; then when they are put out again in the spring place them in the new location; for it is well known that cellared bees can be placed anywhere the following spring without reference to their old stands. Wherever they are placed they will mark their location, and that must be their fixed position for the season.

#### MOVING THE BEES IN SUMMER.

But suppose it is in the midst of summer and for some reason the bees must be moved a few rods from their old location. Perhaps complaint is made that the bees in the front yard are interfering with passers-by, and to avoid trouble it seems desirable to move them to the back yard. In an emergency of this kind the following plan may be used: Tack wire cloth over the entrances, carry the hives down cellar and keep them there for at least five days, and longer if they appear to be quiet. While the bees are in the cellar, change the surroundings in the front yard, or in the old location, as much as possible. After the bees have served out their allotted time of confinement, put them in the back yard in the same order as before, if it can be done conveniently. While some of the bees may perhaps go back, the great majority will stay in their new location. Those that do return should be given a frame of brood in a hive, and when they have clustered on it they should be taken to the new location and dumped in front of the entrance to the hive. If the bees are confined during cool or rainy weather, when they cannot fly, there will be no loss of honey that might be gathered from the field. While the bees are confined in the cellar a

sharp watch should be kept on them to see that they do not suffocate, and, if practicable, the whole top of the hive should be covered with wire screen.

There is still another method, and wherever it is practicable to carry it out it is better than carrying them into the cellar; that is, move the bees to a point a mile and a half or two miles from the old location. Let them stay there two or three weeks, then move them back. But this involves considerable labor, so that the average person would not think it practicable. Another plan that has been spoken of very favorably, and possibly may be better than any of the others mentioned, is this: In the cool of the morning, or at any time of the year when no honey is or has been coming in, colonies may be moved a few feet or a few rods with very little trouble. The hives are put on a wheelbarrow early in the morning, and trundled as roughly as possible after smoking at the entrance, clear over to the new location, for it is important that the bees get a general shaking up in moving. If the frames are self-spacing there will be no harm done to the bees or combs. The hive is set down on its new stand, when it is given a little more smoke. Any number of colonies can be moved in this way, but the moving should be done at once and the old location should be changed in appearance as much as possible. Very few bees will go back when so treated. But here a precaution must be taken. The bees should not be moved a short distance when a honey flow is on or has been on for two or three days. When they have been going regularly to the fields for a number of days they get their location well fixed, and it is almost impossible to move them short distances at such times without a general returning of field bees to the old stands. A certain person said that he attempted to move bees to a neighboring lot when the honey flow was on, and he said he never saw crosser bees in his life. When, therefore, a neighbor complains that the bees are interfering with public traffic along the highway, and they must be moved at once, one must take into consideration whether there is a honey flow on or not. If so, an explanation should be made that moving bees at such times will only make the trouble complained of much worse.

Another plan has been tried that gives good results, but this, like the other, must not be attempted when a honey flow is on. Move the hive a few inches a day, and each time make a bigger jump than the one preceding. After the bees have been moved in this way from two to five times they learn to expect a change in location, and therefore will hunt out their hive wherever it may be. Sometimes in such moving it is advisable to put up a board against the entrance, just after moving, in order to arrest the attention of the bees when they come out. This forces them to mark their location anew.

Ordinarily, as a matter of convenience, the bees should be moved in the cool of the morning, when no honey flow is on, giving the bees as much of a shake-up as possible, but, of course, not violent enough to break the combs.

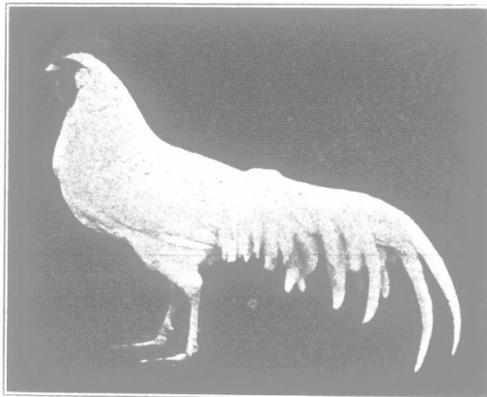
York Co., Ontario.

M. A. BOAC.

## POULTRY.

### The Egg Type in Hens.

Expert poultrymen are coming to the conclusion that there is a distinct egg type in hens, by which with a knowledge of the indication of good egg laying ability an experienced poultryman or a careful amateur may fairly accurately arrive at the usefulness of an individual by a careful physical examination. The following



A White Leghorn Cockerel.

Owned by M. V. Millar, Wellington, Co., Ont.

score card and explanation has been put out by the American Association of Poultry Instructors and Investigators after a thorough discussion and examination of about one thousand hens of known ability, by each one of several practised poultrymen. It is therefore worthy of careful study and examination by all who keep poultry for egg production. It will be noticed that 300 eggs yearly is considered to be perfection in egg production and that the comparative egg production values of each point in the score card are given, as well as the corresponding percentage value awarded to each point.

SCORE CARD.		
	Perfection	Egg Production Value
Body type (as seen in coop or on floor).....	25	75
Head and Adjuncts.....	15	45
Body Conformation (as determined by handling).....	30	90
Handling Quality.....	10	30
Legs and Toes.....	5	15
Condition.....	15	45
Total Perfection Score.....	100	300

The above score card is designed to apply to hens, as well as to pullets. In applying the above score card the following descriptions of the various sections will aid in a common understanding of the various ideals sought for.

#### BODY TYPE 25 POINTS OR 75 EGGS.

A bird of good body is usually well balanced in that the body itself must be deep, showing a nearly rectangular form, well developed in breast and abdomen. Great depth of body is especially desirable, but depth due to loose featherings as shown by loose thigh feathers does not count. Cochins and exhibition game type and feathering are usually associated with poor production. Large capacity is essential if a hen is to lay long and heavily. Such capacity is designated by a body that is deeper at the rear end of the keel than at the front end when in laying condition. The underline should be fairly straight and the back should be comparatively horizontal. Prominent breast development, with evidence of a long keel are desirable qualities in a high producing hen. The general body conformation of a heavy producer conforms very closely to a rectangle with pronounced angles rather than smooth curves. A male shows the same general characteristics as a female except that the abdomen is not so deep.

A small capacity hen generally stands erectly. The body is either very shallow and cut away at the breast and abdomen or in the case of beefy individuals, the abdomen shows a pronounced sagging at the rear of the keel due to large accumulation of fat. Extremely poor producers frequently show a hump on the back.

#### HEAD AND ADJUNCTS 15 POINTS OR 45 EGGS.

One of the best indications in picking high layers is the fineness of the head. The head of the heavy producer is fine, showing a lean face, free from wrinkles and over-hanging eyebrows. The wattles and ear lobes fit close to the head and are not loose and flabby. The face is clean cut, the eye is full, round, and prominent, especially when seen from the front. An eye which gives a clean cut wide-open appearance is desirable. The eye-ball of the heavy producer is generally set in the rear of a large oval socket, showing considerable of the white eye membrane in front of the eye-ball. The head of a heavy producer should be well balanced, being moderately deep and broad. The extremely fat, full head of the beefy bird and the long, thin pointed head of the low vitality bird are both undesirable and should call for heavy cuts in this section. The low producing bird generally shows a depressed eye with overhanging eyebrows and wrinkled skin at the back of the eye. The extremely long, sharp beak is usually possessed by the low producer, while the medium stout, moderately well-curved beak is characteristic of the high producer.

#### BODY CONFORMATION 30 POINTS OR 90 EGGS.

When taken in the hands a heavy producer will show, by the sense of touch, great depth of body, especially at the front and rear of the keel bone. The keel must be moderately straight, relatively long, and carried well back. The space between the pelvic bones and the keel must be free from excessive accumulations of fat. Birds which are laying heavily can be readily detected by the development of the abdomen. Such birds will show pelvic arches which are widespread and a keel which is forced down away from the pelvic arches so as to give large capacity.

The poor producer generally shows a shallow body especially at the front of the keel; a small shrunken abdomen, together with all evidences of small capacity.

#### HANDLING QUALITY 10 POINTS OR 30 EGGS.

The skin of the heavy producing hen is thin, soft and pliable, especially the skin on the abdomen must be thin and loose. The skin of the poor producer is generally thick, hard, and rather coarse to the touch. The thin velvety skin is almost always associated with heavy ovarian activity.

#### LEGS AND TOES 5 POINTS OR 15 EGGS.

The shanks of a heavy producer are flat and smooth scaled, the tendon at rear of shank is prominent and pliable. In hens at the end of their laying year, or pullets which have been laying heavily for some time, the shanks will be bleached out. The toes should be straight and the toe-nails show indication of proper activity. The shanks of the poor producer are usually round, hard, and rather coarse scaled.

#### CONDITION 15 POINTS OR 45 EGGS.

A bird to be capable of highest sustained production must be, first of all, healthy. She must show vigor and activity and be well fleshed. Late moulting in hens is desirable. Early moulting and slow maturing as shown by the primary feathers should be cut severely. Late developing and late maturing usually indicate low

production. I and moulting consideration. health and ma tion.

## HO

### Marking

We have Commissioner, Branch to right 320, of the Fr

### PLANT AN

### APP

Scab or black leaf spot, and other b scale insects and aphids bulletins 187, 250 and 257.

### PE

Scab or cradling moth, mung insects, blister mite, slug. (Con 176, 187, 257.)

### PLUM AN

Black knot, leaf blight, fungus, c aphids and flies (Con 219, 226, and 257.)

### PEA

Leaf-curl, sc spot, ye peach, cu San José s borer. (Con 241, 250 a

### GRA

Black rot, dew, dev anthracno leaf hoppy bulletin 23

### CURRA GOOSE

Mildew, leaf worm, aph and San Jos sult bulleti

### RASPBERR BLACK

Anthraco, crown gal bulletin 21

### STRAW

Leaf-spot and Consult bu

### NOTE.—A1=

A2 =  
A3 =  
B1 =  
B2 =  
C =

production. In applying this section to hens, health and moulting conditions should be given primary consideration. In applying this section to pullets health and maturity should be given primary consideration.

## HORTICULTURE.

### Marking of Fruit in Open Packages.

We have been informed by C. W. Baxter, Fruit Commissioner, Ottawa, that it is the intention of the Branch to rigidly enforce sub-section three, of Section 320, of the Fruit Marks Act, during the coming season.

This sub-section was amended in 1918 to read as follows: "Every person who, by himself or through the agency of another person, packs fruit in an open package, intended for sale, shall cause such package to be marked, before it is taken from the premises where it is packed, with the initials of his christian names and his full surname and address, or in the case of a firm or corporation, with the firm or corporate name and address in a plain and indelible manner, in letters not less than one-quarter of an inch in length. Provided that any co-operative association or person dealing wholesale in fruit may cause the package containing such fruit to be marked with his own name and address; but such packages must also be marked with a number or other mark approved by the Minister which will designate who is the original packer of such fruit."

The season of 1919 was the first time this regulation had been in effect, and we are informed by the Fruit Commissioner that considerable leniency was shown in the enforcement of it, in order that packers and dealers might become fully acquainted with the requirements. A warning is now issued, however, that during 1920 it will be rigidly enforced, and those wishing to market their fruit according to law and in open packages should give this matter their immediate attention. All applications for permission to use numbers or other marks should be addressed to the Fruit Branch, Department of Agriculture, Ottawa. A point of particular importance is that every packer should assure himself that the shipping number or other mark which has been furnished him by the wholesaler, or a co-operative association, has received the approval of the Minister of Agriculture.

## The Spray Calendar for Ontario. Revised Up to date by Professor L. Caesar.

PLANT AND PESTS.	1ST APPLICATION.	2ND APPLICATION.	3RD APPLICATION.	REMARKS.
<p><b>APPLE.</b></p> <p>Scab or black spot, canker, leaf spot, codling moth and other biting insects, scale insects, blister mite and aphids. (Consult bulletins 187, 194, 198, 219, 250 and 257.)</p>	<p>Either before or as the leaf-buds are bursting, preferably the latter. Use A1. For San José Scale prune severely, scrape off loose bark and drench the whole tree. If no San José is present, and not much Oyster-Shell scale, the lime-sulphur may be used much weaker, about 1 gal. to 20 gals. water = about 1.015 specific gravity, or may use B1.</p>	<p>Just before the blossoms open. Use preferably B1 with 1 lb. arsenate of lime, (calcium arsenate) powder or 1 1/2 lbs. arsenate of lead powder or twice this amount of the paste, to 40 gals. of the liquid. A2 may also be used with either of the above poisons, adding in the case of arsenate of lime 2 or 3 lbs. of hydrated lime.</p>	<p>Immediately after the blossoms have all, or nearly all, fallen, and before the calyces close. Use A3 with 2 lbs. arsenate of lead paste or 1 lb. arsenate lead powder to each 40 gals. This is the application for codling moth.</p>	<p>For Scab, a 4th application with weak A3 or B2 about 10 days after the 3rd is necessary if June is wet, also an intermediate one between the 2nd and 3rd with A3, without any poison, if the interval, owing to cool damp weather, threatens to be long. Spraying with B2 or A3 about August 20th is an insurance against sooty fungus and late scab. If Aphids are annually troublesome, delay 1st application till buds begin to burst, then add Black Leaf 40 or nicotine-sulphate 40 per cent. to A1 and cover every bud. For Apple Maggot spray with 2 or 3 lbs. arsenate of lead paste in 40 gals. water, 1st about July 5 and again about August 1. Spray every apple tree. For Cankers cut out diseased bark, disinfect and cover with white-lead paint free from turpentine. For Blight on young trees keep suckers rubbed off trunk and main branches and cut out promptly any diseased branches or twigs well below the diseased bark. Always disinfect both cuts and tools with corrosive sublimate (1 to 1,000).</p>
<p><b>PEAR.</b></p> <p>Scab or cracking, blight, codling moth, other biting insects, scale insects, blister mite, psylla and slug. (Consult bulletins 176, 187, 219, 250 and 257.)</p>	<p>Shortly before or just after the bud bursts. Use A1. For San José Scale see above under Apple. For Psylla postpone this spray till just before the blossoms burst.</p>	<p>Just before the blossoms open. Use A3 or B1, with 2 lbs. arsenate of lead paste or 1 to 1 1/2 lbs. arsenate of lead powder to 40 gals. of liquid. May use arsenate of lime with B1.</p>	<p>Just after blossoms have fallen. Use A3 or B1, with 2 lbs. arsenate of lead paste or 1 lb. arsenate of lead powder to 40 gals. May use arsenate of lime with B1. For Psylla add Black Leaf 40.</p>	<p>Pears subject to Scab should always receive a 4th application 10 days later than 3rd with same mixture. For Blight cut out carefully in winter all blighted branches and twigs, cutting several inches below the diseased part. Also remove and burn trees too severely blighted to save. Throughout growing season watch for and remove promptly in the same way all blighted twigs or branches. Disinfect at once tools and all cuts with corrosive sublimate (1 to 1,000). Arsenate of lead applied about June 15th will kill Slugs on leaves (3 lbs. paste or 1 1/2 lbs. powder to 40 gals.)</p>
<p><b>PLUM AND CHERRY.</b></p> <p>Black knot, brown rot, leaf blight or shothole fungus, curculio, slug, aphids and cherry fruit-flies (Consult bulletins 219, 226, 227, 230, 250 and 257.)</p>	<p>Just before or as the buds are bursting. Use A1. For San José Scale see above under Apple. For aphids on sweet cherries add Black Leaf 40.</p>	<p>Soon after the fruit is set. Use A2 or B1, with 3 lbs. arsenate of lead paste or 1 1/2 lbs. of the powder to 40 gals. For leaf spot Bordeaux seems preferable to lime-sulphur, especially on sour cherries.</p>	<p>Just before the cherries begin to color. Use A3 or B1 with 3 lbs. arsenate of lead paste or 1 1/2 lbs. of the powder to 40 gals. For leaf spot or yellow leaf Bordeaux seems preferable to lime-sulphur, especially on sour cherries.</p>	<p>For Rot keep fruit well covered in moist weather with A3 or B1 or sulphur dust and dust with sulphur without any poison 2 or 3 days before picking. For Cherry Fruit-flies (the cause of the little white headless maggots in cherries) use 3 lbs. arsenate of lead paste to 40 gals. of water on all cherry trees just as Early Richmonds are getting a reddish blush, and again on only Montmorency and late varieties about 10 or 12 days later. Cut out and burn all Black Knots in winter and whenever seen in summer. For Slugs on leaves see under Pear above. Good pruning with plenty of sunlight and air helps against Rot.</p>
<p><b>PEACH.</b></p> <p>Leaf-curl, scab or black spot, yellows, little peach, curculio, borer, San José scale, shothole borer. (Consult bulletins 241, 250 and 257.)</p>	<p>Spray in fall when leaves have fallen or in spring before the buds begin to swell. (All must be done before any sign of bursting of buds.) Use A1. This is usually the only spraying peach trees receive.</p>	<p>Soon after fruit is set. Use 2 or 3 lbs. arsenate of lead paste or 1 to 1 1/2 lbs. of the powder and 1 or 2 lbs. freshly slaked or hydrated lime to 40 gals. water for curculio. Omit if curculio is not troublesome.</p>	<p>About one month after fruit is set. If troubled by Brown Rot use C or dust with sulphur. Good pruning and thinning the fruit help to control this disease.</p>	<p>If brown rot is likely to be troublesome use C again about one month before fruit ripens, or dust with sulphur. Destroy mummied fruit in autumn. Remove at once and burn any tree attacked by yellows or little peach. Dig-out borers at base of tree with knife in May and again in October. For shot-hole borer cut down and burn before April all dead or dying trees or branches, and leave no brush heaps near orchard.</p>
<p><b>GRAPES.</b></p> <p>Black rot, powdery mildew, downy mildew, anthracnose, flea-beetle, leaf hopper. (Consult bulletin 237.)</p>	<p>When 3rd leaf is appearing use B1.</p>	<p>Just after the fruit has set use B1.</p>		<p>Spray again whenever wet weather threatens. It should always be done before, not after rain. At very first sign of powdery mildew dust with sulphur or spray with C. For flea-beetles use 3 or 4 lbs. arsenate of lead to 40 gals. water whenever they appear. For leaf-hoppers use Black Leaf 40, applied very carefully to under-surface of leaves between 10th and 16th of July to destroy nymphs. Clean cultivation is important and destruction of old mummied grapes and prunings.</p>
<p><b>CURRENT AND GOOSEBERRY.</b></p> <p>Mildew, leaf-spot, currant worm, aphids, red spider and San José scale. (Consult bulletin 222.)</p>	<p>Shortly before or as buds burst use A1. For San José Scale prune and spray heavily. If aphids are present add Black Leaf 40</p>	<p>Just before blossoms appear use B1, with 2 lbs. arsenate of lead paste or 1 lb. of the powder or 1 lb. arsenate of lime to 40 gals. A2 is not so good as B1</p>	<p>Just after fruit is formed use B1, as in previous application. May omit poison on black currants.</p>	<p>For worms when fruit is ripening, use hellebore, 1 oz. to 1 gal. water. To prevent leaf drop make an extra application of Bordeaux two weeks after 3rd on black currants or immediately after fruit is off on red and white currants.</p>
<p><b>RASPBERRY AND BLACKBERRY.</b></p> <p>Anthraxnose, red rust, crown gall. (Consult bulletin 210.)</p>	<p>Before growth begins use B1. Omit if not troubled by anthracnose.</p>	<p>When shoots are 6 or 8 inches high use B1. Omit if no anthracnose</p>	<p>If caterpillars are attacking the leaves use 1 oz. hellebore to 1 gal. water.</p>	<p>If anthracnose is very severe, set out new plantation of healthy shoots. If disease begins, cut out old canes as soon as fruit is picked, also badly attacked new ones, and burn. For red rust remove and burn plants at once. No other remedy. For crown gall set out plants in fresh soil, rejecting any plant with a gall on root or crown.</p>
<p><b>STRAWBERRY.</b></p> <p>Leaf-spot and white grub. (Consult bulletin 210.)</p>	<p>For leaf spot set out only healthy plants with no sign of disease. First year spray with B1 before blossoms open, and keep plants covered with mixture throughout the season. Second year spray before blossoming with B1 and again soon after picking. Plow down at once after second crop. To prevent injury from white grubs do not plant on land broken up from old meadow or pasture for at least three years after breaking. It is a good plan to plant after clover. For weevils dust heavily with 1 lb. arsenate of lead and 5 lbs. finely-ground sulphur as soon as weevils appear, and again about a week later.</p>			

NOTE.—A1 = Concentrated lime-sulphur 1.030 to 1.035 specific gravity. 1.030 = 1 gal. commercial to about 9 gals. water. 1.035 = 1 gal. commercial to 7 gals. water. The stronger mixture is for San José scale.  
 A2 = Concentrated lime-sulphur 1.008 to 1.009 sp. gr. = 1 gal. commercial to about 35 gals. water.  
 A3 = Concentrated lime-sulphur 1.007 to 1.008 sp. gr. = 1 gal. commercial to about 40 gals. water.  
 B1 = Bordeaux mixture, 4, 6 to 8, 40 formula.—For method of making Bordeaux see next page.  
 B2 = Bordeaux mixture, 2, 3 to 4, 40 formula = half strength of B1.  
 C = Soft-boiled lime-sulphur.—For method of making see next page.

to apply to hens, the above score card various sections will the various ideals

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**Formulae for Insecticides.**

1. ARSENATE OF LEAD PASTE.  
Use 2 to 3 lbs. to 40 gals. of water, or of lime-sulphur or of Bordeaux mixture.
2. ARSENATE OF LEAD POWDER.  
Use 1 to 1½ lbs. to 40 gals. of water, or of lime-sulphur or of Bordeaux mixture.
3. ARSENATE OF LIME (Calcium arsenate).  
Use ¾ to 1 lb. if in powder form to 40 gals. of Bordeaux mixture. Double the amount if in paste form. If this poison is used with lime sulphur add 3 or 4 lbs. of hydrated or freshly slaked lime to every 40 gals. of the liquid to prevent burning.
4. PARIS GREEN  
Use ¼ to ½ lb. with 40 gals. of Bordeaux mixture. (This poison is not safe with lime-sulphur.)
5. HELLEBORE. (Not good if left exposed to air.)  
1 oz. to 1 gal. water.

**INSECTICIDES FOR SUCKING INSECTS ONLY.**

1. LIME-SULPHUR.  
For scale insects, Blister Mites and Red Spider.
2. TOBACCO EXTRACTS.  
For Aphids, Leaf-Hoppers, Psyllas, etc.  
(a) BLACK-LEAF 40, strength to use is indicated on the cans.  
(b) NICOTINE-SULPHATE 40%. Strength is indicated on the cans. (Practically same as Black-Leaf 40.)  
(c) HOME-MADE EXTRACT. Soak 1 lb. tobacco refuse in 1 gal. water for 24 hrs. with occasional stirring, or steep 1 lb. in 1 gal. water for 1 hr. Make up for water that evaporates. Use at once without dilution: spoils in a few days if not used.
3. KEROSENE EMULSION.  
Kerosene (Coal Oil)..... 2 gals.  
Rain Water..... 1 gal.  
Soap..... ½ lb.

Dissolve the soap in water by slicing and boiling; take from fire, and while hot pour in kerosene and churn vigorously for five minutes, or better pour into spray tank and pump through the nozzles back upon itself for five minutes. For use dilute with 9 parts of water, so that the above 3 gals. of stock emulsion will make 30 gals. of spray mixture.

4. WHALE OIL SOAP.  
For brown or black aphids, 1 lb. in 4 gals. rain water.  
For green aphids, thrip and leaf-hopper, 1 lb. in 6 gals. rain water.

**Formulae for Fungicides.**

- I.—BORDEAUX MIXTURE.  
Bluestone (Copper Sulphate)..... 4 lbs.  
Fresh Stone Lime..... 4 or 5 lbs.  
Or Hydrated Lime..... 6 to 8 lbs.  
Water..... 40 gals.

Hydrated lime is much the more convenient form to use, as it can easily be secured and stored and does not require slaking.

To PREPARE BORDEAUX MIXTURE—Dissolve the bluestone; then nearly fill the tank with water; add the proper amount of dissolved bluestone; start the engine to agitate the liquid; add the hydrated lime or slaked stone lime, and agitate the mixture for about 5 minutes. If a hand outfit is used agitate by pumping the liquid back upon itself for 5 minutes.

Note 1.—The easiest way to dissolve bluestone in the crystal or lump form is to place 40 lbs. of it in a bag and suspend this over a barrel containing 40 gals. of water, in such a way that the bottom of the bag sinks only 3 or 4 inches below the surface of the water. Leave over night and in the morning all will be dissolved. 1 gal. of the liquid will now contain 1 lb. bluestone. Small quantities can be rapidly dissolved in boiling water by stirring. Granulated bluestone dissolves very readily and is usually placed in the desired amount upon a burlap screen on the hopper or inlet of the tank and dissolved by the water being poured over it as the tank is filled.

Note 2.—Hydrated lime if left exposed to the air becomes worthless, so keep it in tightly fastened paper bags in a dry place.

- II.—LIME-SULPHUR. The commercial product is commonly used. For strength see above under A1, A2 and A3. For directions for making the home-made lime-sulphur consult bulletin 198, which also contains full directions for testing the mixture and for the use of the hydrometer.

- III.—SOLUBLE SULPHUR. This is a powdered form of combined soda and sulphur, applied at the strength 12½ to 14 lbs. to 40 gals. water. Before the buds burst it will control San José scale.

- IV.—DUST. There are to-day two kinds of dust, 1st 90% finely ground sulphur and 10% arsenate of lead powder and 2nd, finely powdered bluestone combined with hydrated lime and arsenate of lead powder. These can also be secured without the arsenate of lead. Dusting is satisfactory as a supplement to spraying in large orchards, but we do not feel safe in recommending it as a substitute for the liquid spray.

- V.—SELF-BOILED LIME SULPHUR (chiefly for use on peach foliage to prevent rot.)  
Fresh stone lime..... 8 lbs.  
Sulphur (flour or flowers)..... 8 lbs.  
Water..... 40 gals.

Best prepared in quantities of 24 lbs. at a time, to get sufficient heat. Place 24 lbs. lime in a half barrel, add on high cold water to start it slaking well and to keep the sulphur off the bottom. First the 24 lbs. sulphur over the lime, having well worked the

sulphur through a screen to break lumps, then add whatever further amount of water is necessary to complete the slaking. Stir well with a hoe to prevent the lime caking on the bottom. As soon as the slaking is over, add enough cold water to cool the whole mass and prevent further combination. Strain into spray tank. Keep well agitated while spraying.

**VI.—DISINFECTANTS (for pruning tools and for wounds on trees):—**

1. CORROSIVE SUBLIMATE, 1 part to 1,000 by weight,—1 tablet to 1 pint of water. Apply with a swab on end of a stick or piece of sponge in mouth of a bottle.  
Caution.—Corrosive sublimate is a deadly poison to man or beast if taken internally. It will also corrode iron or metal, so use in a glass or wooden vessel and be sure to wash these out very thoroughly when through using them.

**Peach Leaf Curl.**

Many peach growers in 1919 were greatly discouraged by the ravages of the Peach Leaf Curl disease, especially as it followed so closely the severe injury to peach trees from the winter of 1917-18. I may say to such men that they should not allow themselves in the least to lose confidence in peach growing because of these things; for such a winter as 1917-18 has occurred only once in the life-time of the ordinary man, and will not likely occur again for another half century. Moreover, the Leaf Curl is a disease that can be controlled any year no matter how bad the season may be and how favorable for the disease.



Apple Blossom Time Makes a Busy Season for the Fruit Grower.

**WHAT IS LEAF CURL?**

Leaf Curl is a fungous disease and, like other fungous diseases, it is spread from tree to tree by means of spores—the spores being so small that the naked eye cannot see them individually. When the affected leaves are dropping the surface assumes a dark olive, somewhat velvety appearance. This velvety appearance is usually due to the thousands and even millions of spores or spore cases that cover the whole leaf. The full life-history of the disease has never been worked out, but there is plenty of evidence to show that the spores are carried long distances by the wind, and when abundant alight on every part of the tree, including the buds for next year. There is evidently no crevice around a bud too small for them to be blown into. Fortunately, all the spores perish before late autumn except those that winter around the buds, for it has been found that if these bud spores are killed even in the fall, the tree will be free from leaf curl next year. This could not, of course, be true if living spores were blown about in late fall, winter or spring. This is a most important fact and explains all we need to know about the spores.

**CONDITIONS THAT FAVOR LEAF CURL.**

We are all aware that some years, even the most susceptible varieties, such as Elberta, are practically free from the disease, even though not sprayed. Such years are always those in which the weather has been sunny and warm and fine from the time the buds had distinctly begun to swell until they had fully opened and the leaves got well started. On the other hand, the disease is known to be violent in those years when there is much rain at any time between the distinct swelling of the buds and their bursting and pushing out the little leaflets. This, therefore, shows that the spores are harmless unless there is an abundance of moisture, rain or mist, moisture being necessary for their germination. It seems also to be worse in low spots where there is poor air drainage.

**CONTROL OF LEAF CURL.**

From the above facts it is clear that to prevent leaf curl we must always kill the spores before there is any opportunity for them to begin to germinate, and, as we never know when the weather in spring will be wet, there must be no chances taken. Hence, the spores must be killed before there is any distinct swelling of the buds. Sometimes the buds are in this condition by the middle of April, or occasionally a little earlier. Therefore, if we are going to run no risk, we must spray before the middle of April at the latest; in fact, it is always safest to spray before the end of the first week of April. Can we spray earlier? Yes, we may spray at any time after the foliage is off in the autumn up to the first week in April. Some years later spraying will be successful, but some years they will not. It depends upon the weather and when the wet period, if there is one, comes. No one should take risks when so much depends upon the control of the disease. What I have said shows you that I am satisfied that fall spraying will control the disease, but to make it thorough, it is necessary to wait until all or nearly all the leaves are off the trees.

The evidence in favor of the effectiveness of fall spraying is: first, it has been tested on a small scale for three or four years in Ontario, and given as satisfactory results as spring spraying; for instance, Mr. W. W. Armstrong, of Queenston, tested spraying in the fall of 1918 on most of his orchards, both at St. David's and Queenston, and in reply to my question as to its effectiveness, stated that he had had excellent results and considered it the surest time to spray. Professor Wetzel wrote me the other day that they had tested fall spraying in New York for several years, and that wherever the work was thoroughly done the results were uniformly satisfactory.

My advice, therefore, would be to go ahead and spray as many of your peach trees as time permits in the fall. I do not advise you to spray other kinds of fruit trees in the fall unless you cannot do them in the spring, or unless you are going to repeat the spraying in the spring.

**THOROUGHNESS IN SPRAYING.**

Lime-sulphur, 1 gallon to 7 gallons of water or soluble sulphur 12½ lbs. to 14 lbs. to 40 gallons of water may be used, but to have perfect results, you must do your best to cover every side of every bud. This means that you should shoot the spray through the tree in every direction, and be careful not to miss the buds at the top of the tree. Remember that not one man out of five sprays thoroughly; for it is not so easy to do thoroughly as it may appear. One spraying is sufficient.—Address by Professor L. Caesar.

**FARM BULLETIN.**

**Legislature Vies With House of Commons in Wasting Words.**

The third week of the session of the Ontario Legislature did not suffice to bring to a close the opening debate on the address. In all honesty it cannot be said otherwise than that the time was largely wasted. As we understand the rules of the House, the Government is powerless to stop it while members signify a desire to speak, and it was rather commonly understood that the Hon. Peter Smith, Provincial Treasurer, was prepared with the budget speech on Wednesday of last week had it been possible to conclude the debate at that time. So many members signified a desire to speak, however, that the budget could not be presented all last week as its delivery invariably ushers in the most important debate of the session, on the financial aspects of provincial government. Liberal members seem to predominate as speakers from the ranks of the Opposition, apparently to conveniently fill in time in order that the Government may get its legislation into shape, but perhaps, in reality, to disassociate themselves, in a mild way, from the attitude of the Liberal leader who, it is well known, has not adopted from the first a conciliatory attitude. In fact, one Government member during the week thought that "his wail of disappointment put to shame the very best efforts of Jeremiah in his five chapters of Lamentations." However, this may be, if the fair speeches of the Liberal members are honest and if their desire to make them possesses an element of justice, the proof will come from now on, in the session and after, when criticism of what the Government proposes or has done, is in order. Two night sittings were held last week, and during Tuesday, Wednesday and Thursday, eleven speeches were made, as compared with ten during five of the first eight days. Apparently members are realizing that they cannot add much to the debate and are confining themselves, with few exceptions, to reiterations of the glories of the past as reflected, or made to reflect, on their respective groups in the House.

Thomas Marshall, Lincoln, led in the debate last week, and admired the wisdom of the Premier as so far shown. His speech was a comparison of the Liberal with the U. F. O. platform very largely, and the latter was made to appear very much like the former. Mr. Marshall succeeded in drawing from M. M. MacBride, South Brant, the declaration that he believed in a reasonable amount of protection, but that he did not believe either in free trade or in the degree of protection hitherto enjoyed by some industries in Canada. Mr. Marshall did not favor either the initiative or the referendum and drew from Premier Drury the announcement that the Government does not propose to introduce legislation in this direction this session. The member from Lincoln favored rural credits and the extension



# Toronto, Montreal, Buffalo, and Other Leading Markets

Week Ending March 25.

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

	CATTLE						CALVES					
	Receipts		Top Price Good Steers (1,000-1,200)				Receipts		Top Price Good Calves			
	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Week Ending	Same Week	Week Ending		
Toronto (U. S. Y.)	6,999	5,808	8,013	\$13.75	\$15.50	\$14.75	1,988	1,200	1,155	\$23.00	\$17.50	\$24.00
Montreal (Pt. St. Chas.)	908	491	497	15.00	13.50	14.25	1,031	1,920	857	17.00	13.00	19.00
Montreal (East End)	368	633	564	15.00	13.50	14.25	965	1,161	867	17.00	13.00	19.00
Winnipeg	1,386	1,365	1,083	12.50	15.00	12.85	146	141	80	16.00	14.50	16.00
Calgary	1,959	1,619	1,552	13.50	14.00	12.50	231		152	11.00		12.00
Edmonton	667	521	1,031	12.25	14.25	12.50	77	149	51	12.00	10.25	12.00

	HOGS						SHEEP					
	Receipts		Top Price Selects				Receipts		Top Price Good Lambs			
	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Week Ending	Same Week	Week Ending		
Toronto (U. S. Y.)	7,193	8,857	4,498	\$20.50	\$20.00	\$20.25	671	502	302	\$21.00	\$20.00	\$22.00
Montreal (Pt. St. Chas.)	1,112	999	1,287	20.25	19.75	20.75	75	41	66	17.00	15.00	18.00
Montreal (East End)	969	647	857	20.25	19.75	20.75	42	58	60	17.00	15.00	18.00
Winnipeg	5,990	5,981	2,625	23.00	19.25	21.00	162	55	234	15.50		15.00
Calgary	665	2,572	749	20.75	18.75	20.25	365	375	651		13.00	
Edmonton	1,190	515	1,026	20.60	18.50	20.00	12	14	109	15.50	13.00	16.50

## Market Comments.

### Toronto (Union Stock Yards.)

There was a seasonable offering of cattle during the week, approximately seventy-two hundred head being on sale. Monday's contribution amounted to forty-two hundred head. Trading opened weaker and values declined sharply, 50 cents to 75 cents being taken off butcher cattle on Monday, and 25 cents on Tuesday, thus depressing values 75 cents to \$1 per hundred from the previous week's prices. Butcher steers and heifers were the most affected by the decline. On Monday trading was very slow and fully ten hundred cattle were carried over unsold; on Wednesday there was a little more activity and the market gained strength on Thursday, closing with the week's offering well sold out. The week's market emphasizes the present weak condition of the cattle trade. Marketings of any considerable surplus above the immediate requirements of the beef trade at present creates a depression in prices and indicates an unstable condition of cattle values. A drop on the American markets of \$1 per hundred last week, the exchange rate assuming more normal proportions and weakness in the hide market were all factors contributing to the week's decline. The drop in prices brought cattle back to a level with the low points of the year. The week's receipts included some choice cattle, several loads of heavy steers being on sale. Best quality steers were quoted up to \$14.25 per hundred, and ten head which averaged fourteen hundred pounds moved at that figure on Thursday, while other good sales made during the week included a load of twenty head averaging twelve hundred and twenty pounds at \$13.50, per hundred, a load of thirteen hundred pounds at \$13.25 and other small lots at \$13 to \$14 per hundred. Of steers ranging in weight from ten hundred to twelve hundred pounds a few sales were made as high as \$14, while a straight load of twenty-three head which averaged ten hundred and sixty pounds sold at \$13.40, several small drafts from \$13 to \$13.75, and the majority at from \$11.75 to \$12.75. Handy-weight butchers declined in sympathy with other grades, and while baby-beef cattle in most cases commanded a premium the out-let for these was restricted to a narrow volume. One steer which weighed nine hundred and seventy pounds sold at \$16 per hundred, a few others which ranged in weight from six hundred to ten hundred sold from \$13 to \$15 per hundred, good butcher quality went to the scales from \$11.75 to \$12.75, and most of the sales were made from \$10.50 to \$11.50 per hundred. Cows and bulls, while weaker, did not share proportionately in the decline. There was a demand for a few fat cows for the Jewish trade. One cow of sixteen hundred and thirty pounds sold at \$16, a cow of fourteen hundred and forty pounds at equal prices, with one of fourteen hundred and twenty pounds at \$14.50, while several sales were made from \$12 to \$14.50; the demand for this class came from the Jewish trade and is now over. Good quality cows sold generally from \$10 to \$11, less bulls at an equal range one or two sold at \$12, and one at \$12.00, medium quality in both grades sold

TORONTO					MONTREAL (Pt. St. Charles)				
CLASSIFICATION	No.	Avg. Price	Price Range Bulk Sales	Top Price	No.	Avg. Price	Price Range Bulk Sales	Top Price	
STEERS									
heavy finished	180	\$13.41	\$12.50-\$14.25	\$14.25					
STEERS good	394	12.89	11.50-13.50	13.75	132	\$13.50	\$13.00-\$14.25	\$15.00	
1,000-1,200 common	64	8.91	8.00-10.25	10.75	12				
STEERS good	2,141	12.21	11.25-12.75	13.25	138	12.00	11.25-13.65	13.65	
700-1,000 common	415	8.56	8.00-10.00	10.50	157	10.50	8.00-11.00	11.25	
HEIFERS good	1,729	12.34	11.50-13.00	13.25	53	12.00	10.50-13.00	13.65	
fair	209	10.53	10.00-11.25	11.50	8	10.00	9.00-10.25	10.25	
common	57	8.70	7.00-9.75	10.50	73	7.50	7.00-8.50	9.00	
COWS good	359	10.82	10.00-11.50	12.90	85	11.00	10.00-13.00	13.00	
common	624	9.49	8.50-9.75	9.75	115	7.75	7.00-9.00	10.00	
BULLS good	121	10.42	9.75-11.00	11.50	11	10.75	10.00-12.00	12.00	
common	55	8.04	7.00-9.50	10.00	49	8.25	7.00-9.00	10.00	
CANNERS & CUTTERS	144	5.97	5.25-6.50	6.50	54	6.00	5.25-6.50	6.50	
OXEN					11				
CALVES veal	1,969	19.53	17.50-21.00	23.00	1,003	16.00	15.00-17.00	17.00	
grass	19				28	7.50	7.50	8.00	
STOCKERS good	319	9.66	8.50-10.50	10.50					
450-800 fair	64	8.62	7.75-9.25	9.25					
FEEDERS good	120	11.40	10.50-11.75	11.75					
800-1,100 fair	4	10.50	9.00-11.00	11.00					
selects	6,079	19.72	19.25-20.50	20.50	\$25	20.25	20.25	20.25	
HOGS heavies	17	18.75	18.25-19.50	19.50	15				
lights	917	17.73	17.25-18.50	18.50	236	20.00	20.00	20.25	
watered) sows	166	15.74	15.25-17.50	17.50	28	16.25	16.25	16.25	
stags	14				8				
LAMBS good	465	18.43	16.50-19.00	21.00	20	17.00	17.00	17.00	
common	103	14.88	14.00-17.00	17.50	19	16.00	15.00-17.00	17.00	
SHEEP heavy									
light	78	14.05	13.00-15.00	16.00	19	12.50	12.50	13.00	
common	25	7.64	6.00-8.50	9.00	17	12.00	12.00	12.00	

from \$9 to \$9.75 and common from \$7 to \$8.50. More interest than for some time is being manifested in the stocker and feeder department, and has a tendency to add strength to the market. Several carloads of stockers and feeders were shipped to country points during the week good feeders being sold from \$10.50 to \$11.50, and stockers from \$9.50 to \$10.50. The milch cow trade was unchanged, good cows selling up to \$175 each, and medium quality at \$100 to \$140, with backward springers at \$80 to \$100. There was a liberal offering of calves, and while sales were fairly steady, medium calves showed a sharp decline; several sales were made during the week at \$23, best quality moving mostly from \$18 to \$22, with common calves from \$10 to \$15.

The sale of a few spring lambs featured the week's sheep market; these lambs ranged in weight from thirty to sixty pounds and sold from \$10 to \$17 per head, according to weight and quality. Yearling lambs were weaker and \$1 lower; a few sales were transacted at \$21, while the majority sold from \$17 to \$19, while ewes were steady from \$10 to \$15.

The hog market was weaker and a decline of \$1 during the week. Hogs on Monday and Tuesday sold at \$19.75 to \$22, but for the

balance of the week fed and watered hogs were weighed up from \$19.25 to \$19.50, most of Thursday's hogs moving at the lower figure. F. o. b. prices during the week ranged from \$18.50 to \$18.75, lights were quoted \$2 below selects, and sows \$3 to \$5 lower.

The total receipts from January 1st to March 18th, inclusive, were: 61,218 cattle, 9,160 calves, 75,871 hogs and 14,218 sheep; compared with 74,105 cattle, 8,134 calves, 79,864 hogs and 24,628 sheep, received during the corresponding period of 1919.

**Montreal.**

There were thirteen hundred and one cattle offered for sale on the two markets during the week. Quite a percentage of the offering was made up of cattle intended for the Eastern trade, and there were some choice steers, heifers, very fat cows and good bulls in the yards. The best prices were obtained on Saturday for cattle to be weighed up on Monday. On Monday, prices for top steers, canners and very thin cows were off from 25 cents to 50 cents per hundred, and for other grades from 50 cents to 75 cents per hundred. By Thursday, prices were nearly \$1 lower than on the previous Thursday, and stock was very hard to sell even at the reductions. Among the sales of note, were included one steer

which weighed fourteen hundred and seventy-five pounds weighed up at \$17 per hundred, seven steers which averaged about twelve hundred pounds at \$15, a load of choice cattle averaging eleven hundred and fifty pounds at \$14.25, and a lighter load at \$13.62. Choice heifers and choice young cows were weighed up either separately or together at \$13. Good fat cows of beef breeds brought \$11 to \$12; the top price for bulls was \$12 paid for fat breeding bulls which weighed around eighteen hundred pounds. Fair and good butcher steers and heifers were sold at prices ranging in most cases, from \$10.50 to \$12.50. Common grades of cows sold down to \$6.50 and \$7, and canners at \$5.25. On Wednesday, a straight load of heifers, bulls and thin steers, which averaged five hundred and ninety pounds was sold at \$7 per hundred, and medium cows were disposed of from \$7 to \$8. Calves were sold during the week from \$15 to \$17 for those of good quality and down to \$10 for very thin young stock. A few drovers are still bringing in a number of young calves. It is contrary to law to offer for sale calves under three weeks old. Calves likely to be considered less than three weeks old, cause both trouble and loss to the shipper.

The market for sheep and lambs

closed at sheep and... The p... were \$21... on cont... \$20.50... and \$20... percenta... dicting... the price... local sto... firm mar... Pr. St... from Jan... were 6.0... hogs an... 8,494 cat... 4,972 sh... respondi... EAST... January... 8,715 ca... and 3,79... cattle, 4... sheep, re... period of...  
 Receipt... Stock Y... March... cattle, 77... lambs... of sellers... account... not pay... steady a... \$15-poun... at \$13 t... steady... Choice c... medium... lambs w... to \$18.5... \$18.75 fe...  
 Manito... \$2.80; N... ern, \$2.7... Manito... No. 3 C... 1 feed, 9... Manito... No. 4 C... \$1.29...  
 Ontari... points, a... \$2 to \$2... No. 3 wi... \$2.02 to... No. 3 sp... Ameri... 3 yellow... Ontar... \$1.04, a... Peas... Rye... \$1.85...  
 Barley... Buckv... Ontar... prompt... \$10.25 t... and \$11... Manito... \$13.25... Hay... \$28; m... to \$17...  
 Millif... freights... \$45; sh... \$3.60 t...  
 Hides... 25c; l... 22c; li... calf, \$... take-off... 1 sheep... lambs, 3... stock, 4... City... flats, 2... veal ki... \$8 to \$... Tallo... rels, 15... rels, No... to 17c...  
 Who... ing pri... Alsike... \$34; N... per bu... \$29 to... per bu... per bu...

Markets of Agriculture, Live Intelligence Division

Price Good Calves

Table with 2 columns: Same Week, Week Ending. Rows for 1919 and Mar. 18 with prices ranging from \$17.50 to \$24.00.

Price Good Lambs

Table with 2 columns: Same Week, Week Ending. Rows for 1919 and Mar. 18 with prices ranging from \$15.00 to \$22.00.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$14.25 to \$15.00.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$13.65 to \$13.65.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$13.00 to \$13.65.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$10.25 to \$10.25.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$8.50 to \$9.00.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$13.00 to \$13.00.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$9.00 to \$10.00.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$12.00 to \$12.00.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$9.00 to \$10.00.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$20.25 to \$20.25.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$20.25 to \$20.25.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$16.25 to \$16.25.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$17.00 to \$17.00.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$17.00 to \$17.00.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$13.00 to \$13.00.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$12.00 to \$12.00.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$17.00 to \$17.00.

Price Range Top

Table with 2 columns: Price Range, Top Price. Rows for various items with prices ranging from \$17.00 to \$17.00.

closed at a range of \$12 to \$12.50 for fair sheep and \$17 to \$17.50 for lambs.

The prices for hogs during the week were \$21 per hundred, for hogs delivered on contracts from the previous week, \$20.50 off car weights, for fresh sales, and \$20 for an odd lot containing a large percentage of lights. Packers were predicting lower prices, but with light runs the price is controlled by the needs of the local store trade, which is predicting a firm market.

PT. ST. CHARLES.—The total receipts from January 1st to March 18th, inclusive, were 6,063 cattle, 3,834 calves, 12,306 hogs and 4,694 sheep; compared with 8,494 cattle, 6,877 calves, 13,894 hogs and 4,972 sheep, received during the corresponding period of 1919.

EAST END.—The total receipts from January 1st to March 18, inclusive, were: 8,715 cattle, 4,863 calves, 7,837 hogs and 3,797 sheep; compared with 10,262 cattle, 4,105 calves, 7,549 hogs and 5,451 sheep, received during the corresponding period of 1919.

Toronto Produce.

Receipts of live stock at the Union Stock Yards, Toronto, On Monday, March 29, numbered 112 cars, 1,730 cattle, 777 calves, 1,732 hogs, 66 sheep and lambs. It was a slow market on account of sellers asking much higher prices on account of light offering; buyers would not pay higher prices so trade was only steady at prices without change. A few 815-pound steers sold at \$14; best loads at \$13 to \$13.50. Cows and bulls were steady. Canners were \$5 per hundred. Choice calves were up to \$25 per hundred; medium calves, \$1 lower. Sheep and lambs were steady; spring lambs, \$13 to \$18.50 each. Hogs were lower at \$18.75 fed and watered.

Breadstuffs.

Manitoba Wheat.—No. 1 northern \$2.80; No. 2 northern, \$2.77; No. 3 northern, \$2.73.

Manitoba Oats.—No. 2 C. W., 99 1/2c.; No. 3 C. W., 95c.; extra No. 1, 95c.; No. 1 feed, 94c.; No. 2 feed, 93c.

Manitoba Barley.—No. 3 C. W., \$1.63; No. 4 C. W., \$1.42; rejected, \$1.29; feed, \$1.29.

Ontario Wheat.—F. o. b., shipping points, according to freight; No. 1 winter, \$2 to \$2.01; No. 2 winter, \$1.98 to \$2.01; No. 3 winter, \$1.92 to \$1.93; No. 1 spring, \$2.02 to \$2.03; No. 2 spring, \$1.98 to \$2.01; No. 3 spring, \$1.95 to \$2.01.

American Corn.—Prompt shipment, No. 3 yellow nominal, \$1.93, nominal; Ontario Oats.—No. 3 white, \$1.02 to \$1.04, according to freight.

Peas.—No. 2, \$3. Rye.—No. 2, nominal; No. 3, \$1.83 to \$1.85.

Barley.—Malting, \$1.78 to \$1.80. Buckwheat.—No. 2, \$1.65 to \$1.70.

Ontario Flour.—In the jute bags, prompt shipment, Government standard, \$10.25 to \$10.45, delivered at Montreal, and \$11, delivered at Toronto.

Manitoba Flour.—Government standard \$13.25, Toronto.

Hay.—Track, Toronto, No. 1, \$27 to \$28; mixed, \$25. Straw.—Car lots, \$16 to \$17.

Millfeed.—Car lots, delivered Montreal freights, bags included: Bran—, per ton, \$45; shorts, \$52; good feed flour, per bag, \$3.60 to \$3.75.

Hides and Skins.

Hides, f. o. b. country points— Beef hides, flat cure, heavy, 22c. to 26c.; light, 25c. to 27c.; green hides, heavy, 20c. to 22c.; light, 24c. to 26c.; deacon or bob calf, \$2.50 to \$3; horse hides, country take-off, \$8 to \$10; No. 2, \$8 to \$9; No. 1 sheep skins, \$2.75 to \$3.75; yearling lambs, \$1.75 to \$2.50; horse hair, farmer's stock, 40c. to 42c.

City Hides.—City butcher hides, green flats, 25c.; calf skins, green flats, 50c.; veal kip, 30c.; horse hides, city take-off, \$8 to \$10.

Tallow.—City rendered, solids in barrels, 15c. to 17c.; country solids in barrels, No. 1, 12c. to 15c.; cakes No. 1, 15c. to 17c.

Seed Quotations.

Wholesale merchants quote the following prices for seeds at country points; Alsike, No. 1, fancy, per bushel, \$33 to \$34; No. 1, per bushel, \$32 to \$33; No. 2, per bushel, \$31 to \$32; No. 3, per bushel, \$29 to \$30. Red clover, No. 1, fancy, per bushel, \$34 to \$35; No. 1, ordinary, per bushel, \$33 to \$34; No. 2, per bushel,

\$31 to \$32; No. 3, per bushel, \$29 to \$30; Sweet clover, No. 1, fancy, per bushel, \$21 to \$22; choice, per bushel, \$19 to \$20.

Seeds Retail.

Dealers quote clover and other seeds as follows:

Red clover, No. 1, per bushel, \$46.80; No. 2 per bushel, \$46; alsike, No. 1, per bushel, \$44.20; No. 2, per bushel, \$43.20. Alfalfa, No. 1, per bushel, \$37.20; No. 2, per bushel, \$34.80; Canadian, per bushel, \$42. Sweet clover, best, per bushel, \$29.40. Timothy, No. 1, per bushel, \$11.55; No. 2, per bushel, \$10.95.

Farm Produce.

Butter.—Butter remained about stationary at last week's slightly firmer prices, fresh-made creamery pound prints, being quoted at 68c.; cut solids, 65c. to 66c.; and best dairy at 55c. to 60c. per lb. Eggs.—Supplies continue to be heavy, and prices were still declining; latest quotations for new-laid being, 55c. per dozen.

Cheese.—The market was quoted as steady, new large selling at 28c. per lb.; and old large, 32c. per lb.

Poultry.—Prices kept about stationary, with the previous week, receipts being rather light with a good demand, especially for live weight hens. Poultry prices being paid to producer: Chickens, per lb., alive, 30c.; dressed, 35c.; chickens, milk-fed, per lb., alive, 35c.; dressed, 40c. Ducks, per lb., alive, 40c.; dressed, 40c. Hens, under 4 lbs., per lb., alive, 30c. per lb.; dressed, 30c.; hens, from 4 and 5 lbs., per lb., alive, 35c.; dressed, 37c.; hens, over 5 lbs., per lb., alive, 40c.; dressed, 40c. Turkeys, per lb., alive 45c.; dressed, 55c. Guinea hens, per pair, alive, \$1.25; dressed, \$1.50.

Wholesale Fruits and Vegetables.

Fruits kept practically stationary in price during the past week.

Potatoes firm, selling at \$4.75 to \$5 per bag. The first Cobbler seed potatoes arrived on the market Thursday, selling at \$5 to \$5.25 per bag.

Carrots, beets and parsnips declined; new cabbage and cauliflower advanced. Apples.—Western, \$3.50 to \$5 per box; Ontario's \$6 to \$12 per bbl., and \$2.75 to \$3.50 per box; Nova Scotias, \$3 to \$7 per bbl.

Beans.—Dried white hand-picked, \$5 to \$5.25 per bushel.

Cabbage.—New, Texas, \$6.50 to \$7 per bbl.; Florida, \$7 to \$7.50 per case.

Carrots.—\$1.50 to \$2 per bag. Cauliflower.—Cal. \$6.50 per crate. Celery.—Florida, \$5.50 to \$6.50 per case. Cal. \$10 to \$12 per case.

Lettuce.—Leaf, 30c. to 50c. per dozen; extra large, 85c. per dozen.

Onions.—\$8 to \$9 per cwt., green, 40c. to 50c. per dozen.

Parsnips.—\$2.50 to \$2.75 per bag. Potatoes.—\$4.75 to \$5 per bag. Turnips.—90c. to \$1.25 per bag.

Montreal.

Dressed Hogs.—Demand for dressed hogs continued active and prices were firm at 26 1/2c. per lb. for fresh-killed, country-dressed hogs.

Poultry.—Receipts were light and trading was mostly in storage stock for local account, at 38c. to 40c. per lb. for chickens and 53c. to 54c. for turkeys, best stock.

Potatoes.—The market for potatoes was firm and supplies are none too large. Car lots of Quebec white stock were selling at \$3.85 per bag of 90 lbs., extra-track, with 50c. more being obtained for smaller lots, ex-store.

Maple Syrup.—Operations are now going on actively in the woods but dealers have been reluctant to commit themselves on prices up to the present and there have been no receipts in commercial quantity. Producers are looking for a large crop.

Eggs.—Prices have been coming down gradually and were quoted at 57c. to 58c. per dozen in a wholesale way. In a retail way, dealers were getting from 65c. to 70c.

Butter.—The market for butter held steady. Supplies were of moderate quantity and prices were steady at 65c. to 66c. per lb. for best makes.

Cheese.—Sales of cheese were reported at 26c. to 26 1/2c. per lb. and it was reported that quite a few shipments have been made to England.

Grain.—The market for oats shows a slight decline from prices of a week ago. No. 2 Canadian Western oats were

quoted at \$1.17 and No. 3 at \$1.13 per bushel, ex-store.

Flour.—Very few changes took place in the market for flour during the week, and prices were much the same with demand only fairly active. Manitoba spring wheat flour was quoted at \$13.25 per bbl., in jute, ex-track, Montreal freights, and to city bakers, with 25c. more for smaller lots and 10c. off in each case for spot cash.

Millfeed.—Supplies of millfeed are light and prices firm. In broken lots, bran was selling at \$49 per ton, shorts being \$56 and pure barley meal \$80 with pure ground oats \$75. Mixed mouille sold at \$64 and pure grain at \$78 and dairy feed \$65, including bags, delivered to the trade, less 25c. per ton for spot cash.

Baled Hay.—There has been considerable shipment to the United States. Sales of No. 2 timothy were taking place at \$30 to \$31 per ton, No. 3 being \$28 to \$29 and clover mixed \$26 to \$27 per ton, ex-track.

Hayseed.—Dealers report an active demand at unchanged prices. Timothy seed was 17 1/2c. to 20c. per lb., red clover and alsike being 65c. to 67c. sweet clover 40c. to 45c., and alfalfa, 58c. to 60c., track, Montreal.

Buffalo.

Cattle.—Cattle receipts were moderate at Buffalo last week and trade on butchering grades was strong to a quarter higher while on shipping steers, of which there were around twenty-five to thirty cars, totalled around thirty loads, prices on these ruling a quarter lower than for the previous week. Eastern order buyers maintaining that Buffalo has been out of line with western markets on these grades. There was only a light supply of Canadians, best shipping steers selling at \$12. Best native shipping steers ranged generally from \$13.65 to \$14.10, with the best handy weight butchering steers selling around \$12.75 and \$13.25, yearlings (Canadians) reaching \$14. All classes of females sold readily at good, strong prices and were ready sale, some heavy, gobby cows going to the Jewish killers around \$13 to \$14. Light supply of stockers and feeders and trading more active in this division. Bulls of all grades found quick sale at full steady prices, the good, heavy, desirable kinds of milk cows and springers sold to better advantage than the medium and less desirable ones. Offerings for the week totalled 4,750 head, as against 3,800 head for the previous week and compared with 5,725 head for the corresponding week a year ago. Quotations!

Shipping Steers.—Canadians—Best heavy, \$12 to \$12.25; fair to good, \$11 to \$11.50; medium weight, \$10.75 to \$11; common and plain, \$10 to \$10.50.

Butchering Steers.—Yearlings, fair to prime, \$12.50 to \$14.25; choice heavy, \$12.50 to \$13; best handy, \$12.50 to \$13; fair to good, \$11 to \$11.50; light and common, \$9 to \$10.

Cows and Heifers.—Heavy heifers, \$11 to \$12.50; best heifers, \$10.50 to \$11; good butcher heifers, \$9.50 to \$10; fair butcher heifers, \$8 to \$9; light, common, \$6 to \$7; very fancy fat cows, \$10.50 to \$11; best heavy fat cows, \$9.50 to \$10; medium to good, \$8 to \$9; cutters, \$5.50 to \$6; canners, good, \$4.50 to \$5.25.

Bulls.—Best heavy, \$9.75 to \$10.25; good butchering, \$8.50 to \$9; sausage, \$8 to \$8.50; light bulls, \$7 to \$8.

Stockers and Feeders.—Best feeders, \$9.50 to \$10; common to fair, \$8 to \$9; best stockers, \$8 to \$8.50; fair to good, \$7.75 to \$8.25; common \$6 to \$7.

Hogs.—Prices held up pretty well the first four days of last week but after Wednesday values showed a heavy decline. Weight continues to be the main factor in the making of the price, heavy hogs, for which there is an in-different demand, showing a big margin under the lighter weight grades. Monday the bulk of the good handy hogs sold at \$17, several decks of yorkers made \$17.10 and grades weighing above 240 pounds, sold from \$15.50 to \$16.75, low figure taking an extreme heavy kind. Tuesday's market was generally steady, and Wednesday light hogs reached up to \$17.50, with weighty kinds ranging from

\$15.50 to \$17. Thursday prices dropped a quarter to seventy-five cents and Friday values were still lower from 50 to 60 cents. The fifth day of the week showed light hogs selling from \$16.25 to \$16.50, and prices ranged on down to \$14.75 for heavies. Receipts for the week were 27,800 head, as compared with 26,862 head for the week before and 24,600 head for the same week a year ago.

Sheep and Lambs.—Approximately 17,900 head were here last week, being against 15,416 head for the week previous and 19,900 head for the same week a year ago. Over ninety per cent. of the receipts were lambs and a fairly good clearance was had from day to day. Monday tops sold at \$20 and \$20.25, Tuesday's trade was unchanged, Wednesday and Thursday the best brought \$20.50 and \$20.75, and Friday the bulk moved at \$20.50. On culls the range was from \$18.50 down. Sheep were scarce and steady all week. Wethers were quoted from \$15.50 to \$16, and best ewes ranged from \$13.50 to \$14.50.

Calves.—The largest supply of the season was offered the past week, there being around 7,600 head. Offerings were against 5,778 head for the week before and 4,650 head for the same week a year ago. Trade was good all week. Monday top veals sold at \$21.50, Tuesday prices were a dollar higher, bulk going at \$22.50, Wednesday's market was steady, Thursday the bulk sold at \$22, and Friday the majority moved at \$22.50. Canadian calves of which there were around 800 head the past week sold a dollar under the natives.

Chicago.

Hogs.—Heavy, \$13.80 to \$14.90; medium, \$14.50 to \$14.40; light, \$15 to \$15.50; light light, \$14.80 to \$15.30; heavy packing sows, smooth, \$13.15 to \$13.65; packing sows, rough, \$12.50 to \$13; pigs, \$13.50 to \$15.25.

Cattle.—Compared with a week ago; light and medium weight steers, mostly 25c. lower; heavyweight, 50c. to 60c. lower; good and choice heavy she-stock, 25c. to 50c. lower; others mostly steady; veal calves generally \$1.50 lower; stockers and feeders steady to 25c. lower.

Sheep.—Compared with a week ago; fat lambs, \$1 and \$1.25 higher; sheep, 50c. higher.

Victory Bonds.

Following were the values of Victory Bonds on the Toronto market, Saturday, March 27. Victory Bonds maturing 1922, 99 to 100; Victory Bonds, maturing 1923, 98 1/2 to 99 1/2; Victory Bonds maturing 1927, 99 1/2 to 100 1/2; Victory Bonds maturing 1933, 100 1/2 to 101 1/2; Victory Bonds maturing 1937, 102 to 103.

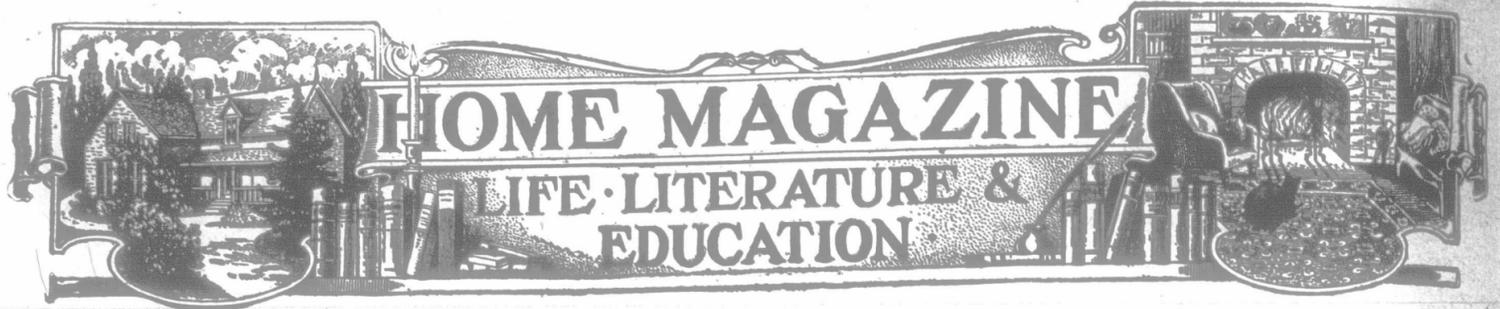
The General Ring.

EDITOR "THE FARMER'S ADVOCATE":

As the telephone has found its way into nearly every farm home, I have a suggestion to pass on to the readers of this paper which I know will be of benefit to many of them.

What surprised me most was to find that on many rural telephone lines they have no "general ring." I mean by this "a ring that all on the line are supposed to answer. On our line the "general ring" is eight longs. When we hear that ring we know some one is in trouble or such like. Here is an example of two rural telephone lines; one with a "general ring," the other without one. A farmer's house takes fire, say, on the latter line and he has to telephone to his neighbors for help. He at first has to run to the list of names of people on the line and find out their rings and then ring up each one separately. By this time the fire may have such a start there is no chance of ever saving his buildings. Now take the former mentioned where they have a "general ring." A farmer's house takes fire, and he needs his neighbors' help; all he has to do is simply run to the telephone, ring the "general ring," wait a few seconds till a few receivers is heard come down and then tell the trouble. I have seen as many as thirty or more men, at a farm house, in case of fire ten minutes after the report was given. The "general ring" is of use in different ways, namely, announcing, meetings, funerals and so forth to save calling every one on the line separately. Is it not worth while?

L. R.



### Risen Indeed.

Aye, the lilies are pure in their pallor,  
The roses are fragrant and sweet,  
The music pours out like a sea wave,  
breaking in praise at His feet,  
Pulsing in passionate praises that Jesus  
has risen again,  
But we watch for the signs of His living  
in the light of the children of men.

Wherever a mantle of pity falls soft on a  
wound or a woe,  
Wherever a peace or a pardon springs up  
to o'er-master a foe,  
Wherever a soft hand of blessing out-  
reaches to succor a need,  
Wherever springs healing for wounding,  
the Master is risen indeed.

Wherever the soul of a people, arising in  
courage and might,  
Bursts forth from the errors that shrouded  
its hope in the gloom of the night,  
Wherever in sight of God's legions the  
armies of evil recede,  
And truth wins a soul or a kingdom, the  
Master is risen indeed.

So fling out your banners, brave toilers;  
bring lilies to altar and shrine;  
Ring out, Easter bells; He has risen, for  
you is the token and sign,  
There's a world moving sunward and  
Godward; ye are called to the front;  
ye must lead;  
Behind are the grave and the darkness;  
the Master is risen indeed.

—Author unknown.

### A Home Planned by Four Girls.

By T. B.

FOUR sisters had been left. Father, mother, brother and a sister, one by one had gone, and these four had possession and the care of a fine old house and about 500 acres of land. This was in the State of New York, about 100 miles from the Canadian border. The question before them was what should they do? Many will be ready to say, "We wish we had that problem. Five hundred acres of good land free of all encumbrance! We would be overjoyed to have that difficulty." Of course, there are few left so well off in one sense. But every life has its problems. The choice narrowed down to these two, to sell out and retire to some town or city, or to carry on where they were. Their place was in a purely country neighborhood, the nearest village being two miles off. But they loved the old home. Almost every memory was associated with it. "Its very dust to them was dear." Not a bush or tree but was like an old friend. And then could they be contented sitting twiddling their thumbs? They didn't want to be without employment. And they enjoyed farm operations. One of them, the farmer one, expressed herself thus lately, "Those who have never had to do with live stock don't know what they have missed."

So it was decided to stay and run the farm—farms, rather, for there are four other houses besides their own on the several places, and outbuildings as well. Thoughts then turned to improving the house and surroundings. They reasoned wisely that it was well to spend some money in making the home as convenient and delightful as possible. They have succeeded. Their place is now the admiration and the pride of the neighborhood.

The house was a two-story, white frame and over 75 years old; but it was sound and in good condition. These "Yankees" know how to care for a house, they are liberal with paint. The verandah, which ran around one side and the front, was "done," however, and it was taken away, a porch being built over the front door and a wide, decorative piazza taking the

place of the side verandah. The part where the dining-room and kitchen are situated, which runs in T-shape back from the main front building, was raised to make room for bedrooms above, while underneath it was excavated to give space for an immense cistern, pressure tanks, storage battery for electric light system, two gasoline engines to give power for the water and light, and a furnace for steam heating. Skylight windows were built in the front roof to give light to the newly-floored attic.

Inside the house old floors were taken out, and the shiniest and slipperiest of oak-surfaced ones put in instead. The dining-room, which used to be a fine homey old place with a long, heavy pine table in the centre, is now finished in oak. Doors, mantel and other woodwork are all solid oak, no veneer. Fireplace with old-fashioned andirons gives the touch of old times so pleasant to have retained. The front rooms and hall have finishings in mahogany, and there are other signs showing that money has not been spared. But the sitting-room, in particular, with its easy wicker and other chairs and fireplace with apple-tree wood burning in it, is so thoroughly a place to read and lounge and talk in that the grandeur fails to oppress, the prevailing sensation being that of real old-fashioned comfort.

Upstairs, as throughout the whole house, while the renovation has been thorough, the old things, doors, cupboards, and such like, have been retained wherever possible, and the old home feeling with them.

The woodwork of all rooms except those finished in natural wood is painted one uniform color, old ivory, and it gives a most pleasing effect. "No graining or veneer," seems to have been the motto in the reconstruction. Another thought in mind throughout has been to beautify and add to the old, not to obliterate it. A special instance of this is that of the grandfather's and grandmother's old

house, the little house which was the home of the sturdy pair of emigrants from the north of England when laying the foundations of future prosperity. It had stood for many years a little to the south of the present house, and was used as a storehouse and repair shop for garden tools, harness and the like. Now nicely repainted and moved some distance to the rear, and used as formerly with this addition, that a bed is occasionally set up to lodge an extra man or two, it really gives an added touch of grace to the establishment.

Improvements in the surrounding grounds are even more marked than in the house. The main part of the house stands with side parallel to road in front, door in the centre, facing eastward. From the front door a red brick walk runs straight to the front gate, fifty or sixty yards distant. The first fence is a massive structure of field stone and cement, the stone carefully chosen and fitted together, and, like Hebrew altars of old, untouched by chisel or hammer. From the right front corner of the house a row of flowering shrubbery extends in line with the front of the house to the enclosing fence to the south. This screen of shrubbery hides from public view the flower garden behind and the vegetable garden still farther back. The square between the brick walk, the stone fence in front, the south fence, and the line of shrubbery is the front lawn. To the left of the house is what may be called the side lawn. It is about the same width as the other, but is much longer from front to back, extending to the rear of the house, where the kitchen door opens out. This side lawn has an enclosing line of flowering shrubs on the north and west. Somewhere near the middle front of the lawn a massive double iron gate gives entrance for a carriage driveway which sweeps in graceful curves to the outer end of a cross walk from the front door and con-

tinues to other door at the back. Another gateway through the stone wall, but without any gate, is beyond the line of shrubbery where it touches the front wall and gives entrance to the butcher, the grocer, etc., whose driveway is outside the enclosing line of shrubbery, but ends at the same door as the other. This lawn, unlike the other, is not altogether of plain grass, but has a few trees of different kinds which seem as if they had sprung up of themselves, so natural looking are they, but which had been carefully chosen and planted.

Mention might have been made of the summer house among the flowers, and of the round ornamental stone structure surrounding the chain pump near the south side door. This latter is built of smaller-sized field stone than those in the front wall, and is one of the most artistic and clever pieces of stone mason work that can be imagined. It is about 3½ feet in diameter by 7 feet in height. It is surmounted by a decorative roof. The pump spout projects through the wall about two inches only, but the crank is altogether outside, and the chain wheel is in plain sight through arched openings on each side. An expert from Boston was the builder, and was also overseer of the building of the front wall.

The girls themselves planned the whole renovation scheme, but they secured the help of experts in working out the details. The general effect is that of comfort and fitness and good taste.

### Sweet Peas.

SWEET peas, on tiptoe for a flight,  
With wings of gentle flush, o'er  
delicate white,  
And taper fingers catching at all things  
To bind them all about with tiny rings."

Experienced growers of this delightful flower prepare the ground in the fall, so the soil will be mellow and firm, but if you have neglected to do so that is no reason for your being without your row of sweet peas, especially if you live in a locality where the soil is a good clay loam (they do not like sandy soil very well). Sometimes, when the soil is a clay loam, rich and moist, very little preparation is needed but to rake off the surface, put in the peas and firm the soil over them. If preparation is needed proceed as follows:

On the very first day that it is possible to work the soil make a trench about 24 to 30 inches wide, and hollowed out so that when covered the row will be 2 inches below the level of the ground. If the soil is very poor loam it will be necessary to work in some well-rotted fertilizer, mellow compost is good, or very old, well-rotted cow manure. If the soil is very sandy, also, it will be especially necessary to make a good, deep root-bed of the compost and loam hauled for the purpose. Some growers do not mix the fertilizer with the loam, but put a bed of it at the bottom, covering it with 6 inches of good loam thoroughly packed down, the idea being that the roots should be made "go after" the fertilizer. Other growers, when the soil is at all good, say that no fertilizer at all should be put in when the seeds are sown, but that, instead, when the flower-buds begin to appear, the roots should be thoroughly soaked from time to time with wash-day suds or weak liquid manure. . . . The grower must use whichever of these methods seem best adapted to the soil in his garden.

A very important point to remember when making the seed-bed is to pack the soil down very firmly, tramping it down well with the feet so that it will be firm below, about and above the peas. If the soil is too loose blight may follow.

The peas may be planted the very day the row is ready, the earlier in spring the better, to give the roots a chance to develop well before there is much top



The House in Which the Four Girls Live and Which They Remodelled.

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growth. When the bed seems firm enough scratch two little furrows 8 or 10 inches apart and 1 inch deep and place the peas several inches apart (1 ounce should sow 60 to 60 feet of row), then firm the soil over and about as well as you can either with the feet or with a garden roller. Some growers recommend putting an inch of sharp sand on top of the bed and pressing the seed in this half an inch deep. The sand helps to ensure perfect germination and to obviate any danger of the seed rotting.

A few very early-flowering plants may be secured by starting a few peas in the house in small pots or small cotton bags late in February or early in March. When the drill is ready the balls of earth are turned out, without disturbing the roots, and placed in the drill 18 inches apart.

Always a sunny location away from tree-roots should be chosen for the sweet peas, and the rows should run from north to south.

After the peas come up no soil should be drawn up about the stems for 6 weeks, and even then it may be omitted (the trench being left to hold water) and its place taken by a mulch of lawn clippings or other mulch put on after water is applied, to keep down the moisture. Some growers do not mulch, but give very frequent cultivation instead. Watering is needed only when the soil is dry, but it is disastrous to give a little water that wets only the surface of the soil; a thorough drenching should be given that will reach down to the lowest rootlet.

As the plants become sturdy a little hardwood ashes may be worked into the surface soil, and, occasionally, a top-dressing of finely pulverized lime, as lime is an absolute necessity for all leguminous plants—beans of all kinds, clover and peas.

As the vines grow a support must be supplied—stakes with strings, poultry netting, or twiggy boughs placed firmly and stalked.

If red spiders appear they may be kept in check by spraying the foliage vigorously, thoroughly and frequently with water. For green fly or plant louse apply tobacco extract or soap solution. Cutworm may be banished by working a mixture of bran, Paris green and sugar in the surface of the soil. Mildew may be treated by dusting the foliage with sulphur or a mixture of lime and sulphur.

A last point: Don't let pods form on the vines. Just as soon as the plants go to seed they will stop flowering. Pick off the flowers just as soon as they fade.

It will be seen that the deep trenching and filling in method is no longer confidently recommended. At one time this was satisfactory, an advantage being that the roots were kept moist and cool, but of late years blight has put in an appearance in many localities, and has invariably flourished best among the plants in deep trenches. For this reason growers now plant, as a rule, on the level, or in very shallow trenches as outlined above.

## Your Health.

"MEDICUS."

"Run-Around." "Rheumatism."  
"Constant Reader," Welland Co., Ont.  
"What will stop a 'run-round' on one's finger? I have had a pain in my shoulder for a long time. I blistered it a year and a half ago, and it is still sore to touch."

Ans.—A run-round is an infection of the skin at the root of the nail. The flesh adheres to the nail, and as the nail grows the flesh is drawn tight and then small cracks in the skin occur. Germs get in and cause an inflammation. An inflammation caused by germs is called an infection. Keep pressing back, gently, the skin at the root of the nail. If an infection starts use ordinary tincture of iodine. Buy an ounce or two at the drug-store. Put it in a glass-stoppered bottle, because it will soon destroy corn or rubber. It is important to keep the bottle corked because the iodine evaporates. Paint the part freely 3 or 4 times a day. It can do no harm. In fact, every home should have a bottle of iodine. Use it on every cut or bruise. It is the best antiseptic we have.

The pain in your shoulder may be caused by some trouble in your liver or gall-bladder, or by gall-stones, or even angina pectoris. It may be neuritis or rheumatism. How about your teeth? Have you any cavities or crowns? I would suggest that you ask your doctor to make a careful examination and determine the cause of the pain. The

chances are the trouble is somewhere else than in your shoulder. If such is the case it is useless to blister or use a liniment.

### Constipation.

"M. A. P.," Quebec.—"In one of your articles you state that Nujol is the least harmful thing to take for constipation. Does this apply to small children as well as grown-ups? Is grape juice a good thing to give to children for constipation?"

Ans.—Nujol is quite all right for children, but why not try to cure the constipation by diet, exercise, lots of water, etc.? Encourage the children to

First of all, she trained her eyes, Turning them up to the sunny skies. Look at the mud and the dust? not she! Nothing but sunshine would Dorothy see.

A flower that droops has begun to wilt, So up went her chin, with a saucy tilt. An ounce of pluck's worth a pound of sigh, And courage comes with a head held high.

Lastly, her lips turned their corners up, Brimming with smiles like a rosy cup. Oh, a charming child is Dorothy Rose,— And it all began with a turned-up nose!  
Pauline Frances Camp, in St. Nicholas.



Note the Quaint Stone Well-house.

eat raw fruits, raw vegetables. Eat the skins. Porridge and bran bread are good. The less drugs you give a child for constipation the better. Grape juice is mildly laxative. So also is grape fruit juice. A babe does better with orange juice. Authorities tell us tomato juice is better than orange juice. If any of your kiddies are under two years of age and suffer from constipation I will be glad to give you more definite directions what to do, if you will write again giving more details, age, weight, diet, etc.

### Ringworm.

Mrs. A. N., New Brunswick.—"My boy of 13 has had ringworm for over a year. Am at present using Resinol."

Ans.—In my experience ringworm has never lasted so long. Could it be something else other than ringworm? Ordinarily you treat ringworm (1) by removing all the hairs, one by one, with forceps. It is tedious, but it will pay in the long run. You get rid of a lot of spores which are at the roots of the hairs. (2) Then apply an antiseptic that will penetrate and kill the remaining spores. I favor formalin or formaldehyde. Iodine



Part of the Grounds.

is good. But if your boy has had ringworm for over a year I would suggest X-ray treatment. Often one treatment is sufficient. Resinol is made up largely of resin or ordinary rosin, and the price you pay for a small can is profiteering of the worst kind. It is no good anyhow.

## The Children's Poem.

The Rhyme of Dorothy Rose.

Dorothy Rose had a turned-up nose. Did she worry about it, do you suppose? Oh, no; but a plan she began to hatch, To make the rest of her features match.

their invisible Companion is the Lord, their Brother-King. Sometimes, it may be, their eyes are holden that they do not know Him because they refuse His invitation, and they do not know Him in "breaking of bread."

But let us return to our text. The sorrowing woman had come to the Sepulchre in the grey dawning of the day. They thought it would be another day of sadness—and yet it was the first Great Easter Day. An angel had sent them to tell the disciples the wonderful news that the Lord was Risen. With the words ringing in their ears: "Behold, He goeth

before you into Galilee; there shall ye see Him!" they ran joyfully to bring His disciples word. Suddenly they stopped, for Jesus Himself stood in the way, saying: "All hail!"

Can you not see the smile that accompanied that homely morning greeting? Can't you hear the tender note in His Voice? He was so glad to meet them. It was a delight to say "Good Morning" to those loyal friends of His.

The Risen Lord is our Friend, too. We don't have to wait until we can be ceremoniously ushered into the presence of our King. He meets us each morning with His familiar "All hail!" as we go forth to our appointed work. He is—

"Not as one blind and deaf to our beseeching,  
Neither forgetful that we are but dust,  
Not as from heavens too high for our upreaching,  
Coldly sublime, intolerably just:—  
Nay, but Thou knewest us, Lord Christ,  
Thou knowest—  
Well Thou rememberest our feeble frame,  
Thou canst conceive our highest and our lowest  
Pulses of nobleness, and aches of shame."

The joy of Easter should make every day glorious. That is one splendid thing about Christianity! It is (or should be) the sunshine of common days. If you are running Christ's errands you should be on the watch. Then you will not pass Him unnoticed when he meets you on the stairs, or in the kitchen, or in the barn. You will hear His friendly greeting and will not fail to return His smile. You will go on your way with gladness in your heart and a shining face. There will be no fretful complaining about the weather or the work. Then others will take knowledge of you that you have been (though it may only have been for a moment) with JESUS.

Ten years ago I received from a dear friend a little scrap of paper on which she had copied a few lines of poetry. The thought expressed by the writer was that the outward glory of Easter would soon pass away. The anthems would sink into silence and the lilies would wither and die; but the real joy of Easter would last unchangingly. And that joy was "The LOVE of the LIVING Christ." His "Good Morning", is an assurance that He will be with us all through the day. His "Good Night" makes us feel like happy children, washed and blessed and tucked safely in bed by Love unflinching.

But we must not forget how those women acted when they were met by their living Friend. They held Him by the feet, and worshipped Him. He was their Master, the Victor over Death, and they fell at His feet in humble adoration. It was the same with St. Thomas. When the Lord gave him permission to touch the wounds in His hands and side, the apostle exclaimed in wondering awe: "My Lord and my God." Though the Master might be familiar—as in the days when He was Jesus the Carpenter—the disciple must approach Him with deepest reverence.

The place whereon we stand is always holy ground, and the day is always Easter Day—for we are always in the presence of The Living One, Who was dead, but is alive for evermore. It is not only our Friend, but our Lord and God Who meets us each morning. What are His orders for the day? The women were sent on their way with no change in their appointed work, but with fresh inspiration and courage to do it. The message of the angel was repeated by Christ: "Go tell my brethren that they go into Galilee, and there shall they see Me."

When you kneel before the Living Master, and He gives you your orders for the day, it is very likely that He will tell you to do the ordinary work which you have done if you had not consciously met Him. The work may be the same, but the spirit in which it is done will be very different. It is no longer drudgery but service. It has become a "vocation", a mission on which you are sent by God Himself. The glory of His service can make even a stove-brush shine with a brighter lustre than the gold dishes of King Midas.

Are you glorying in your high vocation as a servant of Christ? One writer has expressed his opinion: "The gambler is absorbed in bridge, the sportsman in shooting, the society woman in fashion—but few Christians are absorbed in Christianity." That was his thought, but perhaps the Searcher of hearts may think

differently. Elijah thought he was the only servant of God in Israel—but God was holding daily communion with seven thousand more. I am sure there are many readers of our "Quiet Hour"—unknown to me, but very dear to Christ who consecrate themselves each morning wholeheartedly to His service, and answer His morning greeting with a loyal soldierly salute, as a private to a superior officer. He is Captain of the host, and each soldier takes his orders directly from Him.

Those who wish to help others can gain power through contact with Him who is "The Life." We know nothing of the work accomplished by Enoch. But—although he lived about 6,000 years ago the world still remembers that he walked with God. That was the greatest thing he did, and while he lived in this world he had the marvellous joy of knowing that he "pleased God"—Heb. 11:5.

We, also, may attain that glorious crown of success. Dr. Schofield writes: "Enoch did not know God from the Bible, for there was none. But wherever Enoch was met with, his best Friend was there too. God nearer and dearer than anything or anyone else in earth or heaven—that is to walk with God."

Perhaps we may sometimes begin the day by kneeling at the feet of the Lord, and then—in the daily rush of work—the remembrance of His presence may be crowded out. But those women did not meet Him—"Jesus met them." It was His "All hail!" that arrested their attention. He is not dead, nor far away. His greeting can still give great joy to His friends. Lift up your eyes and you may see His face. Listen, and you may hear the still small voice speaking to your soul.

Please do not think that I always remember the Risen Lord. I forget Him very, very often, but I am sure He never forgets me. We (you and I) want to walk with God along the common road of life, therefore, we pray:

"Raise Thou me up, no other hand can lift the burden'd spirit,  
No other heart can understand my human nature's limit,  
Thy Resurrection Power alone  
Can mould and keep me for Thine Own."  
DORA FARNCOMB.

## 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 a stamped envelope ready to be sent on. (4) Allow one month in this department for answers to questions to appear.

### A Message of the Eastertide.

POSSIBLY the Eastertide has different messages for different people; we interpret things through our individual temperaments; an influence may not exert exactly the same force in life upon any two persons who come under its touch. But surely to the most of us, in one way or another, the primary message of the Easter season is Hope. It comes in the spring of the year, when the bright sunshine is dispelling the gray clouds of winter; the hoped-for fruitfulness of the sowing and harvest is ahead; after the gloom of "Good Friday" with its sad memories comes the joyous outburst of Easter Sunday with its story of the Resurrection. And so there is Hope for us all. The strange muddle of things on earth, which we can in no wise understand, appears as a preparatory lesson for something better to follow. If we "fight the good fight" just as well as we can, we can hope that the fight shall not be vain, but a strengthening for larger opportunities for good work and helpfulness ahead. "The dead shall live again," and even past the portals of death one would not wish to be useless, but ever and ever more useful as opportunities increase and the days go on in the long bright vistas of Eternity.

JUNIA.

### Worth Thinking Over.

"The life sublime is a life of service to others, of devotion to truth and of good will to all. It has opposition for mistakes but no persecution for the mistaken."—Mons Bauder.



Corner of Lawn and Residence of Sir Edmund Osler, Toronto.

Note the broken tree covered with vines.

"What apparatus can destroy in a few minutes a hundred thousand larvae and caterpillars as the birds for whom we plead? Our modern science has not yet found it. Man is mad when he destroys these guardians of our crops."—Mons Bauder.

### Bedroom Floor. Furniture Polish.

For B. S., Middlesex Co., Ont.

You can buy a "crack filler" at any good hardware store probably; if not the T. Eaton Co. keep it. It is doubtful if you can remove the liquid soot stain

satisfactorily enough to have a polished floor, unless, possibly, the stain is so shallow that you can sandpaper it off. Would advise you to treat the floor to a regular floor-paint finish which calls for three coats, first a filler, then a sort of paint, and last a finishing stain. These can be got at a hardware store. If you choose a good oak finish for the top the effect is very good. For the "dulled" sideboard use one of the furniture renovators sold for the purpose—say "liquid veneer," and rub hard with chamois or fine flannel rag until a gloss appears. Yes, varnish is "too shiny" for good furniture. Wash it little by little with castile soap and a rag dipped in warm soft water, then rub hard with chamois, using plenty of "elbow grease." Or use liquid veneer. If you want to make your own Furniture Polish, try this: Put  $\frac{1}{2}$  pint each of turpentine, spirits of wine, and vinegar into a bottle. Add  $\frac{3}{4}$  pint linseed oil. Cork tightly and shake the bottle vigorously to mix thoroughly. Dust the furniture carefully and remove any grease spots with a flannel dipped in warm soda water. Rub dry. Pour a small quantity of the polish on a clean soft flannel rag and rub well into the wood. Do just a little at a time and polish off each bit at once with a soft cloth. If only a small quantity of the polish is used it will brighten more easily than if the mixture is laid on thickly.

### A Leap Year Party.

For "An Interested Reader," Glengary Co., Ontario.

How would a "popcorn party" do? It is conducted somewhat as follows: Send out the invitations written on colored paper in tiny envelopes (you can make these.) As soon as the guests arrive each girl is presented, in the dressing-room, with a necklace made of popcorn sewed upon narrow ribbon. The ribbon should be of different colors; if you have time you can paint the popcorn, with watercolor, to match. When the girls go down they find all the men adorned with watch-chains to match. The "director of ceremonies" who, since it is a Leap Year Party, must be a woman, invites the girls to seek their partners, which they do by seeking men who have watch-chains to correspond either in color, or according to some distinctive bow or pendant affixed. Next all adjourn to any room where a good fire can be kept burning and the girls "do the popping", i. e. pop some nice corn, which

is carried by which is served. The table should and the menu that carries wiches, lemon lemon ice-cream, corn, salted, ar

After supper where a number the mistress. One is to give girl to "pop the each man must Year. The "the mistress are given.

each to write "corn" and for or paragraph. is called and prizes being ag for a popcorn candle-shade or home-made and yellow p booby prize, t being obliged I hope this but probably Nook heading must be allow in this departm

### Wool

This week to answer J. M. comforters. A the rescue. V letters are as f

Dear Ingle your corner a wives do. W others, in the suggestions by our work and I have tried recipe and an boon to me wh come and wish Farmer's V perhaps be gla put the wool hours and dry dry and fluffy the covering, a lining. This the mill where and rolled sin batting. Hope be of service t

With Lanark Co.

Dear Junia of March 1 how to make v perhaps I co might help: carded into boiler and br rinse well, an This makes i (use rain wa bats will not ing that you made many almost as ligh We used to g gated Berlin If there is a your home, y bats made. but if you c into "fluffine Trusting th Wife." You

### Little

At present Always Hom little boys wh Their ages r you want o bit of work i to Thomas F Aid Society,

### Eggs

Eggs Scra milk, melt i and stir into beaten just whites. Str thicken, an add salt to of finely min it. Serve at



Gateway and "curving" drive." Residence of Sir Edmund Osler, Toronto.

to have a polished floor, the stain is so deep that you must sandpaper it off. Then treat the floor with a finish which calls for a filler, then a shining stain. These are available in any hardware store. If you wish for the top the floor to be "dulled" for the furniture renovation—say "liquid" with chamois or a gloss appears "shiny" for good little by little with a dip in warm water and hard with chamois, now grease." Or you want to make Polish, try this: Turpentine, spirits into a bottle. Add Cork tightly and vigorously to mix furniture carefully case spots with a warm soda water. All quantity of the flannel rag and rub. Do just a little at a time at once with a small quantity will brighten more and is laid on thick.

is carried by the men to the tables at which is served. presently, a nice supper. The table should be decorated with yellow. The menu may consist of anything and the menu carries out the idea—egg sandwiches, lemon jelly, lemon layer cake, lemon ice-cream, etc., with the hot popcorn, salted, and popcorn balls.

After supper all adjourn to a parlor where a number of games are directed by the mistress of ceremonies.

One is to give all pencils and ask each girl to "pop the question" in verse, while each man must write his opinion on Leap Year. The "poems" are then read by the mistress of ceremonies and prizes are given. Another game is to ask each to write eight nouns beginning with "corn" and form them into a sentence or paragraph. In ten minutes a halt is called and the papers are collected; prizes being again given. Suitable prizes for a popcorn party are a yellow paper candle-shade or a yellow box of bonbons or home-made candy for first prize, and yellow paper dunce caps for the booby prize, the recipients of the latter being obliged to wear them all evening.

I hope this is in time for you party; but probably you have read the Ingle Nook heading which says that one month must be allowed for answering questions in this department.

**Wool for Comforters.**

This week two friends have written to answer J. M. H.'s question re. wool for comforters. Always someone comes to the rescue. We are very grateful. The letters are as follows:

Dear Ingle Nook.— I certainly enjoy your corner as I am sure all the housewives do. We, in our profession, like others, in theirs, are always looking for suggestions by which we may improve our work and make it more enjoyable. I have tried J. M. H., N. B.'s bread recipe and am sure that it will prove a boon to me when the hot days of summer come and wish to thank her for sending it.

Farmer's Wife, Stormont Co., will perhaps be glad to hear that, if she would put the wool in boiler, boil it for three hours and dry in the sun until perfectly dry and fluffy it will not work through the covering, even if not covered with a lining. This we do before sending it to the mill where it is made into wide layers and rolled similar to the regular quilt batting. Hope this will not be too late to be of service to Farmer's Wife.

With best wishes,  
Lanark Co., Ont. "FARMER'S WIFE."

Dear Junia.—In "Farmer's Advocate" of March 1, "Farmer's Wife" asks how to make wool comforters; and thought perhaps I could offer a suggestion that might help: Before having the wool carded into bats, wash—and put into a boiler and bring to the boil, take out and rinse well, and dry in the sun if possible. This makes it lovely and white and soft (use rain water) and when carded into bats will not "creep" through any covering that you wish to use. My mother made many in this way, and they are almost as light and warm as a down quilt. We used to get a pretty shade of variegated Berlin wool and tie them.

If there is a woolen mill any where near your home, you could probably get your bats made. This is the nicest way, but if you cannot manage this pick it into "fluffiness" yourself.

Trusting this will help you "Farmer's Wife."  
Yours very sincerely,  
"AUNT KATE".

**Little Boys Wanting Homes.**

At present, there are at the Thomas Alway Home, London, Ont., thirteen little boys who need homes and "mothers." Their ages range from 2 to 9 years. If you want one (and you can do a good bit of work in the world if you do) write to Thomas E. Kelly, Secretary Children's Aid Society, London, Ont.

**Eggs in Variation.**

*Eggs Scrambled in Milk.*—Heat 1 cup milk, melt in it a teaspoonful of butter and stir into it 6 eggs which have been beaten just enough to mix the yolks and whites. Stir constantly until the eggs thicken, and as soon as tolerably firm add salt to taste, also a tablespoonful of finely minced fresh parsley if you have it. Serve at once on buttered toast.

*A Plain Omelet.*—Separate the eggs. Add to the yolks of 2 eggs a pinch of salt dash of white pepper and a very little paprika if you have it. Beat until thick, then add 2 tablespoons hot water and continue beating until thoroughly mixed. Now beat the whites until really "dry." Gently fold the whites into the yolk and water mixture, with a lifting motion with the spoon, so that air is folded in with the whites with every motion of the spoon; this makes the omelet light. Pour the mixture into a hot, well-greased pan, lifting and turning the pan constantly. When the omelet is a delicate brown underneath, remove from the fire and place in the oven to finish cooking the top.

*Egg Pie With Potatoes.*—Shell 5 hard boiled eggs and cut into rather thick slices. Mash a pound of boiled potatoes and mix with a heaping tablespoon of butter and 2 tablespoons hot cream. Season with salt, pepper and a very little nutmeg. With this line the bottom of a buttered earthenware dish and place in it a layer of the sliced eggs. Scatter some chopped parsley over (if you have it) and cover with a little white sauce. Continue alternate layers of potato, sauce and egg until the quantities are used. Let the last layer be a coating of sauce, and cover the top with mashed potatoes. Smooth over with a knife and mark a pattern on top with the point of the knife. Brush over with beaten egg and bake in a moderately hot oven for half an hour.

*Scotch Woodcock.*—Take 4 hard-boiled eggs, 1½ tablespoons flour, 1 cup milk, salt, pinch of Cayenne pepper, and 1 teaspoon of anchovy essence (a tablespoonful of grated cheese will do, but is not so "snappy"). Melt the butter, add the flour and gradually the milk, stirring constantly. Let boil 1 minute to break up the starch cells in the flour, then add the eggs, finely chopped, and the seasonings. Serve on bread toasted on one side, and garnish with parsley. Instead of chopping the eggs many prefer to cut them in rings adding them very carefully to the sauce so as not to break them.

**The Scrap Bag.**

**Hard Boiled Eggs.**

Never drop hard-boiled eggs in cold water to cool, as it toughens them. They should be firm and almost mealy.

**Rice in Shaker.**

In damp weather when salt will not readily come out of the shaker, put in a few kernels of rice to absorb the moisture.

**Use for Alarm Clock.**

If you are inclined to forget when the cake should come out of the oven or when the stew will be done, set your alarm clock. It spoils cake to keep opening the door to see if it is done.

**A Handy Contrivance.**

Nail a narrow strap, leaving it a little slack, to the woodwork just behind the kitchen work table, and divide it at intervals with tacks. Into the loops thus made slip the work knives and spoons which will be always in sight.

**Shrinking Wash Fabrics.**

All wash fabrics should be thoroughly shrunk before they are made up. To do so wet them thoroughly then dry slowly in the shade. Iron before they are perfectly dry.

**Burn Prunings.**

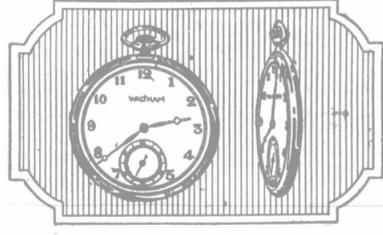
Burn all prunings from apple trees and bushes as if left on the ground they form an excellent harborage for insects.

**When is Soil Ready?**

A writer in *Garden Magazine* gives the following rule for knowing when the soil in the garden is ready to work up: "Make it a point never to dig or plow while the soil is so wet that when you take a handful and squeeze it it will form a firm ball. The soil will crumble after squeezing when it is ready to be worked. Until it does, let it alone." The same writer strongly advises not being in a hurry to sow the seed until both soil and weather are exactly right for growth. Nothing is gained by getting it in too soon.

**Parsnips and Vegetable Oyster.**

Dig up any parsnips and vegetable oyster roots left over winter in the garden



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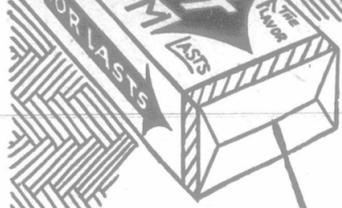
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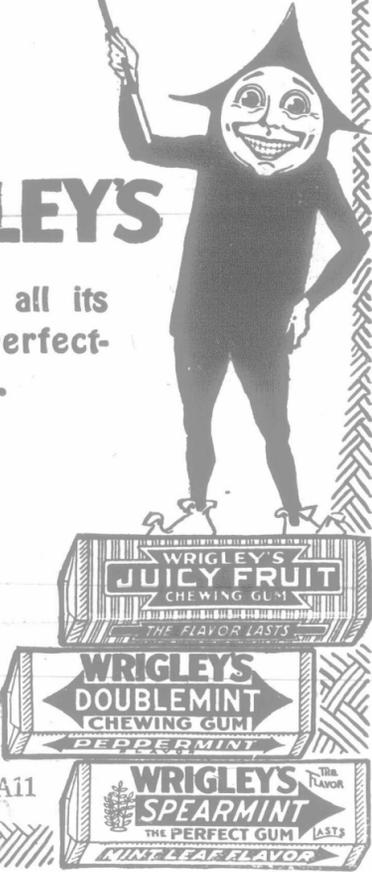
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The flavor  
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WISCONSIN INCUBATOR CO., Box 224 Racine, Wis., U. S. A.

and store them in the coldest part of the cellar. If left in the garden they will sprout and be of no use; indeed if parsnips grow up a second time they develop poison.

## The Fashions.

### How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. Address Fashion Department, The Farmer's Advocate and Home Magazine, London, Ont. Be sure to sign your name when ordering patterns. Many forget to do this.

**POSITIVELY NO PATTERNS WILL BE SUPPLIED EXCEPT THOSE ILLUSTRATED.**

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

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



3112. (14) Patterns of Essential Garments for Baby.

It will require of 36-inch material for cloak, 2 3/4 yards; for carriage robe, 2 1/4 yards; cold feet gown, 2 1/4 yards; kimono, 2 1/4 yards; slip, 2 1/2 yards; Barrie coat, 2 1/4 yards; cap, 3/8 yard; shirt, 3/4 yard; diaper drawers, 1/2 yard; sack, 3/8 yard; pinning blanket, muslin, 3/8 yard; flannel 7/8 yard; bib, 1/2 yard; bootee, 1/4 yard; band, 1/4 yard. Price 20 cents.



3125. (1) Practical Patterns of Baby Garments. The pattern is cut in one size. It

requires of 36-inch material, for yoke dress, 2 yards; coat, 2 1/4 yards; bonnet, 3/4 yard; nightdress, 2 yards; petticoat, 1 3/8 yard; ruffle, 3/8 yard; feeding apron, 5/8 yard; drawers, 3/4 yard; rompers, 1 3/4 yard; underwaist, 3/8 yard; play dress, 3 yards. Price, 20 cents.

## Current Events

A rich gold discovery is reported from Alsask, Sask.

G. H. Clark, Dominion Seed Commissioner, predicts that within ten years British Columbia will be the seed garden of North America.

Pres. R. W. E. Burnaby of the U. F. O. was elected President of the Canadian Council of Agriculture.

The Dominion Government has accepted Great Britain's offer of one light cruiser and two torpedo boat destroyers to take the place of the absolute "Niobe" and "Rainbow."

A Dominion Council of Health has been organized.

Hon. R. H. Grant announced that High School Entrance Boards will be given power to dispense with written examinations in individual cases; also that students who fail in or are unable to write on normal and faculty examinations in June will have a second chance in September.

The Provincial Government of Ontario may appoint a commission to probe the cost of producing milk in the Province.

On March 22 the Commons at Ottawa approved the formal appointment of the Parliamentary Committee to investigate soldiers' pensions and other matters pertaining to the re-establishment of returned men.

The Canadian Council of Agriculture has planned for an international agrarian conference, to be held at an early date and to include Canadian and United States delegates.

Since the U. S. Senate has definitely refused to ratify the Peace Treaty, the United States is still technically at war with Germany, and will likely make a separate peace. The majority of the Republicans in the Senate supported the Covenant with reservations; the minority, headed by Senators Borah and Johnson, opposed the entrance of the United States into the League of Nations on any terms. For the present, between the two, President Wilson, who has persistently fought for the Treaty, with Art X introduced, is powerless.

The political situation in England is at present very interesting. Premier Lloyd George has taken the stand that the Labor party is Socialistic, if not even Communistic and Bolshevistic, and that if it came into power it would have to establish communism or break faith with the party. Because of this, he thinks, Liberals and Unionists should band together closely to resist. The Labor leaders, on the other hand, regard the Premier's declaration as a call to the matching of class against class, and point to the recent decision of the Trade Union Congress against "direct action," or a strike policy, as a refutation of the premier's words. In general the Press is lukewarm in regard to Mr. Lloyd George's proposed "National Democratic party," while A. G. Gardiner even accuses him of aiming at a personal dictatorship working through a Tory oligarchy. The hope of a Labor-Liberal rapprochement in Britain is at an end because Mr. Asquith says the Liberals will stand firmly against nationalization of industry.

Murders and other troubles continue to harrass Ireland. The assassination of Thomas McCurtain, the Sinn Fein Lord Mayor of Cork on March 20, believed to be in retaliation for previous murders of policemen, has been followed by the assassination, on March 26, of Magistrate Alan Bell, 70 years old, in Dublin. Upon that day 35 prominent Sinn Feiners were arrested in the city. Troops and supplies

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A few cents buys a tiny bottle of the magic Freezone at any drug store. Apply a few drops of Freezone upon a tender, aching corn or a callus. Instantly that troublesome corn or callus stops hurting then shortly you lift it out, root and all, without any pain, soreness or irritation. These little bottles of Freezone contain just enough to rid the feet of every hard corn, soft corn, corn between the toes and the calluses on bottom of feet. So easy! So simple. Why wait? No humbug!

## The Royal Bank of Canada

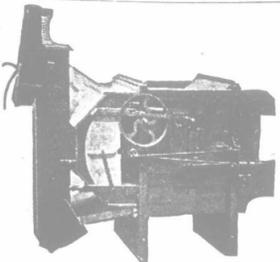


Protect your Victory Bonds by Renting a Safety Deposit Box.

Deposit the coupons every six months in a Savings Account and earn interest upon the bond interest at 3% per annum, compounded half-yearly.

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have been sent to the south of Ireland to forestall any attempt at a rebellion.

Germany's latest revolution appears to be pretty well over, with the Ebert-Bauer Government again in the saddle, although, it is said, at the cost of sweeping concessions to the extremists, including the formation of a purely Socialistic Cabinet, and the dismissal of Herr Noske, Minister of Defense. The general strike, which Ebert called, to the discomfiture of the Kapp-Luettwitz attempt, is over, but the workmen will instantly resume it if the conditions they demand are not carried out. Dr. Kapp's coup, indeed, resulted only in welding all the workmen together; he achieved a result the very opposite of that at which he aimed. Hermann Mueller, German Foreign Minister, states his belief that the miscarriage of the plot shows that Germany is now safe for democracy and need have no fear of junkerism.

The Supreme Council recently decided to offer the protection of the League of Nations to an independent Armenia, which would comprise Russia Armenia and certain territories taken from Turkey, the country to have access to the sea by the international port Batoum. According to Archbishop Kholm, an Armenian from Erivan, Tartars, at the instigation of the Young Turks, recently murdered 17,000 Armenians.

British troops, by occupying Ismid and Novemrt, have begun military operations against Mustapha Kemal, the leader of the Nationalists in Turkey. The Turkish commander in Thrace has notified the Allies that he will not recognize the Government set up by them at Constantinople. King Feisal of Syria has declared a boycott against the countries occupying Arab territory—France and England—but has organized a commission to bring Moslems and Christians into better understanding.

## The Windrow

Easter at Riverside.

Through the great kindness of Mr. Frank Miller, Master of the Mission Inn at Riverside, California, we were guests of the Inn over Easter Sunday. It was a unique occasion. For years there has been a pilgrimage each Easter morning to Mount Rubidoux to the sunrise service. A local paper says of this last celebration:

From early in the night until the rising sun dimmed all other glowing torches the gleaming cross on the mountain top guided thousands up the rugged trails and along the motor road. Silver chimes tolled out the knell of fading night, and four clear sounding trombones from the Los Angeles Symphony Orchestra met the silver dawn with peans of the coming Easter day.

And then, like a flood of light there burst suddenly upon rock and rill, and sleeping valley, this hymn by two thousand throats:

"In the cross of Christ I glory,  
Towering o'er the wrecks of time,  
All the light of sacred story  
Gathers round its head sublime."

A brief service consisting of a responsive scripture reading, song and prayer followed. This recognition of the great truth embodied in the Easter message by a vast company who had climbed the mountain to hail the dawn of another Easter morning with reverent and watchful hearts was something too uplifting and inspiring ever to be forgotten.—*Our Dumb Animals.*

Edith was admiring her new summer frock. "Isn't it wonderful," she said, "that all this silk comes from an insignificant worm!"

"Edith, is it necessary to refer to your father in that way?" her mother inquired, reproachfully.

An old colored man was burning dead grass when a 'wise guy' stopped and said, "You're foolish to do that, Uncle Eb; it will make the meadow as black as you are."

"Don't worry 'bout dat, sah," responded Uncle Eb. "Dat gras will grow out an' be as green as you is."—Boston Transcript.

## Serial Story

"His Family."

BY ERNEST POOLE.

(Serial rights reserved by the Farmer's Advocate and Home Magazine.)

CHAPTER XXX.

And now he felt the approach at last of another season of quiet, one of those uneventful times which come in family histories. As he washed and dressed for dinner, one night a little later, he thought with satisfaction, "How nicely things are smoothing out." His dressing for dinner, as a rule, consisted in changing his low wing collar and his large round detachable cuffs; but to-night he changed his cravat as well, from a black to a pearl gray one. He hoped the whole winter would be pearl gray.

The little storm which Edith had raised over John's presence in the house had been allayed. Deborah had talked to John, and had moved him with his belongings to a comfortable sunny room in the small but neat apartment of a Scotch family nearby. And John had been so sensible, "Oh, I'm fine, thank you," he answered simply, when in the office Roger had asked him about his new home. So that incident was closed. Already Edith was disinfecting John's old room to her heart's content, for George was to occupy it now. She was having the woodwork repainted and a new paper put on the walls. She had already purchased a small new rug, and a bed and a bureau and one easy chair, and was making a pair of fresh pretty curtains. All right, let her do it—if only there could be peace in the house.

With his cravat adjusted and his thick-curling silver hair trim from having just been cut by "Louis" over at the Brevoort, Roger went comfortably down to his dinner. Edith greeted him with a smile.

"Deborah's dining out," she said.

"Very well," he replied, "so much the better. We'll go right in—I'm hungry. And we'll have the evening to ourselves. No big ideas nor problems. Eh, daughter?" He slipped his hand in hers, and she gave it a little affectionate squeeze. With John safely out of the way, and not only the health of her children but their proper schooling assured, Edith was herself again, placid, sweet and kindly. And dinner that night was a cheerful meal. Later, in the living room, as Roger contentedly lit his cigar, Edith gave an appreciative sniff.

"You do smoke such good cigars, father," she said, smiling over her needle. And glancing up at her daughter, "Betsy, dear," she added, "go and get your grandfather's evening paper."

In quiet perusal of the news he spent the first part of his evening. The war did not bother him to-night, for there had come a lull in the fighting, as though even war could know its place. And times were better over here. As, skipping all news from abroad his eye roved over the pages for what his business depended upon, Roger began to find it now. The old familiar headlines were reappearing side by side—high finance exposures, graft, the antics and didos cut up by the sons and daughters of big millionaires; and after them in cheery succession the Yale-Harvard game, a new man for the Giants, a new college building for Cornell, a new city plan for Seattle, a woman Senator in Arizona and in Chicago a "sporting mayor." In brief, all over the U.S.A., men and women, old and new had risen up, to power, fame, notoriety, whatever you choose to call it. Men and women? Hardly. "Children" was the better word. But the thought did not trouble Roger to-night. He had instead a heartening sense of the youth, the wild exuberance, the boundless vigor in his native land. He could feel it rising once again. Life was soon to go on as before; people were growing hungry to see the names of their countrymen back in the headlines where they belonged. And Roger's business was picking up. He was not sure of the figure of his deficit last week—he had always been vague on the book-keeping side—but he knew it was down considerably.

When Betsy and George had gone to bed, Roger put down his paper.

"Look here, Edith," he proposed, "how'd you like me to read aloud while

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you sew?" She looked up with a smile of pleased surprise.

"Why, father dear, I'd love it." At once, she bent over her needle again, so that if there were any awkwardness attending this small change in their lives it did not reveal itself in her pretty countenance. "What shall we read?" she affably asked.

"I've got a capital book," he replied. "It's about travel in Japan."

"I'd like nothing better," Edith replied. And with a slight glow of pride in himself Roger took his book in hand. The experiment was a decided success. He read again the next night and the next, while Edith sat at her sewing. And so this hour's companionship, from nine to ten in the evening, became a regular custom—just one hour and no more, which Roger spent with his daughter, intimately and pleasantly. Yes, life was certainly smoothing out.

Edith's three older children had been reinstated in school. And although at first, when deprived of their aid, she had found it nearly impossible to keep her two small boys amused and give them besides the four hours a day of fresh air they required, she had soon met this trouble by the same simple process as before. Of her few possessions still unsold, she had disposed of nearly all, and with a small fund thus secured she had sent for Hannah to return. The house was running beautifully.

Christmas, too, was drawing near. And though Roger knew that in Edith's heart was a cold dread of this season, she bravely kept it to herself; and she set about so determinedly to make a merry holiday, that her father admiring her pluck drew closer still to his daughter. He entered into her Christmas plans and into all the conspiracies which were whispered about the house. Great secrets, anxious consultations, found in him a ready listener.

So passed three blessed quiet weeks, and he had high hopes for the winter.

#### CHAPTER XXXI.

If there were any cloud upon his horizon, it was the thought of Laura. She had barely been to the house since Edith had come back to town; and at times, especially in the days when things had looked dark for Roger, he had caught himself reproaching this giddy-giddy youngest child, so engrossed in her small "menage" that apparently she could not spare a thought for her widowed sister. Laura on her return from abroad had brought as a gift for Edith a mourning gown from Paris, a most alluring creation—so much so, in fact, that Edith had felt it simply indecent, insulting, and had returned it to her sister with a stilted note of thanks. But Roger did not know of this. There were so many ways, he thought, in which Laura might have been nice to Edith. She had a gorgeous limousine in which she might so easily have come and taken her sister off on little trips uptown. But no, she kept her car to herself. And from her small apartment, where a maid whom she had brought from Rome dressed her several times each day, that limousine rushed her noiselessly forth, gay and wild as ever, immaculate and elegant, radiant and very rich. To what places did she go? What new friends was she making? What was Laura up to?

He did not like her manner, one evening when she came to the house. As he helped her off with her cloak, a sleek supple leopard skin which fitted her figure like a glove, he asked:

"Where's Hal this evening?" And she answered lightly,

"Oh, don't ask me what he does with himself."

"You mean, I suppose," said Edith, with quiet disapproval, "that he is rushed to death this year with all this business from the war."

"Yes, it's business," Laura replied, as she deftly smoothed and patted her soft, abundant, reddish hair. "And it's war, too," she added.

"What do you mean?" her father asked. He knew what she meant, war with her husband. But before Laura could answer him, Edith cut in hastily, for two of her children were present. At dinner she turned the talk to the war. But even on this topic, Laura's remarks were disturbing. She did not consider the war wholly bad—by no means, it had many good points. It was clearing away a lot of old rubbish, customs, superstitions and institutions out of date. "Musty old relics," she called them. She spoke as though repeating what some-

one else had told her. Laura with her chicken's mind could never have thought it all out by herself. When asked what she meant, she was smiling vague, with a glance at Edith's youngsters. But she threw out hints about the church and even Christianity, as though it were falling to pieces. She spoke of a second Renaissance, "a glorious pagan era" coming. And then she exploded a little bomb by inquiring of Edith,

"What do you think the girls over there are going to do for husbands, with half the marriageable men either killed or hopelessly damaged? They're not going to be nuns all their lives!"

Again her sister cut her off, and the rest of the brief evening was decidedly awkward. Yes, she was changing, growing fast. And Roger did not like it. Here she was spending money like water, absorbed in her pleasures, having no baby, apparently at loose ends with her husband, and through it all so cocksure of herself and her outrageous views about war, and smiling about them with such an air, and in her whole manner such a tone of amused superiority. She talked about a world for the strong, bits of gabble from Nietzsche and that sort of rot; she spoke blithely of a Rome reborn, the "Wings of the Eagles" heard again. This part of it she had taken, no doubt, from her new Italian friend, her husband's shrapnel partner.

Pshaw! What was Laura up to? But that was only one evening. It was not repeated, another month went quickly by, and Roger had soon shaken it from him, for he had troubles enough at home. One daughter at a time, he had thought. And as the dark clouds close above him had cleared, the other cloud too had drifted away; until it was small, just on the horizon, far away from Roger's house. What was Laura up to? He barely ever thought of that now.

But one night when he came home, Edith, who sat in the living room reading aloud to her smaller boys, gave him a significant look which warned him something had happened. And turning to take off his overcoat, in the hall he almost stumbled upon a pile of hand luggage, two smart patent leather bags, a hat trunk and a sable cloak.

"Hello," he exclaimed. "What's this? Who's here?"

"Laura," Edith answered. "She's up in Deborah's room, I think—they've been up there for over an hour." Roger looked indignantly in at his daughter.

"What has happened?" he asked. "I'm afraid I can't tell you," Edith replied. "They didn't seem to need me. They made it rather plain, in fact. Another quarrel, I presume. She came into the house like a whirlwind, asked at once for Deborah and flew up to Deborah's room."

"Pshaw!" Roger heavily mounted the stairs. He at least did not feel like flying. A whirlwind, eh—a nice evening ahead!

Meanwhile, in her room upstairs Deborah sat motionless, sternly holding her feelings down, while in a tone now kindly but more often full of a sharp dismay, she threw out question after question to Laura who was walking the floor in a quick, feverish sort of way, with gestures half hysterical, her voice bursting with emotions of mingled fright and rage.

"No, this time it's divorce!" she declared, at the end of her first outburst, in which she had told in fragments of her husband's double life. "I've stood it long enough! I'm through!"

"You mean you don't care for him," Deborah said. "She was fighting for time to think it out. 'You want a divorce. Very well, Laura dear—but how do you think you are going to get it? The laws are rather strict in this state. They allow but one cause. Have you any proofs?'"

"No, I haven't—but I don't care! I do! Wait—I'll give you his very words! Laura's face grew white with fury. "It's entirely up to you, Sweetie—the beast!—You can have any kind of divorce you like. You can let me bring suit on the quiet or you can try to fight me in court, climb up into the witness chair in front of the reporters and tell them all about yourself!"

"Your husband is to bring suit against you?" Deborah's voice was loud and harsh. "For God's sake, Laura, what do you mean?"

"Mean? I mean that he has proof! He has used a detective, the mean little cur, and he's treating me like the dirt under his feet! Just as though it were

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one thing for a man, and another—quite—  
for a woman! He even had the nerve to  
be mad, to get on his high horse, call me  
names! Turn me!—turn me out on the  
street!" Deborah winced as though from  
a blow. "Oh, it was funny, funny!"  
Laura was almost sobbing now.  
"Stop, this minute!" Deborah said.  
"You say that you've been doing—what  
he has?" she demanded.  
"Why shouldn't I? What do you know  
about it? Are you going to turn against  
me, too?"  
"I am—pretty nearly—"  
"Oh, good God!" Laura tossed up her  
hands and went on with her walking.  
"Quiet! Please try to be clear and  
explain."  
"Explain—to you? How can I? You  
don't understand—you know nothing  
about it—all you know about is schools!  
You're simply a nun when it comes to  
this. I see it now—I didn't before—I  
thought you a modern woman—with your  
mind open to new ideas. But it isn't,  
it seems, when it comes to a pinch—it's  
shut as tight as Edith's is—"  
"Yes, tight!"  
"Thank you very much! Then for the  
love of heaven will you kindly leave me  
alone! I'll have a talk with father!"  
"You will not have a talk with father—"  
"I most certainly will—and he'll under-  
stand! He's a man, at least—and he led  
a man's life before he was married!"  
"Laura!"  
"You can't see it in him—but I can!"  
"You'll say not a word to him, not one  
word! He has had enough this year as  
it is!"  
"Has he? Then I'm sorry! If you  
were any help to me—instead of acting  
like a nun—"  
"Will you please stop talking like a  
fool!"  
"I'm not! I'm speaking the truth and  
you know it! You know no more about  
love like mine than a nun of the middle  
ages! You needn't tell me about Allan  
Baird. You think you're in love with  
him, don't you? Well then, I'll tell you  
that you're not—your love is the kind  
that can wait for years—because it's cold,  
it's cold, it's cold—it's all in your mind  
and your reason! And so I say you're no  
help to me now! Here—look at yourself  
in the glass over there! You're just plain  
angry—frightened!"  
"Yes—I am—I'm frightened." While  
she strove to think clearly, to form some  
plan, she let her young sister talk rapidly  
on.  
"I know you are! And you can't be  
fair! You're like nearly all American  
women—married or single, young or old  
—you're all of you scared to death about  
sex—just as your Puritan mothers were!  
And you leave it alone—you keep it  
down—you never give it a chance—you're  
afraid! But I'm not afraid—and I'm  
living my life! And let me tell you I'm  
not alone! There are hundreds and  
thousands doing the same—right here in  
New York City to-night! It's been so  
abroad for years and years—in Rome and  
Berlin, in Paris and London—and now,  
thank God, it has come over here! If our  
husbands can do it, why can't we? And  
we are—we're starting—it's come with the  
war! You think war is hell and nothing  
else, don't you—but you're wrong! It's  
not only killing men—it's killing a lot of  
hypocrisies too—it's giving a jolt to  
marriage! You'll see what the women  
will do soon enough—when there aren't  
enough men any longer—"  
"Suppose you stop this tirade and tell  
me exactly what you've done," Deborah  
interrupted. A simple course of action  
had just flashed into her mind.  
"All right, I will. I'm not ashamed.  
I've given you this 'tirade' to show you  
exactly how I feel—that it's not any  
question of sin or guilt or any musty old  
rubbish like that! I know I'm right! I  
know just what I'm doing!"  
"Who's the man? That Italian?"  
"Yes."  
"Where is he?"  
"Right here in New York."  
"Does he mean to stand by you?"  
"Of course he does."  
"Will he marry you, Laura?"  
"Yes, he will—the minute I'm free from  
my beast of a husband!"  
"And your husband will keep his suit  
quiet, you said, if you agree not to fight  
him."  
"Yes."  
Deborah rose abruptly.  
"Then you will stay right here to-night,  
and leave this man or to me?" she said.  
"What do you mean to do?"  
"See your husband!"

"What for? When?"  
"To-night, if I can. I want to be  
sure."  
Laura looked for the moment non-  
plussed.  
"And what of my wishes?" she inquired.  
"Your wishes," said Deborah steadily.  
"You want a divorce, don't you—so do I.  
And you want it quiet—and so do I.  
I want it so hard that I want to make  
sure." Deborah's tone was kinder now,  
and she came over close to her sister.  
"Look here, Laura, if I've been hard, for-  
give me—please—and let me help. I'm  
not so narrow as you think. I've been  
through a good deal of this before—down-  
town, I mean, with girls in my school.  
They come to me, we have long talks.  
Maybe I am a nun—as you say—but I'm  
one with a confessional. Not for sins,"  
she added, as Laura looked up angrily.  
"Sins don't interest me very much. But  
troubles do. And heaven knows that  
marriage is one," she said with a curious  
bitterness. "And when it has failed and  
there's no love left—as in your case—I'm  
for divorce. Only—" her wide, sensitive  
lips quivered just a little, "I'm sorry it  
had to come like this. But I love you,  
dear, and I want to help, I want to see  
you safely through. And while I'm doing  
it, if we can, I want to keep dad out of it  
—at least until it's settled." She paused  
a moment. "So if you agree, I'll go to  
your husband. I want to be sure, abso-  
lutely, just what we can count on. And  
until I come back, stay here in my room.  
You don't want to talk to father and  
Edith—"  
"Most certainly not!" Laura muttered.  
"Good. Then stay here until I return.  
I'll send you up some supper."  
"I don't want any thank you."  
Laura went and threw herself on the  
bed, while her sister finished dressing.  
"It's decent of you, Deborah." Her  
voice was muffled and relaxed. "I wasn't  
fair," she added. "I'm sorry for some of  
the things I said."  
"About me and marriage?" Deborah  
looked at herself in the glass in a peculiar  
searching way. A slight spasm crossed  
her features. "I'm not sure but that you  
were right. At times I feel far from cer-  
tain," she said. Laura lifted her head  
from the pillow, watched her sister a  
moment, dropped back.  
"Don't let this affect you, Deborah."  
"Oh, don't you worry, dearie." And  
Deborah moved toward the door. "My  
affair is just mine, you see, and this won't  
make any difference."  
But in her heart she knew it would.  
What an utter loathing she had to-night  
for all that people meant by sex! Sud-  
denly she was quivering, her limbs and  
her whole body hot.  
"You say I'm cold," she was thinking.  
"Cold toward Allan, calm and cool,  
nothing but mind and reason! You  
say it means little to me, all that! But  
if I had had trouble with Allan, would I  
have come running home to talk?  
Wouldn't I have hugged it tight? And  
isn't that love? What do you know of  
me and the life I've led? Do you know  
how it feels to want to work, to be some-  
thing yourself, without any man? And  
can't that be a passion? Have you had  
to live with Edith here and see what  
motherhood can be, what it can do to a  
woman? And now you come with an-  
other side, just as narrow as hers, de-  
vouring everything else in sight! And  
because I'm a little afraid of that, for  
myself and all I want to do, you say I  
don't know what love is! But I do!  
And my love's worth more than yours!  
It's deeper, richer, it will last!  
Then why do I loathe it all to-night?  
But I don't, I only loathe your  
side! . . . But yours is the very heart  
of it! . . . All right, then what am I  
going to do?"  
She was going slowly down the stairs.  
She stopped for a moment, frowning.  
(To be continued.)

The Woman.—"Here's a wonderful  
thing. I've just been reading of a man  
who reached the age of forty without  
learning how to read or write. He met  
a woman and for her sake he made a  
scholar of himself in two years!"  
The Man.—"That's nothing. I know  
a man who was a profound scholar at  
forty. Then he met a woman, and for  
her sake made a fool of himself in two  
days!"—Blighty.

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Henry Watterson, the veteran Louisville journalist, said at a luncheon: "Andrew Carnegie declared that he would die poor, but as a matter of fact he died the second or third richest man that the world has ever seen. "Mr. Carnegie refused to contribute half a million to our home for super-annuated journalists. Libraries were his one great hobby. "Mr. Carnegie, giving nothing but granite libraries, reminded me of the chap who said to a shabby fellow: "Do you smoke?" "You bet," said the shabby fellow eagerly. "Well, here's a box to keep your matches in."

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BARRED ROCK EGGS—FIFTEEN, \$2.50; thirty, \$4.75; fifty, \$7.50; \$14 hundred. From well-bred and grand laying hens. Order direct from this advertisement. W. Bennett, Box 43, Kingsville, Ont.

BARRED ROCKS—OUR STRAIN OF Barred Rocks are noted for laying; as winter layers there is nothing can beat them. Eggs \$2.00 per setting, six dollars for 50, ten dollars for 100. Central Ontario Poultry Yards, Colborne, Ontario.

BARRED ROCK MALES DIRECT FROM O. A. C. best hens. Personally selected by Prof. Graham, \$4.00 each, any number. Eggs and pullets. Norfolk Specialty Farms, St. Williams, Ont.

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EGGS FOR SALE—WHITE WYANDOTTES, silver cup winners; three dollars per 15. A. F. Waddell, Stratford, Ont.

EGGS FOR HATCHING, FROM BRED-TO-LAY Barred Rocks; two dollars per fifteen. Wm. L. Hills, Wheatley, Ont.

EGGS, IMPORTED PURE-BRED ROUEN DUCKS, \$3 per eleven. Our pure-bred Rouens mated. Imported drakes, \$2 per eleven. A. F. Thornton, Thamesford, Ont.

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IF YOU WANT HATCHING EGGS FROM A heavy-laying strain of Barred Rocks, write C. L. Bishop, Oxford Mills, Ont.

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S. C. WHITE LEGHORNS, BRED-TO-LAY strain—bred from Guild's best pens, excellent winter layers. Eggs, \$1.50 per fifteen, \$9.00 per hundred. Oscar W. Reed, Fullarton, Ontario.

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WHITE WYANDOTTES—EGGS FOR HATCHING, from Martin bred-to-lay strain; \$2.50 per fifteen. A. C. Phipps, R. 4, Caledonia, Ont.

WHITE PLYMOUTH ROCK EGGS—GUARANTEED, three dollars per fifteen, ten dollars per one hundred. Mammoth Bronze Turkey Eggs eighty cents each. Order now for April and May delivery. J. Newlove See, R.R. 4, Bolonn, Ont.

A Plain Man's View of a Big Problem.

By DONALD STEWART.

I have been on the lookout for some time past, for an article which deals intelligently,—and fearlessly, with the subject of exchange rates. My search has at least shown me that nine men out of every ten are talking or writing about the subject, but I am still on the lookout for an intelligent analysis of the subject. It seems to me that all the men who are writing about the subject in the newspapers and periodicals which I read are afraid to deal frankly with the subject, for fear of wading into water that is too deep for them. It is painfully evident that few of them are able to swim in the deep waters of political economy.

The average farmer, I find, entertains the idea that he is not capable of discussing problems of finance or political economy and he seldom questions the opinions so freely hazarded by bankers, railway officials, lawyers, insurance agents, grain dealers, wholesale grocers, manufacturers, and newspaper editors on these important matters.

I have come to the conclusion that the average farmer is just as well-informed on matters of political economy as the successful business men whose opinions on problems of finance and political economy are so widely distributed through the pages of the press.

My experience leads me to believe that the average bank manager, newspaper editor, wholesale grocer, railway official, insurance agent, grain dealer, manufacturer or lawyer, is woefully ignorant of those things which are not part of his daily routine of business.

Take the matter of the rate of exchange, for instance. Bankers tell us airily that the Canadian dollar is heavily discounted in the United States because there is a keen demand for American bills of exchange. "It's like this," the garrulous lawyer explains: "The balance of trade is against Canada, and therefore our currency is discounted in the United States." The manufacturer ponderously proceeds to explain the depreciation of the value of Canadian paper money in the United States by pointing out that our export trade is conducted on a credit basis, while our import trade is conducted on a cash basis. "Were importing too much, and our exports have dwindled, and when a condition like this exists our money is discounted," opines the thoughtful insurance agent. "Greater production is needed to bring the dollar back to par," says the wholesale grocer. "The Canadian dollar is worth only 85 cents in the United States," says the prominent railway official in an interview, "because we have no gold reserve in the United States. Our Government should ship gold to Washington without delay, then the dollar would rise to par value." The newspaper editor mentions the problem quite frequently in his editorial column, that dreary little mental race-track on which he so proudly exercises his trim little mind day by day. "Buy made in Canada goods," he pipes triumphantly, "and don't import American goods, and the dollar will rise in value." Thus he scribbles, fondly believing that he has solved a great problem.

One has only to note the many reasons advanced for the chaos in the money markets of the world to realize that the majority of them must be wrong. The balance of trade argument, for instance, won't stand the examination, because our trade balance with the United States is no worse than it has been in the past. In some ways it is better. Besides, the exchange rate has been jumping up and down so fast that people can hardly keep track of it. It is plainly evident that these rapid fluctuations are not in sympathy with the movement of our exports and imports. The banker's theory is taken from ponderous books written about banking, but it looks far-fetched to me. It assumes that Canadian importers are falling over each other in a wild scramble to buy American bills of exchange. I can't just see why they should get so excited about paying their bills, nor do I see how the demand for these

bills of exchange could reduce the value of every dollar bill guaranteed by the Canadian Government.

The economists of the old school always insisted that shipments of gold equalized exchange rates. I can see where they would to some extent, but I am still looking for the modern economist who can tell me, in simple language, how a load of Canadian gold lying in the Government vaults at Washington can raise the value of our dollar in the United States. If it would rise the value of our currency in the United States, then I submit that there is no real economic reason for the depreciation of our paper currency in the money markets of the United States. As for the arguments that greater production and restricted imports will bring our dollar back to par, I beg leave to pass them by without giving them much attention. I merely pause to remark that our imports are no heavier to-day than they were last year, and there has been no slump in production. So why the erratic changes in the value of our paper money in the United States during the past month? Why should a street car company in the United States refuse to take our silver money?

"I suppose that any sane man will agree with me, when I say that Canada's future is assured. We are not facing a revolution. Although we have persisted in electing Governments that are grossly incompetent, and although these Governments have smothered us with debts and have done their best to hamper the natural development of Canada, we look into the future with hopeful eyes. If I am not mistaken, we are on the eve of a political house-cleaning, and when that is over Canada will develop as she has never developed before. The average American has boundless faith in Canada's future. The great American financiers are purchasing the bonds issued by at least one of our Provincial Governments at the present time. No intelligent American believes that our paper money will not be redeemable in gold in the future; to think so would be preposterous.

Then why is our money so heavily discounted in the United States? In my humble opinion it is discounted, and heavily discounted, because the business institutions of the United States, led by the manufacturers, are pitifully shortsighted in their business dealings with Canada. The Americans are a highly strung race, and they know very little about other countries. The average American is extremely provincial in his outlook. Ask him what he thinks about Canada's future, and he will express unbounded faith in the future of the Dominion. But he will discount our money, just the same, because his neighbor is discounting it. It is my firm conviction that the discounting of our currency in the United States is not based on any substantial economic reason. Some American financial corporation, for reasons of its own, began to slightly discount our currency a year and a half ago. The people who did business with this corporation had to protect themselves by discounting Canadian money too, and in no time our currency was being discounted in all parts of the United States. When a thing starts in the United States, it is usually carried to violent extremes, owing to the excitable, panicky disposition of the average American business man. It is my opinion that our money will continue to be discounted, no matter what we do, until the American man of business recovers from the effects of the brain wave that is at present affecting him. Some far-sighted American financiers with wide influence will begin to take our money at its face value some day, and the men of business in the United States, not knowing why they do it, will follow his lead. It is to be hoped that they will run to extremes in that direction too, as it is some time since we discounted American currency.

A psychiatric board was testing the mentality of a thick-lipped, weak-faced negro soldier. Among other questions, the specialist asked: "Do you ever hear voices without being able to tell who is speaking or where the sound comes from?" "Yes, such," answered the negro, "When does this occur?" "When I'm talkin' over the telephone."



Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted and Pet Stock. TERMS—Four cents per word each insertion. Each initial count for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 60 cents.

FOR SALE—BLACK COLLIE PUP (FEMALE) ready for work; bred heeler; five dollars. John Arnott, Bright, Ont.

FARM, 105 ACRES, TOWNSHIP OF CLINTON, County Lincoln—70 acres cultivated, balance pasture and bush. Soil sandy loam. About 15 acres in fruit, 300 peach trees, 200 young cherries and plums, 3 acres of grapes, 80 apple trees, 50 pear trees, plums, raspberries and small fruits. Buildings—2 frame dwellings, 1 brick barn, 50x30 feet, room for 12 cows, 3 horse stalls and loose box, pig pens, silo, chicken house. Water supply good, spring in pasture, and another supplying house and barn—water can be put almost anywhere in the place. Farm is on hill above main road from Hamilton to Niagara. Trolley line stops 1/4 mile from house, 1 1/2 miles to village of Stoville, 3 miles from Oriskany, 23 miles from Hamilton, good motor road to drive an estate. Immediate possession. Apply, Smith, Rae & Greer, Solicitors, Toronto.

NEW YORK STATE FARMS—FROM \$10 TO \$100 per acre. All sizes and locations. Stock and tools included on many of them. Write for complete list. Mandeville Real Estate Agency, Inc. Dept. O, Olean, N.Y.

WANTED—RELIABLE EXPERIENCED herdsman. Must be a good milker, capable of developing pure-bred Holsteins in R.O.M. and R.O.P. test. Single man preferred. Apply at once, stating salary expected. D. A. McPhee Crystal Spring Farm, Vankleek Hill, Ont.

WANTED—ON OR BEFORE 16 OF APRIL A reliable young man to work on farm one mile from town for 8 or 12 months; one who can milk if necessary. Highest wages paid to right man. Single man preferred. State age and experience. F. E. Weir, Collingwood, Ont.

WANTED—AN EXPERIENCED, RELIABLE married man to work at mixed farming. Cottage, garden, etc., free. State wages with reply. R. E. McIntosh, R.R. No. 8, St. Mary's.

WANTED—SINGLE MAN TO HELP ON farm, near Aurora. For particulars apply—J. L. Maude, Kettleby, Ont.

WANTED—MARRIED MAN CAPABLE OF doing all kinds of farm work and of looking after pure-bred Shorthorn cattle and Yorkshire hogs if necessary. State experience and wages expected. Every convenience on farm. Apply Box 98, Farmer's Advocate, London, Ont.

200-ACRE FARM FOR SALE—SOIL, CHOICE clean gravel loam; good water supply, new barn, 25 acres hardwood timber, mostly sugar maple. This is a splendid dairy farm. Apply Nathaniel Carrothers, Wilton Grove, Ont.

For Sale—"Victor" Churn 1,000 lbs. capacity; in good condition. Price \$200. WALKERTON EGG & DAIRY CO. Walkerton Ontario

FOR SALE Barred Rock Cockerels The O.A.C. bred-to-lay strain. Finely barred, single-comb, rich yellow legs; sisters laid at 3 months. Price \$5 each. A. H. CROZIER Meadovale Ontario

Hens Wanted Alive 27 cent a pound any kind, any size, any sex. DUCKS 33 cents, no deduction for shrinkage. Ship pay express from any station in Ontario. Ship collect on delivery for full amount. Use crates or boxes, crates loaned free. Albert Lewis, 666 Dundas St. West, Toronto

WANTED Crate Fed Chickens Dressed Also Large Hens Alive or Dressed Write for price list. WALLER'S 702 Spadina Ave. TORONTO

STURDY CHICKS From superior strains, free range flocks, the profitable kind that live and grow. White Wyandottes, Barred Rocks, White Leghorns, Mottled Anconas, R. I. Reds. We ship strong, healthy chicks, and guarantee safe arrival. Write for catalogue and price list. QUEEN CITY HATCHERY Linnmore Crescent & Danforth Ave. TORONTO, ONT.

1,000 Live Hens Wanted We have a special market for heavy live hens which enables us to pay the very top market price. It will pay you to sell your live poultry and eggs to C. A. MANN & CO. London, Ontario 78 King Street

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The Home of Long-distance Producers  
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### Canadian National Sale Toronto, April 8-9

Two daughters of the great proven Sire,  
PRINCE AAGGIE MECHTHILDE

QUEEN ABBEKERK MECHTHILDE No. 29149  
Born April 25th, 1913

A fine type of cow with all the quality needed to stand out prominently in any company. At 3 years she made 17.85 lbs. of butter in 7 days, and at four years she increased her record to 24.51 lbs. of butter and 583 lbs. of milk for the 7 days.

PIONEER MECHTHILDE No. 52985  
Born November 16th, 1916

One of the best young daughters of this great sire. At two years she made 16.78 lbs. of butter from 339.80 lbs. of milk in 7 days, and also produced 14,300 lbs. of milk in R.O.P. She has just freshened and is now under test. We hope to announce a choice record on sale day.

BE SURE AND SEE THIS PAIR OF YOUNG COWS

Walburn Rivers & Sons  
Ingersoll, Ontario

100  
Head

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Clearing Sale of

## Dairy Cows and Steers

At their farm, Lot 14, Concession 10, London Township, on  
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Twenty Registered Shorthorn Cows (6 have just freshened, balance Springing). Fifty well-bred Holstein Cows, to freshen by time of sale. Twenty Shorthorn and Angus Steers and Famous Cows. Two New Milch Jersey Cows. Two Registered Shorthorn Bulls.

Mr. Dairyman: In offering the above herd of cows by public auction, we feel satisfied that they are somewhat superior to anything we have offered in the past. The dairy cows are the best money can buy; young, in good condition, and will satisfy the most exacting purchaser.

Parties from a distance will be met at the Walper House, London, at 12 o'clock. Usual terms.

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## WANTED

CORD WOOD IN CARLOTS

Highest prices paid. We will buy any kind of 4 foot wood.  
Write at once, stating what you have.

BEACHVILLE WHITE LIME CO., :: Beachville, Ontario

**Subscribers!** You can have SIX MONTHS SUBSCRIPTION FREE, by securing the name of ONE NEW SUBSCRIBER, and sending his \$1.50 for one year's subscription to THE FARMER'S ADVOCATE AND HOME MAGAZINE, LONDON, ONT.

## Beekeeping Blunders.

SOME MISTAKES OFTEN MADE BY BEGINNERS AND OTHER AMATEURS.  
BY H. W. SANDERS.

Sugar shortages have given an extraordinary impetus to the keeping of bees in the United States during the past few years, for honey is the best substitute for sugar that can be obtained. Indeed a couple of generations back sugar was so scarce that honey was widely used for sweetening, and further back still, it was the only sweet used at all. For 2,000 years bees have been kept and books written upon their culture, but only in the past few decades have methods been perfected for the production of honey in large quantities, till at the present time there are individuals in the business whose crop is counted not in pounds but in tons.

Every year sees recruits added to their ranks and, as we may expect, every year sees disappointment in a proportion of these attempts. Even where the bees do not actually die in wintering, or from disease, the beginner makes some miscalculation which robs him of his honey crop and puts off till another season the possibility of his getting back the money invested in the bees. So here are a few pointers:

Do not get away with the idea that beekeeping is a matter of learning a few simple tricks. It is true that bees take less actual attention than any kind of stock, but that attention must be given at the right time. Honey is produced mostly in short bursts of work, and unless the bees have space to store it they will stop gathering and swarm. Swarms issue without warning unless the beekeeper has made regular inspections of his apiary, and again prompt attention is necessary to save them from absconding. Winter losses are nearly always the result of lack of care at the right time. There is no royal road to success for different localities demand different methods and a thorough study of the known facts and principles of the art is the only sure means of building a profitable bee-yard.

The first rule of beekeeping is to keep the colonies strong, for only powerful swarms do the best work in the gathering of honey, and only populous colonies will survive the winter in a condition fit to build up their numbers the following spring to an effective point. Too rapid increase is a pitfall that has retarded the progress of many beginners, for in their anxiety to have a large number of hives they weaken the colonies by frequent increase to a point where the bees are too few to keep warm in winter and so die, or even if they survive, are not able to breed up rapidly enough for the summer honey-flow, while if disease is present the weaklings are the first to succumb and in doing so the trouble is spread by the infected honey in their forsaken home which is plundered by healthy colonies.

If natural swarming is allowed only one swarm should be taken from each stock, and the after swarms returned or united till only powerful colonies are left. If artificial increase is attempted the utmost care should be exercised to have all colonies abundantly strong before the end of the season.

Many a successful apiarist has started out in his career with some form of hive and equipment that is not of standard size and shape, and almost without exception they have found it good practice to replace them with standard goods at great expense when they had accumulated a few hundreds of such hives. Therefore when beginning nothing but standard factory-made hives should be purchased, for the man with these can buy, sell, or increase his equipment quickly and easily.

We have known cases where spare hives and supplies were not purchased till the honey season had arrived and that when the bees would have been storing honey their proprietor was thinking about getting ready to put together the hives he had bought. Even swarms issuing were lost for want of hives to put them in. It is the part of wisdom to order supplies in winter before the busy days of spring are here, and to have them nailed up and painted long before they are needed.

There are still many people who believe that it is necessary or desirable to grow flowers for their bees. There is only one case where this is at all feasible and that is on the farm where hay crops

are grown. In this case you can sometimes assist the bees by putting in a honey-producing crop in your meadow rather than one that does not yield nectar, but aim to get the crop in hay, not honey. Then if a little honey is got so much the better. Alsike or sweet clover are the flowers most generally used and perhaps buckwheat. Beyond this it does not pay to grow flowers for bees, for in anything like a favorable locality they have all they can handle from wild flowers in good weather.

In the United States Patent Office at Washington are more than 2,500 different patents for inventions relating to bee-culture, and not more than half a dozen of them have ever amounted to anything. It is very tempting to try out all kinds of experiments but before concluding that he has made a discovery that will revolutionize the art the beginner is well advised to consult the editors of the bee-journals who have mostly had abundant experience in these matters.

One of our best authorities was insistent in his teaching to "keep more bees," and probably the error is more often made in keeping too few than in keeping too many. The exact number depends on circumstances, such as the amount of time and supplies available, and where one has no experience whatever it is always well to start small and slowly build up. Wherever there is disease in a district only as many bees should be kept as can receive the personal supervision of their owner, so that the infectious diseases can be immediately prevented from spreading.

Last but not least. More colonies die from starvation than from any other cause, and starvation nearly always occurs in winter. See that every colony is heavy with honey in fall, or feed sugar to make up the deficiency. There should be at least 30 pounds of food in the hive to be sure and a few pounds extra will not be wasted. If the bees do not use it in the winter they will turn it into young bees in spring by feeding it to brood and these in turn will gather many times more honey than it cost to rear them. "Keep bees right and soon they will keep you."

### Sale Dates.

April 1, 1920.—Norfolk Holstein Club Hagersville, Ont.

April 6, 1920.—Dr. A. E. Ramsey, Eden Mills, Ont.—Shorthorns and Oxford-Down ewes.

April 7, 1920.—J. B. Hammer, Norwich, Ont.—Holsteins.

April 8, 9, 1920.—Canadian National Sale of Holsteins, Union Stock Yards, Toronto, Ontario.

April 9, 1920.—Carmichael Bros., R. O. Ilderton, Ont.—Dairy cows and steers.

April 20, 1920.—Aberdeen-Angus cattle, Albany, New York.

May 12, 1920.—Elgin Pure-Bred Holstein Sale, St. Thomas, Ont.

May 20, 1920.—Ayrshire Cattle Breeders' Association of New England, consignment sale, Springfield, Mass.

June 2, 1920.—Can. Aberdeen-Angus Association, Exhibition Grounds, Toronto, Ontario.

June 10, 1920.—Second National Ayrshire Sale, Chicago, Ill.

June 15, 16, 17 and 18.—Live Stock Breeders' Association of the District of Beauharnois, Limited, Ormstown, Que.

One Hoyt was fishing from the banks of a stream when there approached him an individual named Gates, who remarked with a yawn: "Time ain't very valuable to you, brother, that's plain. Here I been a-watchin' you three hours, and you ain't had a bite."

"Well," drawled the fisherman, "my time's too valuable, anyhow, to waste three hours of it watchin' a feller fish that ain't had a bite."

Avery Hopwood, the playwright has often gone on record as opposed to the present efficiency-expert craze, declaring that it is all bunk and nothing but an expensive fad.

"But," he adds, "as in everything else, there are exceptions. There was Boggins, for instance. Boggins was a great efficiency man in the office, but even more so at home. Why, every time Boggins Junior was naughty, his father laid him on the floor and spread a rug over him, so that the beating would kill two birds with one stone, as you might say."

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**Cord or Fabric.**

*"A well shod horse travels surest and farthest"*

THE car equipped with Partridge Tires runs almost free from the delays and inconveniences caused by tire troubles. Partridge Tires have so unquestionably proved their dependability and economy that they are to-day recognized as "the most service for your money" tires.

115A

# PARTRIDGE TIRES

*Game as Their Name*

### 30-lb. Breeding at Toronto.

As will be noted in Mr. Tracey's advertisement, elsewhere in this issue, his consignment of six head to the Canadian National sale includes some of the best bred individuals that have ever been listed for a sale of this kind in Canada. It will be noted, too, that four of the lot, not being tested, are selling at a great disadvantage. Mr. Tracey, although he made some splendid records in the days before the war, has since 1914 discontinued official testing, and breeders bidding on these young cows, which are all daughters of 30-lb. cows, may feel that they are not bidding on females that have been carried for a time on official test and then dropped. It is just possible that these heifers furnish a better reason why young breeders should attend this sale than is contained in any other offering to the "National." Selling without records, it is more than likely they will go below their value. There is also selling with this consignment a 29.12-lb. cow, who has a 30-lb. daughter, and is due again in July to a son of Lulu Keyes, the great 36 05-lb. show cow.

### Federal Assistance to Horse Breeding.

Recently, certain clubs whose members are the owners of a number of pure-bred mares requested the Live-Stock Branch, Dominion Department of Agriculture, to allow them to pay a premium over and above a Twenty-Five Dollar service fee, which is the maximum allowed under the Federal Assistance to Horse Breeding Policy. These clubs expected by the offering of a premium, to secure the

## Inoculate Your Seed for Better Crops

*It requires but a few minutes to inoculate the seed.*

Inoculation consists in applying to the Seed pure cultures of the nitro-gathering Bacteria. Special cultures are required for each kind of Seed, and are put up for Alfalfa, Red Clover, Sweet Clover, Peas, Alsike Clover, and all other legumes.

SEED INOCULATION IS ENDORSED BY THE PROVINCIAL DEPARTMENT OF AGRICULTURE

Splendid success has been obtained by government tests, and a recent circular issued says: "for the small amount involved in time and money it would seem advisable to inoculate all legumes."

PRICE, \$1.00 EACH CULTURE, Enough for One Bushel of Seed.

Cultures are sent by mail with complete directions for their use. They are good for 6 months after they are made. Alfalfa and Clover from inoculated seed do not winter-kill readily. Write for Circular.

"MONEY BACK IF YOU FAIL TO GET A GOOD CATCH."



**MURDOCH LEGUME LABORATORY**

"ALDIE" - GUELPH, ONT.

## Bigger crops mean more money

Proper and frequent cultivation are necessary to the production of maximum crops. Planet Jr. tools enable you to get increased yields because of their superior design, scientific construction. They do the work quicker, easier and more thoroughly. Planet Jrs. are guaranteed fully and last a lifetime.

No. 4 Planet Jr. Combined Hill and Drill Seeder, Wheel-Hoe, Cultivator and Plow sows all garden seeds (in hills or drills), plows, opens furrows and covers them, hoes and cultivates them all through the season. A hand machine that does the work so thoroughly, quickly and easily that it pays for itself in a single season.

No. 12 Planet Jr. Double and Single Wheel-Hoe has hoes that are wonderful weed killers. The plows open furrows, cover them and hill the growing crops. The cultivator teeth work deep or shallow. The leaf lifters save much time in late work when plants are large or leaves too low for ordinary work. Crops are straddled till 20 inches high; then the tool works between rows.



**Planet Jr.**

72-page Catalog Shows tools doing actual farm and garden work and describes over 50 Planet Jr. including Section, Wheel-Hoes, Horse-Hoes, Harrows, Orchard, Beet and Pivot-Wheel Riding Cultivators. Write for it today; also name of nearest agency. S. L. ALLEN & CO., Inc. Box 1100F Philadelphia

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

An advertisement for Pratts Buttermilk Baby Chick Food. It features a large illustration of a chick's head and neck. Below the chick is a box of the product. The text reads: "I Will Lay For You Next Winter if you feed me right and protect me against disease with Pratts Buttermilk BABY CHICK FOOD". It also includes a testimonial from Mrs. F. Blakeman, Dundas, Ont., and contact information for Pratt Food Co. of Canada Limited, 328L Carlaw Ave., Toronto.

services of the best stallions in the country.

In the hope that the pure-bred stock of the country will be improved thereby, the Branch has agreed to allow any club that hires a stallion considered worth more than a Twenty-Five Dollar service fee, and that passes a special inspection, to pay a premium to the owner.

Clubs have the option of giving the owner either a lump sum of money to be paid at time agreed upon, or a certain amount for each mare that proves to be in foal, the total to be paid on a certain date.

All stallions must possess size and be true to breed type. Draft stallions in particular must be up to weight when in ordinary breeding condition. Clubs interested should write the Horse Division of the Branch for an outline of the premium scheme and special Application and Agreement forms. All clubs should note that the final date for receiving applications is April 1st, next.—Live-Stock Commission.

Ragged little Tom Brown had been committed to the Children's Aid, where he was immediately given a bath, clean clothes, had his hair washed and cut short. His old clothes were burned. As his adenoids interfered seriously with his breathing, they were removed. When he had recovered from the operation the matron noticed that there was an unusually big and disfiguring wart at the end of his thumb. "Tom," she said, "I'll see that this wart is removed today." A look of absolute disgust spread over Tom's face. "Gosh!" he exclaimed, "Don't you let a fellow keep anything here?"

# You Should Buy Genuine International Repairs

Made Exclusively For



By the

**INTERNATIONAL HARVESTER COMPANY**

**R**EPAIRS made for International implements and other farm operating equipment by this Company are the only repairs made from the original patterns. All others are copied from copies, and in this roundabout reproduction they may lose in correctness of shape, sharpness of detail, closeness in fitting, and quality of material used.

**Genuine IHC Repairs**  
for Deering, McCormick and other  
International-made Machines  
Are Better in Quality  
Fit Better and Wear Longer

The Harvester Company makes good machines and stands back of them. We want them to make good. Is it fair then, to us, to the machines, or to yourself, to substitute an imitation for the genuine when repairs are needed? Repairs made by other concerns and marked "Made for" or "Will fit", are *not* genuine IHC parts. They often lack weight, are not always correct in shape, are imperfectly finished, do not fit properly, or are made of inferior material. Buy Genuine International Repairs for your International Farm Equipment.

## Beware of Any Other Kind

**INTERNATIONAL HARVESTER COMPANY**

OF CANADA LTD.

HAMILTON CANADA

WESTERN BRANCHES—BRANDON, WINNIPEG, MAN., CALGARY, EDMONTON, LETHBRIDGE, ALTA.,  
ESTEVAN, N. BATTLEFORD, REGINA, SASKATOON, YORKTON, SASK.

EASTERN BRANCHES—HAMILTON, LONDON, OTTAWA, ONT., MONTREAL, QUEBEC, QUE., ST. JOHN, N. B.

### Record Price for Ayrshires.

Nine thousand dollars is a record price for an Ayrshire bull, and was paid by Hon. Cameron Corbett, for "Hobland Mendel"—(18422), at the spring sale of bulls, at "Hobland", the home of James Barr, Monkton, in Scotland. This bull was dropped on March 11th, 1919, and, therefore, was scarcely a year old at date of sale, February 21st, instant. He is sired by "Hobland Lucky Boy", by "Dalbible Wide Awake." The dam of "Mendel" is "Hobland Jean 5th" by "Hobland Masterpiece" Canada's noted champion show ring and record bull. The milk record of "Hobland Jean" as a heifer is 11,250 lbs. of 3.9 per cent. milk in 48 weeks: in 1917—9,450 lbs. of 3.75 per cent. milk in 42 weeks. In 1918—100,000 lbs. of 3.70 per cent. milk in 44 weeks and in 1919—10,000 lbs. of 3.98 per cent. in milk 48 weeks. The dam of the sire has a record of 8,620 lbs. of 3.7 per cent. milk in 46 weeks and the granddam a record of 13,190 lbs. of 3.84 per cent. milk in 48 weeks. We learn that this is an exceptionally well made bull, which backed up with such records enhances his value.

The second highest priced bull was "Hobland Dazzler" by Scotland's Best—a good individual backed up with big records in his ancestry. This bull sold for \$2,550.00. Another young bull of exceptional merit backed up with strong records was "Hobland Royal Favorite" and brought \$1,800. "Thornhill Recruiter" brought \$1,525.00.

R. R. Ness of Howick, Que., who attended this sale was keen after "Mendel" and went to \$6,000.00 for him. He purchased "Hobland Guide," a February calf of 1919 and a grandson of "Hobland Masterpiece" for \$1,375.00. This bull is by "Scotland's Best" by "Masterpiece." The dam of this bull has records of 9,720 lbs. milk testing 3.84 per cent. fat in 48 weeks and 10,540 lbs. of 3.98 per cent. milk in 43 weeks, in 1918 and 1919 respectively. The dam of the sire has a record of 11,250 lbs. of 3.97 per cent. milk in 48 weeks. Mr. Ness also purchased "Hobland Grand Parade" a March calf of 1919, by "Scotland's Best."

The 20 bulls realized \$23,970.00 or an average of \$1,198.00 each. Six heifer calves averaged \$645 and the 26 young things out of Mr. Barr's 1919 crop of calves brought him nearly \$28,000.

We have been informed that the 60 Ayrshire cows, mostly fresh, at Hobland made a most impressive sight. Many of them were milking over 60 lbs. per day. The "Farming News" commenting on the sale calls it epoch making.

There have been several successful Ayrshire bull sales in Scotland, this spring of which Hobland is the best.

At the Bargenoch sale 21 bull calves brought an average of \$680 and 7 two-year-old heifers averaged \$350. The highest price \$2,350 was for "South Craig Record Time" and \$2,100 for "Bargenoch Umpire."

At the Auchinbrain sale 22 bull calves averaged \$490.

At the Garclaugh sale 14 yearling bulls averaged \$525 and 16 yearling heifers averaged \$405.

This indicates the favor that Ayrshires are meeting with in Scotland.

We learn that Wm. Hunter recently landed at St. Johns, N. B., with about 40 Ayrshires, but so far have got no particulars further than they are a superior lot.

W. F. STEPHENSON.

### Indian Reserves Opened for Settlement.

Chairman Black of the Soldier Settlement Board announces that plans have been completed for throwing open about April 20 a number of former Indian Reserves in Saskatchewan for the benefit of returned soldiers. The Reserves are:

Ochopowace, 10 miles northeast of Broadview. The total area is 18,453 acres, and it is divided into 57 farming units averaging 324 acres. The price will average \$3,000 per farming unit.

Poorman's, 100 miles southwest of Saskatoon in the Touchwood Hills District. Total area 8,075 acres divided into 29 farming units averaging 278 acres. Average selling price \$3,240 per farming unit.

Piapot, 15 miles northeast of Regina. Total area 16,318 acres divided into 54 farming units averaging 302 acres. Average selling price \$4,015 per farming unit.



Here is a photographic reproduction of a rain blurred windshield—the driver's side has been rubbed with Clear Vision Cloth—it stays clear 24 hours. No unsightly attachments—nothing to fuss with—works automatically while you drive. Every cloth guaranteed 1 year.

### We Want Agents at \$60 a Week

Greatest automobile accessory ever invented. Just out. Patented. Nothing like it. A scientific and chemical marvel that puzzles the world. Clear Vision Windshield Cloth. One rub over rain, snow or fog blurred auto windshield, street car or engine window and—presto! moisture runs off like water from a duck's back. Glass stays clear 24 hours. Once over does the trick. Works like magic. Needed daily by every motorist. A necessity and a godsend. We want representatives at once—men and women hustlers. Get this position where profits start first day.

**No Experience Necessary—200% Profit**

Make as much money next week as these men are making now. J. C. Allen, of Ontario, says, "I sold eighteen cloths this afternoon,"—his profit \$18. Sam Willard, of Manitoba, writes, "one of my customers called me up after the first time he tried it out to tell me that the cloth was worth ten dollars to him." "The greatest safety first device of the age" says John Morrow, of Quebec. "I sold to everyone that I showed the cloth to" writes Clarence Johnson, of B. C. Ten orders in one hour is good enough for me says Henry Mack, of Ontario, another one of our money makers. YOU CAN MAKE THIS MONEY TOO. FAILURE IMPOSSIBLE—SUCCESS ASSURED. WRITE TODAY. Territory free. Big selling season now on. GET BUSY AT ONCE.

Canadian Auto Accessories Co. Ltd., 655 Plaza Bldg., Ottawa, Ont.

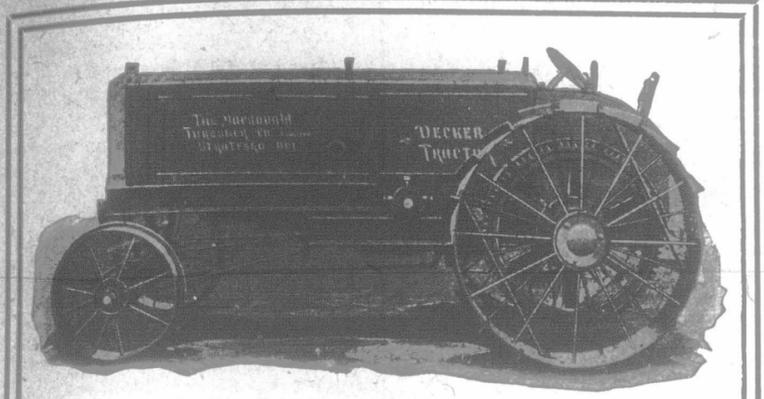
When writing advertisers will you please mention "The Farmer's Advocate."

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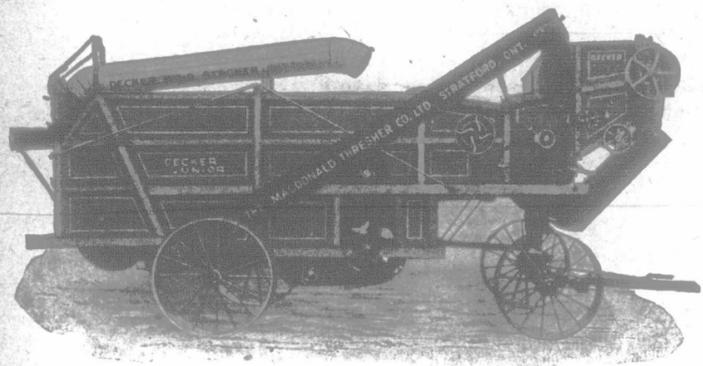
12 x 24 Tractor

**Save Money by Reducing Labor on the Farm**

**GET OUR TRACTOR AND SEPARATOR**

Write for Catalogue

**MacDonald Thresher Company, Limited**  
STRATFORD :: ONTARIO



24 x 46 Decker Junior Separator

**Putting Money in the Bank**

regularly is better than Life Insurance if you live. Yes, if you live, and also if deposited regularly! But how many live long enough to accumulate sufficient to provide for their family after they have gone? Again, there are not very many who deposit with persistent regularity. Therefore, there is no doubt that Life Insurance is the better and certainly the safer way of accumulation. Interesting particulars of suitable Policies will be mailed you on request. Write, giving name, address and date of birth to

**The Great-West Life Assurance Company**  
Dept "Z" Head Office: WINNIPEG

**Composts as a Source of Humus and Nitrogen.**

(Experimental Farms Note.)

The examination of many types of soil—clays, silts and sands—virgin and cultivated, has furnished evidence of a very emphatic character regarding the fundamental and vital importance of semi-decomposed organic matter (humus) as a soil constituent. It acts mechanically in improving tilth, lightening and mellowing heavy clays and increasing the moisture-holding capacity of all classes of soils. It supports the microscopic life of the soil, the function of which is to prepare plant food for crop use. And, lastly, it is the natural storehouse of nitrogen—the most expensive of all plant foods when purchased in the form of fertilizer. One of the chief objects in view in any intelligent, rational method

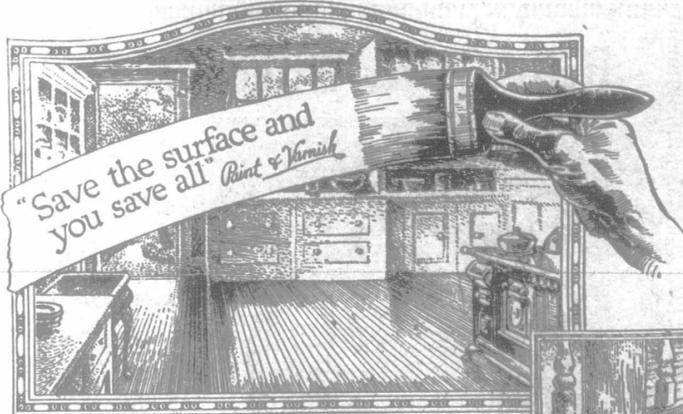
of soil management is the upkeep and if possible the increase of the soils humus content. Applications of farm manures and the turning under of green crops—clover, buckwheat, rye, etc.—are the principal means of adding humus-forming materials to the soil, and these may be supplemented, cheaply and effectively by composts.

Every farm, every market garden, should have its compost heap, for such affords the most economical (and sanitary) means of utilizing the vegetable and animal refuse, indeed all forms of organic waste. To enumerate some of the materials that can be profitably used in this way; potato tops, cabbage leaves, waste straw, dead leaves, kitchen waste, old sods, the cleanings of ditches road scrapings, muck and peat, pond and stream deposits; all these materials may many more rich in organic matter may by composting be converted into a forcing manure of very considerable value by reason of its humus content and its store of readily available plant

food. In these days it behooves us to abandon our wasteful ways and utilize everything that may make the land more productive. The practice of burning all organic refuse is an exceedingly wasteful one and should only be followed when, by reason of the presence of the eggs, spores and seeds of injurious insects and plants, the composted material would be likely to disseminate disease.

The making of the compost heap is a very simple affair. It can be built up of alternate layers, of say six inches, of refuse (including swamp muck if such is obtainable) and manure, to any convenient height, covering the whole with a few inches of good soil or muck. The heap should be kept moist, that decay may proceed, but not so wet as to cause drainage from the heap. The result, in a few weeks or several months, according to the season of the year, will be a manure of very considerable fertilizing value, capable of improving both clay and sandy loams and especially useful for vegetable and garden crops.

Dom. Chemist. FRANK T. SHUTT.



**The Most-Used Surface in your home**

HOW many steps a day on your kitchen floor? Who would hazard a guess? Get the members of the family to try to figure it and then tell them the real significance of those footsteps—the need of surface protection.

Any family circle that loves its home will appreciate the value of saving the surface.

If it's the kitchen floor, whether wood or linoleum, think of the wear from treading, scraping, hurrying feet.

If it's the furniture think of the friction and damage of constant use.

If it's the outside of the house think of wood and metal and their constant exposure.

The responsibility, the financial responsibility, that is carried by a coat of paint or varnish is impressive. It stands between you and serious loss. But neglect to provide the protection which such a coat ensures, shifts that responsibility to the owner's shoulders.

Why run the risk of expensive repairs when they can be avoided through reasonable care? Wood, metal, concrete, stucco—all are materials which will give back richly in long service for the small expenditure needed for surface protection. Save the Surface.

Alternate sun and rain are cracking this column base badly; it is on the road to ruin. Paint would have saved this surface. If kept covered, the surface would never have been reached.

THIS ANNOUNCEMENT is issued by the Canadian Save the Surface Campaign Committee, for the purpose of educating the public in the Preservative and Protective value of Paint, Varnish and Allied Products for the Conservation of Property, and has received the approval of the Canadian Trade Commission in the following words:

"The realization of the above objects will lead to employment during the Reconstruction Period and bears our entire approval.

THE CANADIAN TRADE COMMISSION



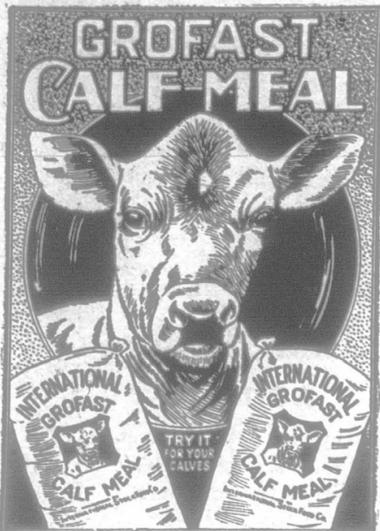
Signature of Commissioner

"SAVE THE SURFACE AND YOU SAVE ALL" Paint & Varnish

**Gossip.**

In calling attention to the sale of Scotch Shorthorns and Oxford Down sheep of Dr. A. E. Ramsey, Eden Mills, Ont. we might say these cattle besides having good individual merit have the best of Scotch breeding and represent such families as Kilblean Beautys, Wimples, Tulips, Rustic Beautys, Jealousys, Minas, Jenny Linds, Stamfords, etc., and the herd is headed by Sittyton Favorite, an undefeated show bull and sire of the highest order. Many of the females have calves at foot, and some are due to calve shortly to the service of (imp.) Newton Grand Champion. The Oxfordw are also a good bunch by (imp.) Cowley. As Dr. Ramsey has sold his farm the entire offering will be sold without reserve. Parties from a distance will be met on the morning trains at Rockwood G. T. R. or the Toronto suburban 1 mile from farm.

## Raise Calves Without Milk at Extremely Low Cost



**G**ROFAST CALF MEAL has been doing this for many years for thousands and thousands of Farmers in Canada.

Read what W. B. Poole of Ingersoll has to say about

### INTERNATIONAL GROFAST CALF MEAL

Dear Sirs:—

I can especially recommend your Grofast Calf Meal to those who are endeavoring to raise good stock, with the least possible cost. The calves I raised last year on your Calf Meal took first, second and third prizes at Ingersoll Fair last fall in keen competition. My herd are all pure-breds, therefore I raise all my calves, and to raise them exclusively on milk would make it very expensive, and I find your Calf Meal an excellent substitute. The Sire at the head of my herd is King Johanna Ranwerd, whose two nearest dams average 27,220 lbs. of milk in one year, and 1,060 lbs. of butter.

Wishing you every success, I remain,

Yours very truly,  
W. B. POOLE

TRY IT! Sold in 25, 50, and 100 pound bags. For guaranteed results demand GROFAST and refuse substitutes.

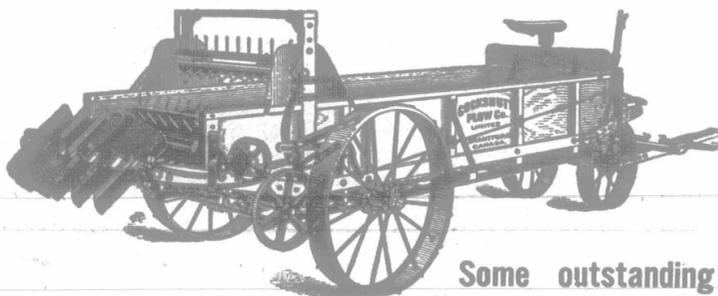
Sold by dealers everywhere, or write us.

INTERNATIONAL STOCK FOOD CO.  
Limited  
TORONTO CANADA

## COCKSHUTT

# Cockshutt Manure Spreader

Gets the manure on your land as it should be—  
evenly spread and just when it does most good



You must keep up your soil's fertility, and barnyard manure is one of the best fertilizers you can use—but, what a bug-bear spreading has always been—a tough, tiresome job! We've taken all the hard work out of it with this Spreader.

### Some outstanding features of the Cockshutt Manure Spreader

When you consider the increased yields other men are getting by properly manuring their fields you'll be just as quick as we are to say that an efficient spreader is an absolute necessity on every farm and one that will very quickly pay for itself.

Light draft, simplicity of parts and ample margin of strength, are notable in the Cockshutt Manure Spreader. Mark that word "Spreader" it means something vastly different from a mere "unloader." The Cockshutt has three distributing cylinders that pulverize the manure to a fine degree and then spread it evenly over a wider area than the machine's own width.

Let us send you our special Manure Spreader Folder.

Box, frame wheels very strong without surplus weight.

Easy loading—top of box just 41" from ground—ample clearance 17" underneath.

No gears to break or freeze up. Chain drive, the strongest known, is used.

Easily worked levers, convenient to driver, control the operation of the machine.

Bottom of box is stationary. Manure is moved by endless chain carriers with heavy steel angles. No aprons, slats or rollers to get foul or broken.

Front wheels set in under frame, allowing short turns; hitch is close to ground.

Seat tips forward out of way during loading.

**Cockshutt Plow Co.**

Limited

BRANTFORD, ONT.

Sold in Eastern  
Ontario and Eastern  
Canada by

**The Frost & Wood Co.**

Limited

SMITHS FALLS, ONT.  
Montreal St. John, N.B.

## WANTED

Reliable and capable man to canvass for subscriptions to the Farmer's Advocate and Home Magazine. A knowledge of farm conditions would be valuable, and must be able to furnish best of references.

In replying state former occupations, age, and whether married or single.

Apply—  
**The William Weld Co., Ltd.**  
London, Ontario

## NORTHERN ONTARIO

A vast new land of promise and freedom now open for settlement to returned soldiers and sailors FREE; to others, 18 years and over, 59 cents per acre. 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

H. A. MACDONELL,  
Director of Colonization,

HON. MANNING DOHERTY,  
Minister of Agriculture,  
PARLIAMENT BUILDINGS, TORONTO.

## Gossip.

### W. F. Elliott's Consignment.

Daughters of 30-lb. cows selling in the National sale are more numerous in the consignment from W. F. Elliott, Unionville, Ontario, than in any other consignment catalogued for this sale. Mr. Elliott has in all ten head listed, and from his advertisement, which appears elsewhere in this issue, it will be noticed that four of the ten are daughters of 30-lb. cows. Three of the four referred to are two-year-old heifers, and the other is also a heifer, just a year old. It might be well also to add that two are well forward in service to a 32.26-lb. son of King Echo Sylvia Johanna, which carries seventy-five per cent. the same blood as Carnation King Sylvia, the \$106,000 calf. With the offering also comes three daughters of May Echo Sylvia's daughter's son, May Sylvia Pontiac Cornucopia. Following these is a 27.46-lb. cow which has a 34.88-lb. daughter; a 19.92-lb. two-year-old full sister of a 34.68-lb. cow; and last but not least, Rag Apple Echo Sylvia, a two-year-old son of Champion Echo Sylvia Pontiac, from a 24.09-lb. daughter of Rag Apple Korndyke 8th.

### Splendid Yearly Record Offering.

Probably the most outstanding long-distance offering to the Canadian National sale, to be held at Toronto on April 8 and 9 comes in under the name of A. E. Cornwell & Son, of Norwich, Ontario. With one exception, Messrs. Cornwell's offering of five head all have yearly record backing, and the exception is no less than a two-year-old daughter of the great 37.38-lb. three-year-old heifer, Elva Spofford. Two daughters of Prince Colanthus Abberkerk heads the list of yearly-record females, both having made their records last year in the two-year-old form. Bessie Posch Colanthus, the higher record cow of the two, has just completed her year with 18,120 lbs. of milk and 731 lbs. of butter, while Colantha Mercena Beulah, the other sister, has 17,868 lbs. of milk and 730 lbs. butter. The latter is a daughter of Countess Mercena Beulah, which has a yearly record of 27,310 lbs. of milk and 1,200 lbs. of butter, and also a seven-day record of 34.06 lbs. of butter and 768 lbs. of milk. Both of these heifers are due just at sale time to the service of 34-lb. bred sons of Avondale Pontiac Echo. Queen Colantha Dewdrop, another yearly record heifer, has just completed a three-year-old record of 19,436 lbs. of milk and 880 lbs. of butter. She is bred to the two-year-old son of Countess Mercena Beulah already mentioned above. This bull is a splendid individual, a little more black than white, and also sells in Messrs. Cornwell's offering.

### Avondale May Echo Offering.

With Mr. Hardy's Avondale consignment to the Canadian National sale, it will be noted, comes along more May Echo Sylvia blood than has ever before been catalogued for a public sale in America. Many of these, too, are young things selling undeveloped, and their value can no more be estimated at this age than could the value of May Echo Sylvia herself when she came untested to the Avondale herd, some seven or eight years ago. Mr. Hardy's sales from this one family have perhaps totalled well up to a half million dollars, and who is there can say but that in these young things selling at the National and carrying the same blood there are not equally bright futures. The two young daughters of Champion Echo Sylvia Pontiac have the advantage over their illustrious grandam in that they have two more generations of record breeding, and one of these sells within a week of calving to the service of a young sire that carries seventy-five per cent. the same blood as the \$106,000 bull. Then, too, there is a 31.86-lb. junior three-year-old heifer, Hillcrest Rauwerd Sadie, which sells safely bred to Champion Echo Sylvia Pontiac. Still others which are bred to this great young sire are a four-year-old daughter of a 32.59-lb. granddaughter of Pontiac Korndyke, and a two-year-old daughter of the former Avondale herd sire, Woodcrest Sir Clyde. Woodcrest Clyde also a two-year-old daughter listed, is bred to the long-distance junior sire, Wintertur Korndyke Ormsby. A year-old son of King Pontiac Artis Canada completes the offering.

FOUNDED 1866

**Crossing.**  
**Best Consignment.**  
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 more numerous in the  
 W. F. Elliott, Union  
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**Record Offering.**  
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**Echo Offering.**  
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 ire are a four-year-old  
 9-lb. granddaughter of  
 and a two-year-old  
 rmer Avondale herd  
 ir Clyde. Woodcrest  
 o-year-old daughter  
 o the long-distance  
 ur Korndyke Ormsby.  
 King Pontiac Artis  
 he offering.



**Kreso Dip No. 1**  
 (STANDARDIZED)

**Parasiticide. Disinfectant.**  
**USE IT ON ALL LIVESTOCK**  
 To Kill Lice, Mites, Fleas,  
 and Sheep Ticks.  
 To Help Heal Cuts, Scratches and  
 Common Skin Troubles.

**USE IT IN ALL BUILDINGS**  
 To Kill Disease Germs and Thus  
 Prevent Contagious Animal Diseases.

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**FREE BOOKLETS.**

We will send you a booklet on the  
 treatment of mange, eczema or pitch  
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 to build a hog wallow, which will keep  
 hogs clean and healthy.

We will send you a booklet on how  
 to keep your hogs free from insect pa-  
 rasites and disease.

Write for them to

Animal Industry Department of  
**PARKE, DAVIS & CO.**  
 WALKERVILLE, ONT.

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We sell high-grade Ontario Grown  
 Seed Corn, on cob and shelled. Also  
 Home-Grown Alfalfa, Red Clover,  
 Alsylke, Timothy Seed, Marquis  
 Wheat, Oats, Barley, Peas, Buck-  
 wheat. All kinds of field and garden  
 seeds in packets and bulk.

**FEEDS**

Linseed Oil Cake Meal, Cotton Seed  
 Meal, Gluten Feed (23% Protein)  
 Shorts, Feeding Cane Molasses (in  
 barrels) Feed Corn and Corn Meal,  
 Distillers' Grains, Dairy Feeds, Hog  
 Feeds, Poultry Feeds and supplies.

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 776 Dovercourt Rd., Toronto

**SHAVINGS**

Baled shavings in carload  
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 TORONTO

**Steel Rails**

For Reinforcing Bridges  
 and Barn Driveways.

Cut any Length

**JNO. J. GARTSHORE**

58 Front Street West, Toronto

**Forest Conservation.**

EDITOR "THE FARMER'S ADVOCATE":

I was much interested in a picture of a  
 woodland scene shown in the "Advocate"  
 two weeks ago, presumably a sugar-  
 place—a pretty scene all right and one  
 that might rightfully belong to a park,  
 but pathetic when viewed from nature's  
 standpoint and man's failure to grasp the  
 intent of the all-wise Power guiding his  
 destinies. Desecration! Can I choose a  
 better word to express man's heedless,  
 senseless management of what he thinks  
 to be his own affairs. I sometimes  
 wonder that our punishment is not more  
 severe. But how many of us come,  
 tarry, and pass on, all unknowing that  
 we, or, at least, the race through us  
 have been punished to an extent in-  
 estimable.

Oh, why will our wise men not learn  
 wisdom! Why will not our representa-  
 tives, men chosen in the supposition of  
 being our best, not try and protect what a  
 generous nature not only has provided  
 but is still providing. But I am wander-  
 ing, from the point I started to touch, in  
 my indignation at the non-conservation  
 of our forests.

The particular grievance that your  
 illustration called to mind was the de-  
 struction of our sugar-places. How often  
 do we hear the farmer mourning about the  
 failure of his trees to produce; that they  
 are dying; that he believes he will cut  
 them down and sell them for wood. Now  
 this same man would feel very sore if you  
 told him he was a fool and apparently  
 incapable of improvement, but such he  
 is—we all are, and our case looks well  
 nigh hopeless. Now, for pity sake, let  
 us stop; let us begin the protection of our  
 forests, our wood-lot, and particularly  
 our sugar places. It is very simple and  
 a half dozen words tell the remedy, but  
 it will take nature many years to undo  
 what we and our fathers have carelessly  
 allowed to take place. It may have been  
 proper for them when the country was  
 new, when every energy was centred on  
 the clearing of the soil for the production  
 of sustenance, to graze down the grown  
 vegetation, but that day has long passed  
 —still the vicious habit clings.

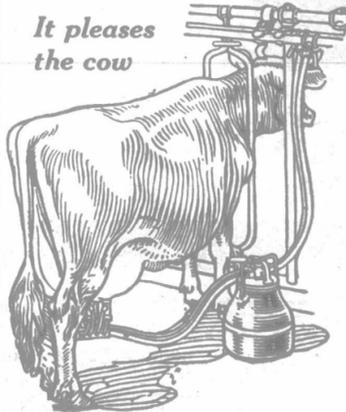
When I saw your illustration I thought  
 to myself why was I not thoughtful  
 enough ten years ago to have brought the  
 camera into play, and to-day I might  
 have been able to give you some idea of  
 what your illustration would show ten  
 years hence. Ten years ago I studied  
 this same situation over, and for experi-  
 ment fenced out from my pasture prac-  
 tically all of my woodland, leaving only  
 sufficient for shade to the stock. True,  
 I lost much feed—many things that the  
 cattle love among the woodland herbage,  
 but ten years have shown what nature  
 will do if we but give her a chance, not  
 only in replacing the young shoots but  
 in reclaiming the mature trees when once  
 their roots are safe from the countless  
 hoof-beats of horses and cattle. They  
 seem to have taken a new lease of life,  
 and the scene to-day would be hardly  
 recognized as that of ten years ago.

I would like to touch our lumbermen  
 in a vital spot; I would like to kick our  
 legislators, somewhere, for not knowing  
 Canada has interests to be safeguarded,  
 not only from foreign exploiters but from  
 ourselves. Look about our hills to-day  
 and see the naked rocks stand glistening  
 in the sun—monuments of the ruinous  
 forest fires of some ten years ago, whose  
 origin, due to carelessness of hunters and  
 others, was scarcely to be unexpected  
 among the fire-traps prepared by heedless  
 and wasteful lumbermen. But even then  
 the situation might have been saved had  
 we been prepared—had we had a system  
 and laws to enforce the same. Think  
 what a ranger of any certain district  
 might have accomplished with the law  
 behind him, the power to call out every  
 available man in his district, if need be,  
 to check a fire. But as I said, it needs  
 system. It needs organization. Of  
 course, there would be expense, but dol-  
 lars saved are dollars earned, and the  
 man called from his, perhaps, necessary  
 employment to protect the weal of the  
 public at large is very nearly in the same  
 category as the soldier who goes to the  
 front.

But think it over, you farmers at least  
 who aspire to sit in legislative halls.  
 Words may not come as readily to your  
 lips as to those of your lawyer neighbor,  
 but what does he know of the country's  
 needs? The muscles he has been trained

**The De Laval  
 Milker**

It pleases  
 the cow



Letter from a large U. S. Dairy.

Having now used a six unit De Laval  
 Milker for nearly four years on more  
 than one hundred cows, we wish to say  
 that we are very well satisfied with the  
 working of this machine in every detail.

The cows all take kindly to the De  
 Laval Milker. With labor conditions  
 the way they have been for the last three  
 or four years, we would have to dis-  
 pense with part of our cows had it not  
 been for the De Laval Milker.

And we must say that the service  
 you render De Laval users is prompt  
 and effective.

Henry Becker & Son, Inc.,  
 Roseland, N. J.

**THE De Laval Milker is a tried and tested De Laval  
 product. It is a distinctly different type of machine, positive  
 and uniform in action.**

The De Laval is faster, more reliable, more sanitary than  
 any other method of milking. Its action is gentle and soothing  
 from the start—old cows that are hard to milk, heifers and high-  
 strung purebreds are all milked successfully.

The De Laval Milker is made and sold by the same Company  
 which for over forty years has earned an enviable reputation for  
 service to users. When a man buys a De Laval product, the  
 Company considers that its obligation to him has just started.

Write to nearest De Laval office for Milker  
 Catalog, mentioning number of cows milked

**THE DE LAVAL COMPANY, Ltd.**

MONTREAL PETERBORO WINNIPEG EDMONTON VANCOUVER  
 50,000 Branches and Local Agencies the World Over.

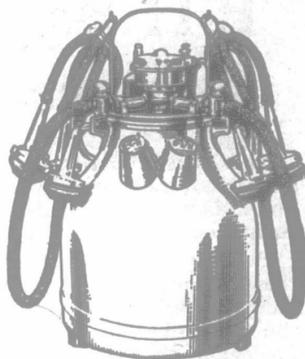
When you or your help milk by hand

**You Pay The Price**

Money paid for the extra time taken to milk cows by hand would, in  
 a surprisingly short time, pay for the Burrell B.L.K. Milker.

**BURRELL B-L-K MILKER**

When you in-  
 stall a B.L.K. you  
 immediately be-  
 gin to save two-  
 thirds of the time  
 it takes to milk  
 your cows. It  
 means one or even  
 two less hired  
 men.



Hundreds of  
 dairymen have  
 installed a B.L.K.  
 to save this extra  
 time and money.  
 Besides, cows are  
 less restive and  
 give more milk  
 when milked with  
 a B.L.K.

Write us to-day for further information and  
 let us show you how easy it is to save time and  
 do cleaner milking with the B.L.K. Milker.

**D. Derbyshire Company, Limited**  
 Brockville, - Ontario.

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Obtain from Your Dealer or write to  
**THE WILLIAM RENNIE COMPANY LIMITED**  
 King and Market Streets, Toronto

"Save the surface and you save all" *Paint & Varnish*



**FOR THE BARN** **FOR THE HOUSE**

### For real protection choose a Brand of known Durability

**B-H Barn-Roof and Elevator Paint**

It is not good business to buy cheap paint—true paint economy consists of using the best of paint, even though it costs a little more. Thus you can be sure of affording real paint-protection for your house, barn and other buildings—thus you can "Save the Surface" and so *save all*. For your house use B-H "English" Paint—the kind with the guaranteed formula of 70% pure white lead and 30% pure white zinc. For your barn and outbuildings use

This is a little less costly than B-H "English," but has similar covering capacity and durability. It gives a smooth fine surface that will neither crack nor peel, especially on rough surfaces.

Before you paint another building, find the store that sells these better paints of B-H make. For either inside or outside painting, dip your brush every time into a B-H can—that's the way to be sure of a Paint or Varnish that will give permanent protection to any wood surface.

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**BRANDRAM-HENDERSON**  
 MONTREAL HALIFAX ST. JOHN TORONTO WINNIPEG  
 MEDICINE HAT CALGARY EDMONTON VANCOUVER

to use are only those that produce sound, and many a beneficial measure has been drowned in its senseless volume.  
 Que. E. C. BARNETT.

### Questions and Answers. Miscellaneous.

#### Curing a Curb.

What is the treatment for a curb?  
 Ans.—When the curb first appears, hand-rubbing is beneficial. Tincture of iodine may be applied, and if the swelling does not yield to treatment, blister with 2 drams each of biniodide of mercury and cantharides mixed with 2 ounces of vaseline. Repeat in about two weeks. If possible, give the horse rest during treatment.

#### Bird Boxes.

Kindly answer the following questions: What makes simple bird-boxes for:

1. The Robin.
2. The Wren and Bluebird. A. R.

Ans.—1. For the robin no box at all is required, and the best thing you can provide is a shelf about 14 inches square, made in the form of a bracket and with a sloping roof over it. It should be set at a fair height from the ground, say six feet or more, and should be located so that cats cannot climb to it.

2. For full details concerning the best types of boxes for the wren and bluebird see No. 3 in our series "Birds on the Farm" in Nature's Diary. A. B. K.

#### Sweet Clover.

1. I seeded a field with sweet clover last year for pasture this year. There will be a lot of it go to seed. If I break it up this fall, will sweet clover appear next year? I have been thinking of sowing a little more seed on it and letting it grow for hay another year. Do you think this would be satisfactory? How much seed would you advise sowing? How early would you sow it?

2. I have a two-horse-power engine. A little over a year ago the compression became very bad. I decided that the trouble was in the rings and put a new set on, but the engine would not go, although they did not seem to be too tight. Why will it not work with the new rings? W. B.

Ans.—1. Sweet clover is likely to go to seed when left in pasture and will give a very fair catch the next year. We broke up a pasture field and got a very good catch by sowing 8 lbs. of seed to the acre with the spring crop. We intend pasturing this early in the season and plowing for wheat. It should give a very satisfactory crop of hay, if you wish to leave it for such. The seed may be sown anytime in the spring.

2. Judging from the account given, the rings are evidently a trifle over size. If these fit snugly, a mere fraction over-size would interfere with the running of the engine.

#### English Pedigreed Stock.

Milk and beef Shorthorns alike were sold for two days at Penrith, Cumberland, on February 19 and 20 last, and 444 head realized £56,572 3s., or an average of £127 8s. 4d. each. Argentine exporters were busy at the sale, A. J. Marshall paying 2,050 guineas for J. Barnes' Inshfield Clipper King, and 1,700 guineas for George Harrison's Gainford Nonsuch, the champion of the show. Mrs. Burnyeat, a Cumberland breeder, received 900 guineas for Moresby Clipper King, and 1,000 guineas for Moresby Royalist, each of which won a class in the sale. Dairy Shorthorn cows made up to 400 guineas for Rossall Blab.

Mrs. Burnyeat herself held a sale of Scottish Shorthorns at Moresby near Whitehaven, Cumberland, and 49 animals aggregated £27,212 17s. or an average of £555 7s. 3d. The 46 females, however, averaged \$575 12s. 1d. each, which is a sale record for Scotch females in England.

Some 87 Hereford bulls were sold at Hereford (England) for £17,257 14s. or an average of £198 7s. 8d. each. A yearling, bred by Major K. W. Miles, realized 2,100 guineas to the bid of the South African exporters, Sidey & Poels. This bull was champion of the show. Reserve champion was W. Smith's Leen Mars, and he was bought by P. & G. Hughes, also for South America, for 1,000 guineas. The breed flourishes apace at home, and "domestic" trade in good bulls is good. ALBION.

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 foal. All  
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Four years old  
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 A most attract  
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**Gombault's**  
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**Has Imitators But No Competitors.**  
**A Safe, Speedy and Positive Cure for**  
 Curb, Spalt, Sweeney, Capped Neck,  
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 Pull, and all lameness from Spavin,  
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 Cures all skin diseases or Parasites,  
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 Bunches from Horses or Cattle.

**As a Human Remedy for Rheumatism,  
 Sprains, Sore Throat, etc., it is invaluable.**  
 Every bottle of Gaustic Balsam sold is  
 warranted to give satisfaction. Price \$1.75  
 per bottle. Sold by druggists, or sent by ex-  
 press, charges paid, with full directions for  
 its use. Send for descriptive circulars,  
 testimonials, etc. Address  
 The Lawrence-Williams Co., Toronto, Ont.

**Sundrum Clydesdales**

For sale at the present time: Choice selection of Clydesdales, including stallions, fillies and mares, safe in foal. All having size and quality, and priced to sell.

W. A. McNIVEN  
 Hamilton, Ont.

**TREAT HORSES RIGHT**

When you go to work on the first warm spring day you throw off your winter overcoat. But horses can't throw off their winter coats. Do it for them by clipping with a Stewart No. 1 Machine. Soon pays for itself in better work from horses. Get one from your dealer—the only machine that always satisfies. Send for new catalog.

CHICAGO FLEXIBLE SHAFT COMPANY  
 Dept. A 161, 12th St. and Central Avenue,  
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**WANTED**

Volumes 1 to 18, Clydesdale Stud Book; volumes 1 to 14, Holstein-Friesian Herd Book; volumes 1 to 24, Dominion Swine Breeders' Record, and complete set Dominion Shorthorn Breeders' Herd Book. Will purchase only from bona fide owners of books. Write, stating price, to

R. W. MAXWELL  
 Agricultural School Woodstock, N.B.

**FOR SALE**

**CLYDESDALE STALLION**

Four years old, sired by the famous horse, Sir Spence, imported by Robt. Ness, Howick, Que., and out of an imported mare by Baron Albion. A most attractive horse, in good condition and a proven colt-getter.

STOCK FARM DEPARTMENT  
 Macdonald College, Province Quebec

**FOR SALE—PURE-BRED**

**Clydesdale Stallion**

Royal Saxon King (21902)

Four years old. Apply

ALEX. JOHNSON, R. R. 3, Burford, Ontario  
 Phone Princeton and Drumbo line 7 on 28.

**Registered Clydesdale Stallion**

Dewy Design (20796), rising three years. Off imported sire; weight about fifteen hundred. Price reasonable.

ALVIN DEWHIRST  
 Cottam, Ontario

**FOR SALE**

Choice, registered four-year-old Shire mare, prize-winner; priced right.

D. H. BENNETT & SON, R. 1, Freeman, Ont.

**Questions and Answers.**  
 Miscellaneous.

**Trimming a Hedge.**

When is the proper time to trim a hedge?  
 B. J. D.

Ans.—It may be trimmed almost any-time during the spring, or 'up until June.

**Pumping Water.**

A is a tenant on B's farm. During a severe windstorm the windmill was blown down. A has been trying to get B to put it up, but he has taken no action. A has had to pump water by hand for thirty head of cattle for four months. Can he deduct anything from the rent.  
 M. G.

Ans.—Unless B guaranteed to supply the power for pumping water, A is not in a position to deduct from the rent. However, this does not excuse B for his negligence in getting the windmill replaced.

**Beans for Hogs.**

We have a quantity of damaged beans which we would like to feed to hogs' but have heard that they should not be fed raw. What do you advise?  
 P. M.

Ans.—It is generally considered that beans are better to be thoroughly cooked before being fed to swine, although a considerable quantity is fed raw, being mixed with corn and other grain. When cooking beans a little salt should be added to the water. If fed in excess there is a tendency to produce soft pork lacking in quality.

**Cow Stops Giving Milk.**

A cow freshened last April and doesn't freshen again until next July. She is in good condition, but a month ago she started to fail in her milk. Now she is dry. What is the cause?  
 J. F.

Ans.—A good many cows go dry when they reach a certain stage of their lactation. This is generally governed by the length of time they were milked in the first lactation. It is doubtful if the lactation could be prolonged no matter what feed and care were given. The cow drying at a certain time is a natural condition.

**Concrete Cistern—Paint.**

1. I wish to build a cement cistern 5 feet wide and 6 feet high. How long should it be to hold the same amount of water as a cistern 5 feet in diameter? How thick should the wall be? If placed alongside a stone wall how thick should it be? How many pails of gravel should I use to a pail of cement?

2. What is a recipe for red barn paint? Also wagon and implement paint? I want a half gallon of each.

3. Is dirty oil drained from the crank case of a car all right to use on the binder and other farm machinery?  
 A. E.

Ans.—1. Approximately 3½ feet long. The wall should be about 8 inches thick and plastered inside and out. Plastering the stone wall would be all that is necessary. For a cistern wall use one pail of cement to six of gravel. It will require about 3 barrels of cement.

2. Venetian Red may be mixed with oil until of the right consistency for use. You might mix Venetian Red with cement until you get the desired shade, then add enough milk to make the cement of the consistency of rich cream and apply with a paint brush. This would come considerably cheaper than using oil, and it has proven all right. For the small amount required, it would be preferable to buy a ready-mixed paint.

3. The consistency of the oil is worn out, and we would not advise using it on farm machinery.



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**SPECIAL** We have made an extra good Team Harness, No. 640, at a special price. **\$57**  
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Our Stud is headed by  
**BARON GARTLY**

winner of third place in open class at Glasgow, Scotland, and grand champion at both Toronto and Ottawa. Progeny have stood high in large classes at the latter two shows. High quality stallions for sale. Our new importation has just arrived including several noted premium winners. Intending purchasers should see our horses before buying.  
**BRANDON BROS., Forest, Ontario**



**Fairview Clydesdale Champions**—We have at present several mares that have been champion winners at Toronto, Guelph, London and Ottawa. Look up our past winnings and call on us if you want something choice. We also have Shorthorn bulls and females of show individuality.  
**ROBERT DUFF & SON, Myrtle, Ontario**

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**ABERDEEN - ANGUS CATTLE, SHROPSHIRE and SOUTHDOWN SHEEP**  
 CORRESPONDENCE and INSPECTION INVITED  
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**BROOKDALE HEREFORD FARM**

Young stuff for sale at all times. Visitors always welcome and met any time.  
**W. READHEAD, Milton, Ontario**

**SHORTHORN HERD SIRES**

**SELLING QUICK**

I have several young bulls left that must go out quick. All are of serviceable age—three are by Gainford King, a grandson of Gainford Marquis (imp), and two others are Nonpareils. One of these is got by the same sire that sired the \$3,100 junior champion heifer sold in the Dryden-Miller sale. Write quick if you want them.

**GEO. E. MORDEN, OAKVILLE, ONTARIO**

**Pear Lawn Shorthorns, Hackneys and Yorkshires**—One imported in dam Miss Ramsden bull, 14 months; one Secret bull, 12 months, imp. sire and dam; one Golden Rose bull, 6 months, imp. sire and dam; one bull, a Flattery, 12 months, imp. sire. A few young cows with calves at foot. One imported Hackney stallion, A 1; two Hackney stallions rising one year; one registered Clyde mare; also Yorkshires at weaning time. **HERBERT J. MILLER, Keene P.O., Ont.** Stations—Keene G.T.R., Indian River C.P.R., Peterborough County.

**Young Shorthorn Bulls** I am offering for immediate sale two grand young bulls, bred right and good individuals—one (white) 12 months old, sired by Browndale Winner = 106217 = dam Spicy Wimple's 6th by Best Boy = 85552 =; the other (roan), 9 months, sire Browndale Standard = 124385 =, dam Nonpariel of Sylvan 3rd = 86811 =, by Spicy Count (imp.). These animals are worth securing. Write today. **A. W. BARRETT, R. R. No. 5, Parkhill, Ontario**

**MANOR FARM SHORTHORNS**

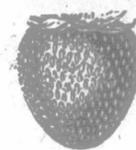
Five bulls from six to fourteen months. A Rosemary, Beauties and a Martha. I seldom, if ever, owned such a good lot.

**J. T. GIBSON, Denfield, Ont.**

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We have in our stables a select lot of Percheron and Belgian stallions and mares, running in age from 4 to 7 years. Our stallions weigh from 1,900 to 2,200 lbs., and mares from 1,700 to 2,000 lbs.

Use good breeding stock now and be ready to meet the demand which is sure to exist. All horses have been Government inspected, and we guarantee them to be satisfactory sure breeders; if they are not, you do not have to keep them. We will sell on time to responsible parties. Look up our winnings at the Western Fair, Guelph Winter Fair and Ottawa Winter Fair. These will give you some idea as to the class of horses we are offering.

Inspection Welcomed. Correspondence Solicited.

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Do not miss the opportunity to secure some of the choice males and females of wonderful smoothness, quality and strain type that are being offered by GEO. DAVIS & SONS, R. R. 1, Erin, Ontario. Herd sire a son of Black Abbot, Champion Angus bull of Canada. Write for particulars.

### Aberdeen - Angus

Meadowdale Farm

Forest, Ontario

Alonzo Mathews  
Manager

H. Fraleigh  
Proprietor

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Angus, Southdowns, Collies

Choice bred heifers. Bulls 8 to 15 months. Southdown ewes in lamb.

ROBT. McEWEN, R. 4, London, Ont.

### Springfield Farm Angus

I will price for quick sale: 5 bulls from twelve to fifteen months old; 6 heifers from one to two years old; also my herd bull, Middlebrook Prince 5th 11155. Come and look these over, or write at once.

KENNETH C. QUARRIE  
Fergus G.T.R. R. No. 5, Belwood, Ontario  
Belwood C.P.R. Phone, Fergus 141 ring 24

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Suffolk Down Sheep or Clydesdale Horses.

WRITE:

JAMES BOWMAN  
Elm Park Guelph, Ont.

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### ABERDEEN-ANGUS

The present string of young bulls for sale includes some classy herd bull prospects, winners themselves and sired by champions. If interested in Angus write your wants. Visitors welcome.

G. C. CHANNON, Oakwood, Ontario  
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CLYDESDALE HORSES.

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12 bulls, serviceable ages; 5 by breeding; size and individual merit are good enough to head any pure-bred herd. Females of different ages. Inspection invited. They are priced to sell.

Arthur F. O'Neil & Sons, Denfield, Ont., R. No. 2.  
Phone 27-12 Granton

**Sunny Side Herefords**—Herd headed by Brummel's Chance (imp), Champion at London and Guelph, 1919. For sale: Three bulls, 10 to 15 months old. MRS. M. H. O'NEIL & SONS, Denfield, Ont. R.R. No. 4. Phone 11derton.

### For Sale

Reg Berkshire sows due 1st May from prize winning stock. Reg Shropshire ewes due in April. Two registered yearling Durham bulls. Two registered Percheron mares 3 and 4 years old. Apply J. W. Coulter, R. R. No. 7, St. Thomas, Ont.

### Questions and Answers.

#### Miscellaneous.

#### Docking Horses.

What is the proper time of year for docking horses? P. B.

Ans.—It may be done at any time, but it is a practice not to be recommended. The tail is docked at the required length and very often seared with a hot iron to prevent excessive bleeding.

#### Lightning Rods.

When lightning rods are properly installed should the copper wires touch the roof or side of the building? C. H.

Ans.—They are not supposed to. The wire is held from the building by means of double staples, or clasps which are nailed to the building and hold the wire in place.

#### Sorghum Silage.

Is sorghum to be recommended for a silage crop? How does it compare, as regards yield and feeding value, with corn? G. S. B.

Ans.—It is generally considered that as the sorghum contains more sugar than corn, the fermentation is greater and there is a tendency for the silage to be sour. However, experiments have proven that when the sorghum is sufficiently matured it makes excellent silage, having a value almost equal to that of corn. It is advisable to allow the sorghum crop to get a touch of frost before ensiling. The yield per acre compares favorably with that of corn.

#### Mare Fails to Breed.

I have recently obtained a brood mare rising 12 years old in June, but for some reason she has not caught for several years past, though she has been bred every season. Can you suggest anything, either in the feed or care of the mare that would increase my chances of getting her in foal this season? J. J. T.

Ans.—When a mare of that age hasn't bred for several years it is doubtful if she will conceive now. Artificial impregnation has been practiced and we believe quite satisfactory in such cases. If the mare is in a thriving condition there is little can be done in the way of feed. Have a qualified veterinarian examine her for disease or obstruction of the ovaries or neck of the womb and if everything is normal artificial impregnation may be tried.

#### Pasturing Sweet Clover.

Is sweet clover liable to bloat the cattle when they are pasturing on it? How much seed should be sown to the acre, and on what kind of land does the crop do best? Where can the seed be obtained? M. S.

Ans.—We have grown sweet clover at Weldwood Farm both for hay and pasture, and find it a very satisfactory pasture crop. Cattle of all ages, horses, and pigs eat it readily, and we have never had one case of bloat. Of course, for the first week we do not turn the cattle on until the dew is off, and we only leave them in for a short time at first. Our main trouble with it as a hay crop has been in killing the plants by cutting too low. About 15 lbs. of seed per acre is a very good seeding, and the crop does very well on any kind of soil, but, like most legumes, it does not thrive on an acid soil. Several firms are advertising this seed in "The Farmer's Advocate."

### CLEARING AUCTION SALE

## 25 Scotch Shorthorns 25 15 Oxford Down Ewes

on Farm adjoining Eden Mills, 7 miles east of Guelph, Ont.

TUESDAY, APRIL 6th, 1920

SALE OF STOCK 3 p.m.

SHORTHORNS—5 Bulls, 10 to 14 months old, Sire, Gloster Champion =87699 =

19 Females mostly in calf or calves at foot.

Families are Jealousys, Wimples, Tulips, Rustic Beauties, Stamfords, Fannies and Miss Syme—Herd Sire, the noted Show Bull Sittyton Favorite =89610 =

Morning trains met at Eden Mills. Toronto Suburban and Rockwood, G. T. R. Write for Catalogue to

DR. A. E. RAMSEY, Phone Rockwood 30-5, Eden Mills, Ont.

Jas. McDonald, Auctioneer

### GRAND RIVER DUAL-PURPOSE SHORTHORNS

Herd headed by Prince Lavender 104449—dam gave 16,596 lbs. milk as 4-year-old Present offering: 5 good young bulls. Some good bull calves coming on—dams now running in R.O.P. A few females to spare.

HUGH A. SCOTT, CALEDONIA, ONT.

**Spruce Glen Shorthorns**—When in want of Shorthorns visit our herd. We have 80 head to select from—Minas, Famos, Frances, Emilys, Red Roses and Elizas—good milking a few heifers for sale; also several young bulls of breeding age, thick, level, mellow fellows and best just right.

JAMES McPHERSON & SONS, Dundalk, Ont.

**Newcastle Herd of Shorthorns and Tamworths for sale**—Several young bulls ready for service; several heifers bred to Primrose Duke =10754 =, and a good milking strain. A choice lot of Tamworths of both sex, and various ages, from noted prize-winning stock. Pair of registered Clydesdale fillies rising 3. Long distance Phone.

A. A. COLWILL, R.R. No. 2, Newcastle, Ont.

### DUAL-PURPOSE SHORTHORNS

Herd headed by Dominator 106224, whose two nearest dams average 12,112 pounds of milk in a year. Inspection of herd solicited.

WELWOOD FARM, Farmer's Advocate, London, Ont.

**Spring Valley Shorthorns**—Herd headed by Sea Gem's Pride 96365. We have a number of good bulls for sale, including the Champion Ivanhoe 122760, and his full brother, also, an extra well bred Rosewood, and others. Write for particulars. Telephone and telegraph by Ayr.

KYLE BROS., Drumbo, Ont.

**Imported Scotch Shorthorns For Sale**—three imported bulls, one yearling sire, also a choice two-year-old Orange Blossom of our own breeding and three well bred bull calves about year old. Would consider exchanging an imported bull for Scotch females.

R. M. MITCHELL, R. R. No. 1, FREEMAN, ONT.

**Irvin Scotch Shorthorns**—Herd Sire, Marquis Supreme, by Gainford Marquis (imp). We have at present three young bulls of viceable age and one younger, all sired by our herd sire and from Scotch-bred dams. Good individuals and the best of pedigrees. Also pricing a few females.

J. WATT & SON, Elora, Ontario

**Glengow Shorthorns and Clydesdales**—Recently advertised bulls have all been sold. Sultan =100339 =, and all bred to a Golden Drop bull; also several others somewhat younger. A real good yearling stallion, and mares all ages, in foal, will be priced right.

WM. SMITH, Columbus, Ont. Stations: Oshawa, C.N.R.; Myrtle, C.P.R.; Brooklin, G.T.R.

**Shorthorn Females—Shorthorn Bulls**—We are now offering a number of choice heifers well forward in calf to our Roan Lady-bred sire, Meadow Lawn Laird. We also have bulls ready for service. Prices right. Satisfaction guaranteed.

J. K. CAMPBELL & SONS, Palmerston, Ontario

### BLAIRGOWRIE SHORTHORNS

3 Imported bulls. 10 Imported females in calf or calf by side. 2 Scotch bred bulls. 5 Scotch bred cows with calves by side.

JNO. MILLER (Myrtle C.P.R. and G.T.R.) ASHBURN, ONT.

**20 Bulls—SPRUCE LAWN—100 Females**—Clydesdales, Shorthorns, Yorkshires. Herd headed by Imported Golden Challenger 122384. A Rubyhill bred by Earl of Northbrook, by Accor Challenger, bred by L. De Rothchild. Special bargains in farmer's bulls. Cows and heifers in calf, yearling and heifer calves. Yorkshires either sex. J. L. and T. W. McCamus, Cavan, C. P. R. Milbrook, G. T. R. and P. O., Ontario.

**30-lb. Bull for Sale**—Lord Lyons Hengerveld, his 5 nearest dams average 30.94 lbs. of butter in 7 days. Sire, King Lyons Hengerveld, whose 5 nearest dams average 31.81 lbs. Dam, Madoline Dolly Dekol, a 25-lb. daughter of Baroness Madoline, R.O.M., 34.48; R.O.P., butter in 1 year, 1,043.75. Individually as good as his breeding; coming 3 years old in April; must sell to avoid in-breeding. Priced right; if interested write at once. We also have a few young bulls left.

JACOB MOGK & SON, R.R. 1, Tavistock, Ont. Innerkip Phone 1 on 34.

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New Town, N.B.  
"My mare that I have been treating is like a new horse, she has improved so much. Please send me four more treatments; my neighbors want to try it."  
F. M. CAMPBELL.

**WRITE FOR FREE TRIAL**  
We will send a full week's treatment for 5c. to cover postage and packing.

VETERINARY SUPPLY HOUSE  
750 Cooper Street - Ottawa

### Maple Shade SHORTHORNS

A dozen young bulls imported and my own breeding at moderate prices.

W. A. DRYDEN  
Brooklin - Ontario

### SCOTCH-TOPPED SHORTHORNS

Three young bulls (red), for sale, thick sappy fellows; also 6 thick heifers, 2 years old, bred to a Scotch Clementina bull. These will be priced right. Come and see or address—

HENRY FISCHER  
Bell Phone R. No. 2, Mitchell, Ont.

### Buy Glenfoyle Shorthorns

9 bulls, all ages; 25 heifers and cows. Herd bull 2,400-pound quality kind, which sire's dam and three nearest dam's milk records average over 9,000 pounds; also high-class yearling Clyde stallion. Come and see them.

Stewart M. Graham - Lindsay, Ont.

### Mardella Dual-Purpose Shorthorns

8 choice young bulls; 30 females, cows and heifers. All of good size, type and breeding. Herd headed by The Duke; dam gave 13,599 lb. milk, 474 lbs. butter-fat. He is one of the greatest living combinations of beef, milk and Shorthorn character. All priced to sell. Write, call or 'phone.

THOMAS GRAHAM, Port Perry, R.R. 3, Ont.

### DUAL-PURPOSE SHORTHORNS

Present offering: Six young bulls, Reds and Roans, also a number of females. They have size, quality and breeding from good milking dams. Prices moderate. Satisfaction guaranteed.

CHAS. GRAHAM - Port Perry, Ontario

### Scotch Shorthorn Females WANTED

Any ages, must be good individuals—not particular as to being specially fitted. Would also purchase a few young Scotch-topped females. State age and full description.

ADDRESS BOX 96  
Farmer's Advocate, London, Ontario

### Evergreen Hill Farm—R.O.P. Shorthorns

Present offering: Two 12-month bulls by the R.O.P. bull St. Clare = 9478 =, also a few heifers and heifer calves.

S. W. JACKSON, Woodstock, Ont.

### Scotch Shorthorns—Herd headed by Master Marquis = 123326 =, by Gainford Marquis. Stock of either sex for sale. Also Oxford Down ewes.

GEO. D. FLETCHER, Erin, R.R. 1, Ont.

### A Good Shorthorn Bull for Sale

Rosebud Prince = 131551 =, dark roan, just past a year old and of pure Scotch breeding. Apply to

A. J. FOX, R.R. No. 3, Harrow, Ont.

### Dual-Purpose Shorthorns—Herd sire, Darlington Major Maude = 101212 =, by Darlington Major = 91279 = (imp.); dam Lady Maude = 104385 = (imp.). For sale, 8 bulls, ages 6 to 13 months. R. H. & W. S. SCOTT, Box 231, Tillsonburg, Ont.

### SPRUCE LODGE STOCK FARM

Shorthorns and Leicesters For Sale  
Two choice young bulls, 6 and 11 months old, also one and two-year-old heifers, all got by Roan Chief Imp. = 60865 =.

W. A. DOUGLAS, Caledonia, Ontario

### LOCHABER STOCK FARM

is offering a good 11-month-old Dual-purpose Shorthorn bull for sale. Priced to sell.

D. A. GRAHAM - Parkhill, Ontario

Please mention The Advocate when writing

### Questions and Answers. Veterinary.

**Open Joint.**  
Mare got kicked on thigh. She will not put leg down. It is swelled and there is a small cut from which a yellowish oil squirts out when she moves the leg.

B. D. H.  
Ans.—This is called "open joint". The "yellowish oil is synova or joint oil. There is little prospect of successful treatment. If she be alive when you see this place her in slings. Get a lotion made of 1/2 oz. each of acetate of lead and sulphate of zinc, 2 oz. water and 1 oz. each of glycerine and tincture of iron. Keep to the wound constantly, absorbent cotton saturated with this lotion. Feed well. If she won't eat drench with milk and eggs, boiled flaxseed, gruel, etc. V.

**Mare Perspires Easily.**  
Eight-year-old Percheron mare perspires very freely when working or driving, and she is poorer this winter than usual. She eats well, is not hide bound, and has good life. She has had no grain, but lots of good timothy and clover hay all winter.

H. E. M.  
Ans.—This is due to want of tone. Hay alone is not sufficient to keep a horse "fit." The lack of grain also accounts for her want of flesh. In order to have her in condition to perform a reasonable amount of work when she will be needed to work, it will be necessary to commence to give her a little grain at once. Commence with small quantities 3 times daily, and give daily exercise, gradually increase the grain ration and amount of exercise. If her appetite should fail, give her a heaped tablespoonful 3 times daily of equal parts powdered sulphate of iron, gentian, ginger and nuxvomica. It will be good practice to have her clipped as soon as the state of the weather will permit.

### Miscellaneous.

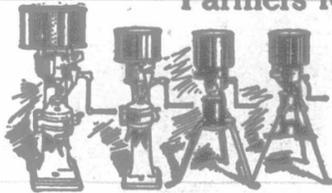
**Girdled Trees.**  
Can anything be done to save fruit trees when the bark has been partially destroyed by rabbits?  
A. I.  
Ans.—Yes. Bridge-grafting will save trees which have been badly girdled by mice or rabbits. This practice consists of bridging over the wound by inserting a scion above and below the girdled part. As with other grafting, the layers of bark on the scion and tree must come in proper contact so that there will be a circulation of sap through the scion.

### Miscellaneous.

1. How would you clear maple sugar? Last year I used new milk and it was far from clear. What proportions should be used?
2. We have a splendid mill pond covering about an acre of land by our barnyard with running water through it, good for raising ducks and geese, but the mud turtles are so numerous and furious they destroy both young and old fowl. Can you tell us how to remedy matters or destroy the turtles?
3. How much cement and gravel would it take for a cistern wall 8 feet long by 4 feet 6 inches wide and 4 feet 6 inches high?
4. Would a good spring well in a cellar be safe to use? The cellar is well ventilated, has a good drain and clean cement floor.  
H. B.  
Ans.—1. In cleansing syrup, the practice followed by many is to bring the syrup to blood heat and then use two cupfuls of milk to five gallons of syrup and bring to the boiling point. The milk curdles and rises to the surface just before the boiling point is reached. The impurities in the syrup attach themselves to the curdled milk. The white of egg is also used. The syrup should be strained through felt or a flannel cloth.
2. We have had no experience in destroying turtles. Possibly some of our readers have had experience along this line.
3. It will require approximately 4 cubic yards of gravel and 3 barrels of cement, if the wall is built one foot thick. An 8-inch wall would be strong enough and would require one-third less material.
4. It should be, if there is no seepage into the well.

# MELOTTE Cream Separator

There is only one "Melotte"—The "Melotte" that we have been selling to Canadian Farmers for 25 years.



Skims Cleanest  
Turns Easiest  
Lasts Longest

EVERYBODY KNOWS IT.  
The Cream Separator with the Suspended Bowl  
Think of it! A bowl hanging naturally on a ball-bearing spindle—a real self-balancing bowl.

Large stocks of the "Original Melotte" just received from England. Order now from nearest local agent.

R. A. LISTER & CO (CANADA) LIMITED  
TORONTO & WINNIPEG

## Burnbrae Shorthorns

Eighty-three years without change we have been breeding Scotch Shorthorns. The foundations of many of the best herds in America were laid from our farms.  
I am in a position to furnish you now with the BEST in FORM and in BREEDING that can be found any place. Twenty-five young bulls, from small calves to fifteen months old. Sixty-three cows and heifers, every one of them bred right, not a plain looking one in the lot. Every animal that I have sold in two years has been satisfactory; the most of them sold by letter. I can satisfy you with the best in what you want at a price that will give you a chance, and I will pay the freight to your station. A Grand Champion and the son of a Grand Champion at head of the herd.  
Post Office, Telegraph, Telephone and Station is Stouffville, Ont.

ROBERT MILLER :: Stouffville, Ont.

## A NEW IMPORTATION OF FORTY SCOTCH SHORTHORNS

arrived home Dec. 17th.—From our herd of 125 head we can offer a large selection in choicely-bred bulls and females. Anyone in need of foundation stock may find it to their advantage to look over our offering before making any purchases.

J. A. & H. M. PETTIT, Freeman, Ontario  
Burlington Jct., G.T.R., only half mile from farm.

## PLASTER HILL STOCK FARM

The Home of Dual-Purpose Shorthorns

I have now a large number of cows running in the Record of Performance, and have a few bull calves for sale from these. Can also spare a limited number of females.  
Herd sires:—Green Leaf Record 96115 and Commodore 130056. The two nearest dams of the latter average 12,112 lbs.

ROSS MARTINDALE - Caledonia, Ont.

## PUSLINCH PLAINS SHORTHORNS

Five bulls for sale by Burnbrae Sultan = 80325 =.

A. G. AULD, R. R. 2, GUELPH, ONT.

## Rowan River Holsteins at the "National"

We are consigning five head to the Canadian National Sale, among them Olive Starlight Pletertje and her year-old son. This cow has an R.O.P. record of 20,041 lbs. of milk, 922.50 lbs. of butter (twice a day milking after first 90 days.) Her year-old son also sells and she is again due on April 10 to Rex Wanderbelle Ormsby Jane (highest record bull in service). Look up this consignment in your catalogue and at the sale.

PETER B. FICK - PORT ROWAN, ONT.

"Premier" Holstein Bulls Ready for Service—I have several young bulls from dams with 7-day records up to 32.66 lbs. of butter, 755.9 lbs. of milk, with 110 lbs. of milk in one day—over 3,000 lbs. in 30 days. All are sired by present herd sire, which is a brother to May Echo Sylvia. Step lively if you want these calves.  
H. H. BAILEY, Oak Park Farm, Paris, Ont.

Cedar Dale Farm—The Home of Lakeview Johanna Lestrage, the \$15,000 sire—He is the son of the 38.06-lb. cow, Lakeview Lestrage, and is our chief sire in service. We are offering a few females bred to him and also have a few bull calves sired by him at right prices. Other older bulls, sired by our former herd sire, Prince Segis Walker, son of King Segis Walker.

A. J. TAMBLYN, Cedar Dale Holsteins - (C.N.R. station one mile) - Orono, Ontario

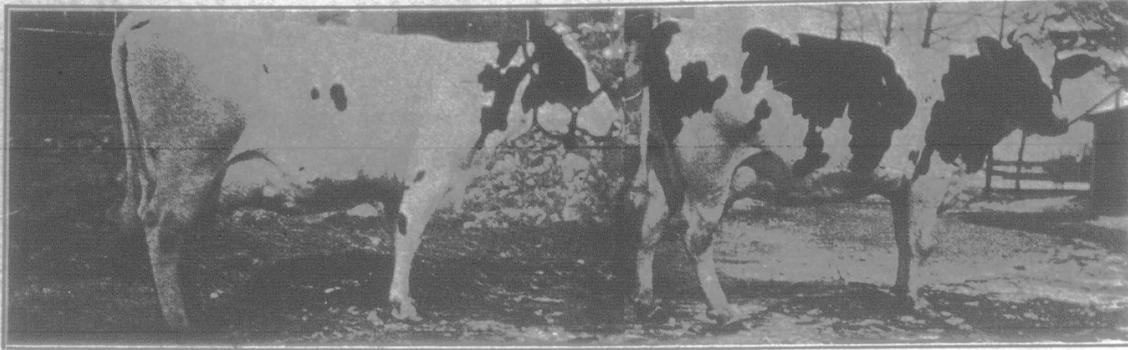
## SUNNYBROOK FARM HOLSTEINS

We are offering for quick sale one 24-lb. bull and one 26-lb. bull ready for service. Both are sired by a 33-lb. son of the great King Segis.

JOSEPH KILGOUR, NORTH TORONTO, ONT.

HOLSTEIN HERD SIRES—I have at present several young show calves nearly ready for service; all of which are from tested dams and sired by my 30-lb. sire, Gypsy Pontiac Cornucopia. This bull is a grandson of May Echo Sylvia, and our entire offering in females are bred to him. Prices right.  
JOSEPH PEEL, Port Perry, Ontario

## THE PREMIER LONG-DISTANCE OFFERING AT THE NATIONAL SALE



BESSIE POSCH COLANTHUS—Two Great Daughters of Prince Colanthus Abbercork—COLANTHA MERCENA BEULAH

**BESSIE POSCH COLANTHUS**  
R. O. P. at 2 years  
(just completed)

Milk.....18,120 lbs.  
Butter.....731 lbs.

This heifer has just finished her year record and the official figures as yet have not been returned from Ottawa, but the above is practically correct. She is probably one of the best individual long-distance heifers of the breed and is due at sale time to a 34.06-lb. son of Avondale Pontiac Echo.

**QUEEN COLANTHA DEW DROP**

R.O.P. at 3 years  
(just completed)

Milk.....19,436 lbs.  
Butter.....850 lbs.

A fine young four-year-old cow and safely bred to the son of Countess Mercena Beulah.

**CARRIE SPOFFORD**  
(2-year-old)

Dam—**ELVA SPOFFORD**

R.O.M. at 3 years

Butter.....37.38 lbs.

This two-year-old heifer is one of the biggest and finest individuals that will be in the sale. She is due in April to a 34.32-lb. son of Avondale Pontiac Echo.

**COLANTHA MERCENA BEULAH**  
R. O. P. at 2 years  
(just completed)

Milk.....17,868 lb.  
Butter.....730 lbs.

Dam—**Countess Mercena Beulah**

R.O.M.

Butter.....34.06 lbs.

Milk.....768 lbs.

R.O.P.

Butter.....1,200 lbs.

Milk.....27,210 lbs.

This heifer is due at sale time to a 34.32 lb. son of Avondale Pontiac Echo.

A Two-year-old Son of

**COUNTESS MERCENA BEULAH**

R.O.M.

Butter.....34.06 lbs.

Milk.....768.00 lbs.

R.O.P.

Butter.....1,200 lbs.

Milk.....27,210 lbs.

A fine straight show bull—more black than white and sells fully guaranteed.

**IF YOU  
BUY THESE  
YOU  
BUY  
THE BEST**

CALL AND INSPECT THEM BEFORE THE SALE

**A. E. CORNWELL & SON** AT TORONTO ON APRIL 8 & 9 **NORWICH, ONTARIO**

**You Can't Break This Hame Strap**



**"The Horsepower"**

Made from Chrome tanned leather. Tanning is of special merit. A strap of unequalled strength and durability. It remains soft and pliable under all conditions. More than twice as strong as ordinary harness leather.

**IMPORTANT—** To make sure that you are getting all these qualities, do not fail to look for the name "Griffith" stamped on every strap. It is your guarantee of satisfaction.

If your dealer doesn't sell the famous Griffith Chrome Leather Harness Specialties, send 35c for sample of 1 inch "Horsepower" Hame strap (40c in the West). For lumbering or very heavy teaming we recommend the 1 1/4" strap at 45 cents (50c in West).

**G. L. GRIFFITH & SON**  
68 Waterloo Street, Stratford, Ontario.

**FOR SALE**

One O.K. Potato Planter  
One O.K. Potato Digger  
One Four-row Sprayer  
One Two-row Cultivator

This outfit has only been used one season, and will sell cheap.  
**R. THOMSON, - BRUSSELS, ONT.**

**WANTED** STRAWBERRY PICKERS at once for the coming season. Apply  
**J. PICKETT, R. R. 2 FREEMAN, Bronte Station**

**Hospital for the Insane, Hamilton, Ont.**

**HOLSTEIN BULLS, ONLY, FOR SALE**

Senior sire is from one of the best sons of King Segis Alcartra Spofford. Junior is grandson of the noted May Echo Sylvia, by Champion Echo Sylvia Pontiac.

Write to the Superintendent for prices, etc.

**HOLSTEIN HERD AVERAGES 18,812 LBS. MILK**

A herd of 13 pure-bred Holsteins last year averaged 18,812 lbs. milk and 638.57 lbs. fat. Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in **HOLSTEIN CATTLE** send for booklets—they contain much valuable information.

**HOLSTEIN-FRIESIAN ASSOCIATION OF CANADA**  
W. A. CLEMONS, Secretary, ST. GEORGE, ONT.

**WALNUT GROVE HOLSTEINS**

I am offering a choice lot of bull calves sired by May Echo Champion who is a full brother of world's champion May Echo Sylvia, also a few cows just fresh.  
(Take Radial Car from Toronto to Thornhill) **C. R. James, Richmond Hill, R. R. No. 1, Ont.**

**Sylvius Walker Raymondale** is the sire of the majority of our young bulls now listed. If you see these calves you will appreciate them. Their dams are mostly daughters of King Segis Pontiac Duplicate. Don't delay if you want a good bull at a right price. We are also offering females.  
**R. W. WALKER, & SONS, Port Perry, Ont.**

**HOLSTEIN BULLS FROM 30-lb. DAMS**

If you want 30-lb. bulls—good individuals—and priced right—you should see my present offering. I also have lower priced bulls and am offering females bred to Ormsby Jane Burke. Correspondence solicited. **R. M. HOLTBY, Manchester G.T.R., Myrtle C.P.R., PORT PERRY, Ont.**

**Summer Hill Holsteins**—We have the best bunch of Holstein bulls ever offered at our farm. Their dams have records up to over 34 lbs. of butter in 7 days. All are sired by a bull with a 34-lb. dam. One is a full brother to the Grand Champion bull at Toronto this year. Prices reasonable  
**D. C. FLATT & SON, R.R. No. 2, Hamilton, Ont.**

**CLOVERLEA HOLSTEIN FRIESIANS**

We are offering this week two choice bulls, one ready for service, from a 25-lb. dam. Priced right for a quick sale. For price and particulars, apply to  
**GRIESBACH BROS., R. R. No. 1, COLLINGWOOD, ONTARIO.**

**Minster Farm Holstein Herd Sires**—We have three sons of our former herd sire, Pride King Sylvia Artis. One is from an 18,262-lb. 3-yr.-old heifer; one from an 18,886-lb. cow, and the other from a 14,762-lb. 2-yr.-old. The dam of their sire has 19,500 lbs.—figure up their averages. All are show calves and priced right. **RICHARD HONEY & SONS (G.T.R. station, Hastings) DARTFORD, ONT.**

### Questions and Answers. Miscellaneous.

#### Rabbit Skins.

Is the skin of a tame rabbit or cotton-tail of any value? Is cat's fur of any value?

**Ans.**—We do not know what rabbit or cat hides are selling for, but they certainly have a value when the fur is right.

#### Graining Woodwork.

How can woodwork be grained?

**Ans.**—As a rule, the woodwork is gone over with a ground work for graining, which is usually a yellowish coat; then the graining compound is put on, and before this is dry the graining is done. There are rollers and combs which may be secured at most hardware stores for doing the graining. Different designs may be secured. After this is dried a coat of varnish is put on.

#### Removing Manure.

A sells his farm to B, giving possession in March. Afterwards A sells manure to C. Can B stop C removing manure?

**Ans.**—A, after selling his farm to B, is not entitled to sell or remove manure therefrom, and B can stop him or anyone else from removing same; and the purchaser of it, certainly, cannot claim a roadway or any other facilities for such removal.

#### Sweet Clover.

1. Would it be advisable to sow sweet clover on a rye field? Some have told me it will not catch.

2. P. B. F. writing in March 4 issue says he sows 1 pound of alsike per acre with his timothy. What does he do with the timothy seed in the alsike?

3. Which is the proper side to train the manes of a well-matched Percheron team?

**Ans.**—1. Sweet clover should catch all right in the rye, provided the season is favorable.

2. It is possible that the alsike comes on and ripens before the timothy is sufficiently matured for seed. Possibly P. B. F. will explain this in an early issue.

3. We do not know that it makes any difference. It is customary to see the manes trained to the right.

#### Treatment for Smut.

1. Are Sandy Fraser and A. McDiarmid real farmers, or are these articles written by members of the editorial staff?

2. How can grain be treated with formalin to guard against smut?

3. Would you consider it advisable to mix hardwood ashes and acid phosphate to apply to grain and roots?

**Ans.**—1. They are "real" farmers in every sense of the word.

2. There are several methods of applying formalin. The dry treatment, fully described in the issue of March 18, consists in using equal parts of formalin and water. One pint of this mixture is sufficient for 25 bushels of grain and should be sprayed on the oats with a hand-spray, while another man turns them with a shovel.

3. It should do no harm mixing the ashes with the phosphate, and they should give results on both grain and roots.

#### Pumping Water.

1. Would there be any more pressure in pumping water in bottom of tank, than up over in top tank 25' high?

2. How far will a Rotary power pump draw water up?

3. How many h.-p. engine required to run said pump 100 rev. per minute with capacity of 17 gallons per minute?

4. When pump has pulley of 8" per diameter what size pulley should engine have to run pump 100 rev. per minute?

5. Do you consider this pump to give long service?

**Ans.**—1. No, slightly less.  
2. Theoretically 34 feet, practicable 15 to 20 feet.

3. 1/2 h. p. will be amply sufficient.

4. Assuming engine has speed of 500 R. P. M. the size of pulley on engine should be 1 3/5 inches.

5. A good deal depends on the design, the character of the water pumped and care it receives. If lobes inside casing become badly worn the efficiency will be very low.

# "THE NATIONAL SALE," Everybody—Let's Go!

TORONTO, ONTARIO

## Thursday and Friday, April 8 and 9, 1920

YOU MAY NOT WANT TO BUY—BUT YOU SHOULD BE THERE—BOTH DAYS

During the past week or ten days we have heard several small breeders remark that as they were in no position to pay big money for high-record cattle there was very little, if any, use of them attending the National Sale. This may sound like good reasoning in most cases, but with the "National" it is quite the reverse. It is true that there are an exceptionally large number of 30-lb. cows listed, with a like number of long-distance cows, with yearly records equally as great, but at the same time there are more untested daughters of 30-lb. cows listed for this sale than has ever come forward in the combined sale-rings of any one year in the Dominion. These untested heifers—

daughters of 30-lb. cows, sired by 30-lb. bulls—are the sort that make safe buying, for the old or new breeder, at almost any price. In reviewing the pedigrees of the males or females, kindly remember that in every case the offerings were chosen—not consigned—and no sale in the history of the breed has offered a more ironclad guarantee. To enter they must be choice—they must be healthy—and the breeding good. To the young breeder, we say again, buy this breeding even though you take only half the number. If you want to keep abreast with the times you should come and see them sold—as a breeder you owe this much to yourself at least.

YOU CAN MEET ALL THE BREEDERS AT THIS SALE

For catalogues address

**Canadian National Holstein Club**  
28 Adelaide St. W., TORONTO, ONT.

**GORDON S. GOODERHAM, President**

Auctioneers: **KELLY-HAEGER**  
(In the box) **WOOD**



**MAY ECHO SYLVIA**  
(The World's Greatest Milk Cow)

Seven-day milk records:

At 6 years	874.7 lbs.
At 7 years	1,005.8 lbs.
At 8 years	852.2 lbs.
At 10 years	948.9 lbs.

**Still at Work at Avondale**

No. 3.—Hillcrest Rauwerd Sadie. R. O. M. at junior 3 years (just completed).

Butter 7 days	31.86 lbs.
Butter 30 days	130.02 lbs.
Milk 7 days	608.05 lbs.
Milk 30 days	2,349.03 lbs.

A model heifer, and will be bred before sale to Champion Echo Sylvia Pontiac.

## May Echo Sylvia Blood at Toronto

Mr. Holstein Breeder:—Do you know that the Avondale consignment to the CANADIAN NATIONAL SALE brings forward more May Echo Sylvia blood than ever before sold in one sale-ring in America? In the following we are offering you the best from Avondale, at your own price. This will be your last chance to buy untested daughters of our senior sire, CHAMPION ECHO SYLVIA PONTIAC, the great son of MAY ECHO SYLVIA.

### The Offering:

No. 1—A two-year-old daughter of **Champion Echo Sylvia Pontiac**, due at sale time to King Echo Sylvia Bell's Model, who carries 75% the same blood as Carnation King Sylvia, the \$106,000 calf.

Nos. 4-5—Two 2-year-old daughters of **Woodcrest Sir Clyde**, one well forward in service to Champion Echo Sylvia Pontiac, and one just bred to the great long-distance junior sire at Avondale, Winterthur Korndyke Ormsby.

No. 2—An 18-months' daughter of **Champion Echo Sylvia Pontiac**, and selling safely settled in service to the great long-distance junior sire at Avondale, Winterthur Korndyke Ormsby.

No. 6—A four-year-old granddaughter of **Rag Apple Korndyke 8th** on the sire's side, and from a 32.59-lb. granddaughter of **Pontiac Korndyke**. A fine, young show cow, bred in December to Champion Echo Sylvia Pontiac.

No. 7—A year-old bull from a 25.79-lb. junior two-year-old, and sired by a 30.8-lb. son of **King Pontiac Artis Canada**.

POSITIVELY YOUR LAST CHANCE TO BUY UNTESTED DAUGHTERS OF CHAMPION ECHO SYLVIA PONTIAC

**AVONDALE FARMS** (H. LYNN, Superintendent) **Brockville, Ontario**

## Four out of Ten are Daughters of Thirty-Pound Cows

It is hardly likely that four out of every ten females selling in the "National" are daughters of 30-lb. cows, but this is exactly how our consignment lines up for this great two-day-sale. Following is a partial summary of the offering—can you beat it?

### MANOR SEGIS MAYFLOWER

A two-year-old daughter of Manor P. H. Flower 30.59 lb. This heifer is well forward in calf to a 32.26-lb. son of King Echo Sylvia Johanna, (75% the same blood as Carnation King Sylvia the \$106,000 bull).

### K. S. A. C. DAISY ORMSBY

A two-year-old daughter of King Segis Alcartra Calamity and Daisy Ormsby Lass 31.47 lb.

### K. S. A. C. EVANGELINE DE KOL

A two-year-old daughter of King Segis Alcartra Calamity and Witzzyde Evangeline De Kol 31.00 lb.

### SUSIE SEGIS WALKER

A three-year-old daughter of Pontiac Sir Korndyke Wayne and Lelia Segis Walker 30.00 lb., due April 23 to a 32.26-lb. son of King Echo Sylvia Johanna, (75% the same blood as Carnation King Sylvia the \$106,000 bull).

### OTHER FEATURES

Three daughters of May Echo Sylvia's daughter's son, May Sylvia Pontiac Cornucopia. Two of these are twenty-month heifers and one, just past the year.

Pietje Korndyke Queen, an eight-year-old 27.46-lb. cow, (record made at five years, and dam of Pietje Korndyke Queen 2nd 34.68 lb.)

Het Loo Queen Pietje 19.92-lb. two-year-old full sister to Pietje Korndyke

Queen 2nd 34.68 lb.

Roycroft Echo Pietje, year-old daughter of Het Loo Queen Pietje (mentioned above) and sired by a son of Avondale Pontiac Echo.

Rag Apple Echo Sylvius, a two-year-old son of Champion Echo Sylvia Pontiac, and from a 24.09-lb. daughter of Rag Apple Korndyke 8th.

You will appreciate this offering when you see it at

## THE NATIONAL, ON APRIL 8-9

W. F. ELLIOTT

:: :: :: ::

UNIONVILLE, ONT.

### Gossip.

#### The Hanmer Dispersal.

Mr. J. B. Hanmer's announcement in these columns a couple of weeks ago of the dispersion of his Glen Otter herd of producing Holsteins, came, no doubt, as a surprise to many. For the past year or more, Mr. Hanmer has met with one success after another in the way of making official records with individual members of his herd, the outstanding, of course, being the 51-lb., the world's record made on Rolo Mercena De Kol, which sold in Mr. Hanmer's consignment to the National Sale at Philadelphia last June for over \$27,000. A three-year-old daughter of this cow is perhaps the outstanding feature of Mr. Hanmer's sale, although there are plenty of others that would add strength to almost any offering. The three-year-old daughter referred to is Topsy Mercena Posch, a big, strong, well-proportioned heifer, and due to freshen May 1st, to Prince Mercena Echo. This sire is from Princess Mercena Beulah, a 27,000-lb. yearly record cow with 1,200 lbs. of butter for the year, and also a 7-day record of 34.06 lbs. of butter, and 706.8 lbs. of milk. There is also a sister of the 50-lb. cow listed, she being the seven-year-old cow, Canary Flora De Kol. This cow has a five-year-old record of 21.62 lbs. of butter and 550 lbs. milk in 7 days, and she also has two daughters selling, one of which is a five-year-old show cow with a 27.52-lb. butter record for 7 days. The second daughter is a year-old heifer, which combines the blood of both Rolo Mercena De Kol and Segis Fayne Johanna, the world's two only 50-lb. cows. Next in order it will probably be well to mention the \$3,000 cow, Ladoga Idaline Mercena, purchased by Mr. Hanmer at Philadelphia last June. This cow has a 28.50-lb. record, and is due late in May to Prince Mercena Echo, the sire mentioned above. Continuing on down the list, will be found a score or more individuals, all of which should hold equal interest. Belle Abbekerk 2nd, a 23-lb. junior two-year-old, has been often to the front in the show-ring, winning first at the Canadian National, Toronto, as a yearling; third at the National Dairy Show at Chicago as a two-year-old, and was awarded first honors as the highest scoring two-year-old in the Dairy Test at the Ontario Provincial Winter Fair, Guelph, 1919. The year-old daughter of this heifer, sired by May Echo Sylvia's daughter's son, May Sylvia Pontiac Cornucopia, is also among the list, as well as her 1920 male calf, which is sired by Count Paul C. Posch, a 34-lb.-bred grandson of May Echo Sylvia. There is a long list of two-year-old heifers, any one of which should feature an offering of this

## A Special Attraction

At the Great National Holstein Sale in Toronto, April 8th and 9th, my consignment of three richly-bred cows will be a special attraction.

No. 1. My foundation cow, **Patti De Kol Posch**, 32.86 lbs. butter, 516 lbs. milk in seven days. She has two tested daughters—Queen Bos De Kol, 35.50 lbs. butter and 520 lbs. milk in 7 days at 4 years—Patti Bell De Kol, 27.84 lbs. butter in 7 days at 3 years. This worthy matron is a grandam of Princess Lyons De Kol, 23.13 lbs. butter, 418 lbs. milk in 7 days at 2 years—a perfect cow, nicely marked.

No. 2. **Flora De Kol Korndyke** has four records, one 30.11 lbs. butter in 7 days as a 4-year-old. She is a heavy-set cow, perfect in every way.

No. 3 is **Rose Echo Segis**, a beautiful show cow, with a record at 2 years, 3 days of age 26.47 lbs. butter, 431 lbs. milk in 7 days; best day's milk, 74 lbs. She is due to freshen shortly after the sale. Bred to Champion Echo Sylvia Pontiac, son of May Echo Sylvia. What will this calf be worth, having a double cross of May Echo blood, as May Echo is her great-grandam?

No one will be making a mistake in purchasing any of these cows. For further particulars write

**Carman Baker, R.R. No. 2, Brighton, Ontario**

## Raymondale Holstein-Friesians

A herd sire of our breeding will improve your herd. We have sons of our present sire, Pontiac Korndyke of Het Loo (sire of \$12,750 Het Loo Pietje), and also sons of our former sire, Avondale Pontiac Echo. Several of these are of serviceable age, and all are from good record dams. Quality considered, our prices are lower than anywhere else on the continent. Their youngsters should not remain long. Write to-day.

RAYMONDALE FARM, Vaudreuil, Que. D. RAYMOND, Owner, Queen's Hotel, Montreal

### ELDERSLIE HOLSTEIN-FRIESIANS

An all sold out of heifers, just have three bull calves left, from four to six months old. They are sired by Judge Hengerveld De Kol 8th, a 32.92-lb. bull. The dam of one is a 20.225-lb. cow. Write for prices and come and see them.

ARCHIE MUIR, Elderslie Farm, SCARBORO' P.O., ONT.

kind, and among them is a daughter of Champion Echo Sylvia Pontiac, the best son of the great May Echo Sylvia. The seven nearest dams of this heifer, including the three-year-old record of her dam, average 33.86 lbs. of butter and over 600 lbs. of milk in 7 days. Another which should be equally as much sought after is Premier Helbon Korndyke, the daughter of the 31.76-lb. cow Helbon Beauty De Kol, which sold at the Philadelphia sale in Mr. Bailey's consignment for \$4,100. Still others of the same age are two daughters of Prince Colanthus Abbekerk, one of which has just completed a 22-lb. record and is still on the test, and the other at only one month over two years, has 16.82 lbs. of butter and 367 lbs. of milk in the 7 days. Prince Colanthus Abbekerk has four other daughters in the offering, all of which are under milking age. Another bull whose daughters figure prominently in the offering is Major Posch Mercena, a three-quarter brother to Madam Posch Pauline. His two daughters are both show heifers, and one already has an official 7-day record of 16.82 lbs. of butter made as a two-year-old, three months after calving. In mentioning a few others, we might say that we have picked them at random here and there throughout the catalogue, and they may be said to be representative of the offering throughout. Lady Keyes Mercena, a 27.88-lb. six-year-old cow, a seven-year-old daughter of the 34-lb. cow Violet Rose De Kol; a 16.31-lb. junior two-year-old heifer; a 19 and a 21-lb. junior three-year-old heifer, and almost a half dozen other heifers holding similar records. The offering throughout should attract the interest of the majority of better breeders throughout the Dominion. The sale will be held in comfortable quarters in the city of Woodstock, but all requests for catalogues should be made to J. B. Hanmer, Glen Otter Farm, Norwich, Ont.

The management of the International Live-Stock Exposition, Chicago, are already making plans for their 1920 show. The Junior Live-Stock Feeding Contest will again be a special feature, and prizes run from \$50 down to \$10, with four classes to compete in. The contest is open to boys and girls from ten to nineteen years of age. Application should be made to B. H. Heide, Union Stock Yards, Chicago, at an early date. In judging the classes quality and finish will count for fifty per cent.; gain, twenty per cent.; cost of gain, twenty per cent.; and written report, ten per cent.

About the middle of March, thirty Ayrshire breeders met at Lennoxville, Quebec, and organized an Ayrshire Breeders' Club, with H. Ste Marie as President; B. J. Taylor, Vice-President; and George E. Fish, as Secretary-Treasurer.

AT THE NATIONAL SALE

# Hamilton House Holsteins

UNTESTED SINCE 1914

In entering this consignment of six head to the Canadian National Sale, we feel that we have no apologies to offer—other than to ourselves. Since the beginning of the war (until a few weeks ago) there has not been an official tester on the farm. With the help we were able to secure, it was about all we could do to look after the farm and care for the herd in a commercial way without anything further. The numbers, however, have kept increasing, until now, tested or untested, we must sell some females. Four out of the five females consigned to the "National" are, as will be noted below, untested—but don't they look as if they should make just a little more money for their purchasers than anything that ever before passed through a public sale? We promise you that they are good individuals, and they sell fully guaranteed.

**No. 1—Edith Segis Korndyke**

A fine, young six-year-old cow, with a double cross of Pontiac Korndyke. Her dam, Edith Prescott Albino Korndyke, is a 32.67-lb. cow.

**No. 2—Sadie Segis Prescott**

An untested four-year-old heifer of Edith Prescott Albino Korndyke, 32.67 lbs. Her sire is a brother to Mabel Segis Korndyke, 40.32-lb. 4-year-old.

**No. 3—Sadie Mignone Segis**

A six-year-old untested daughter of Sadie Cornucopia Mignone, 33.27 lbs. in 7 days, and three times a 30-lb. cow. This young cow is due at sale time to King Korndyke Sadie Keyes, a 36.05-lb. bull.

**No. 4—Lulu Pontiac**

A six-year-old daughter of Lulu Darkness, 30.33 lbs. A show cow, and made 17.90 lbs. of butter in 7 days as a two-year-old.

**No. 5—Alice Tensen**

A 29.12-lb. cow with a 30-lb. daughter. Bred to freshen in July to King Korndyke Sadie Keyes, the 32.05-lb. son of Lulu Keyes.

**No. 6—Ten Months Bull**

By King Korndyke Lulu Keyes, full brother to King Korndyke Sadie Keyes. Dam, Lulu Darkness, 33.03 lbs. Average for two nearest dams of this calf, 33.19 lbs. of butter, 668 lbs. of milk in 7 days.

CALL AROUND AND SEE THESE THE DAY BEFORE THE SALE.

**D. B. TRACY, Hamilton House Farms, COBOURG, ONT.**

LAST CALL—CANADA'S GREATEST

## Holstein Dispersal

**Glen Otter Herd the Former Home of Rolo Mercena De Kol, the World's Greatest Cow****FEATURING**

A three-year-old daughter of the 51-lb. Cow.  
A seven-year-old sister of the 51-lb. Cow.  
Two daughters of a sister of the 51-lb. Cow.  
Two-year-old daughter of Champion Echo Sylvia Pontiac.  
Ladoga Idaline Mercena the \$3,000—28-lb. four-year-old.  
Belle Abbekerk, 2nd 23-lb. junior two-year-old, first at C.N. E. as a yearling, 3rd prize two-year-old at National Dairy Show, Chicago 1919, and highest scoring two-year-old at Guelph, 1919.  
Two-year-old daughter of Helbon Beauty Bonheur 31.76 lbs. and sold at Philadelphia last June for \$4,100.00.  
Six daughters of Prince Colanthus Abbekerk.

A 25.27-lb. junior three-year-old daughter of Prince Colanthus Abbekerk.  
A 22-lb. junior two-year-old daughter of Prince Colanthus Abbekerk.  
A seven-year-old daughter of Violet Rose De Kol 34.34 lbs.  
Three daughters of Admiral Togo Mercedes.  
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etc., etc., etc.

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very best breeding cows. No. 2. Four months' old bull. Dam's 2-year-old record, 9,157 lbs. milk,  
389 fat. No. 3. Two months' old bull. Dam's 3-year-old record, 13,959 lbs. milk, 559 lbs. fat.  
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ported cows in the herd. We also have others younger of similar breeding, as well as a few bred  
heifers for sale. **FREDERICK G. TODD, Owner, 801 New Birks Bldg., Montreal, P.Q.**  
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**JERSEYS**  
Herd headed by Imported Champion Rower, winner of first prize with five  
of his daughters on the Island of Jersey, 1914, second in 1916, and again first in  
1917. We are now offering for sale some very choice bull calves, ready for  
service, sired by imported bulls and from Record of Performance imported prize-  
winning cows. Also some cows and heifers. Prices right. We work our show  
cows and show our work cows.

**For Sale—Edgeley Golden Jolly**, son of Queen 2nd—1st prize in 2-year-old in  
Bright Prince, a son of Sunbeam of Edgeley. We have him priced right for quick sale.  
JAS. BAGG & SONS, EDGELEY, ONT.

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### DON HERD OF PRODUCING JERSEYS

We have three young bulls of serviceable age—good individuals and priced right. Could also spare  
a few choice bred heifers. Visitors welcome.  
D. DUNCAN & SON, TODMORDEN, ONT.

## London Hackney Show.

The Hackney is on firm ground in  
England if his sponsors will use the right  
threads in weaving his future. They  
must leave the herring-gutted, narrow-  
chested, long-legged brigade alone and  
go for the low-to-ground, sturdy, short-  
backed and compact kind of horse. These  
were the lessons of the 1920 show of the  
Hackney Horse Society, held at Islington,  
and visited by H. M. the Prince of Wales,  
whose old-fashioned stallion, Findon Grey  
Shales, won the Challenge Cup for the  
best stallion likely to get army horses.  
The supreme championship for the best  
Hackney stallion shown in hand, i. e., on  
the end of a bit of rope, was C. F. Kenyon's  
Kirkburn Leader, a son of Mathias  
Kirkburn Princess, who was by Kirkburn  
Toreador. This horse was bred at  
Driffield, in East Yorkshire, by F. W.  
Buttle, for whom he won the 1916 London  
championship. Reserve to Kirkburn  
Leader was H. Hinrichsen's Bertrane, a  
son of King's Proctor, and only out for  
the second time in his career, the other  
being when he was declared champion at  
the Royal Cardiff Show. The senior and  
supreme champion mare was Sir Loss  
Knowles' Slashing Dorothy, a great  
seven-year-old daughter of Antonius, and  
bred by the late Sir Walter Gilbey. Her  
reserve was Henry Gilding's Flash Clara,  
a daughter of Royal Danegelt, and also  
bred by the late Sir W. Gilbey. In the  
harness championship three cups were  
won by Mrs. James Putnam's Park  
Carnation, a thirteen-year-old daughter of  
Luath, and the most extravagant actress  
in the leathers we have in Britain. Her  
runner-up was Black Capenor, a Mathias  
AI gelding which has since been sold to a  
Dutch customer. Again did W. W.  
Bournes' Fusee prove himself to be the  
finest Hackney pony we have, both as a  
performer and as a sire. The product  
groups were won by the offspring of Hop-  
wood Viceroy, Adbolton Kingmaker and  
Fusee.

ALBION.

## Questions and Answers. Miscellaneous.

### Parrot.

Where can I buy a parrot? J. G.  
Ans.—Some of our readers may have  
one for sale. Let them know your wants  
by placing a small advertisement in our  
paper.

### Tractor Partnership.

I have purchased a tractor in partner-  
ship with my neighbor. How should the  
running expenses be divided? S. E.

Ans.—A good plan is to charge so  
much per day for the work done; pay  
the operator so much per day; and then  
when all other expenses are met, divide  
what is left equally.

### Selling Cattle.

1. A is a farmer and B is a local  
butcher. A sells a heifer to B, thinking  
she is right in every way. When butch-  
ered she is condemned. Who is the loser?  
2. If A sold the animal to a local  
shipper and it went to the Toronto mar-  
ket, who would lose it?  
3. Is there insurance for cases like  
this, and who pays it?  
4. If A were shipping a carload of  
cattle and one died from some unknown  
cause while being delivered to the sta-  
tion, who would be the loser? If it died  
after being delivered who would be the  
loser?  
5. How many cubic yards of gravel  
does it take to build a silo 12 by 35 feet?  
What size of silo would you advise for a  
herd of 25 cattle? T. H.

Ans.—1. We would consider that B  
would be the loser.  
2 and 3. If it were condemned after  
being slaughtered, there is an insurance  
fund which meets such cases. This is  
deducted at the rate of so much per animal  
passing through the yards.  
4. If the animal died before being  
shipped, A would be the loser, but after  
being loaded the purchaser would be  
responsible.  
5. A 12-by-35-foot silo should be  
large enough, and a silo of that size would  
require about 30 yards of gravel and 30  
barrels of cement.

**Hackney Show.**

They are on firm ground in the Hackney Show. The sponsors will use the right rearing his future. They are the herring-gutted, narrow-legged brigade alone and v-to-ground, sturdy, short-impact kind of horse. These are the 1920 show of the Society, held at Islington, H. M. the Prince of Wales, the Challenge Cup for the likely to get army horses, championship for the best shown in hand, i. e., on of rope, was C. F. Kenyon's leader, a son of Mathias, who was by Kirkburn, his horse was bred at East Yorkshire, by F. W. from he won the 1916 London Reserve to Kirkburn, Hinrichsen's Bertrane, Proctor, and only out for in his career, the other was declared champion at diff Show. The senior and champion mare was Sir Less shing Dorothy, a great daughter of Antonius, and the Sir Walter Gilbey. Her Henry Gilding's Flash Clara, Royal Danegelt, and also the Sir W. Gilbey. In the championship three cups were James Putnam's Park thirteen-year-old daughter of the most extravagant actress we have in Britain. Her Black Capenor, a Mathias which has since been sold to a ner. Again did W. W. prove himself to be the pony we have, both as a as a sire. The produce on by the offspring of Hop- Adbolton Kingmaker and



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The best results are obtained by feeding Monarch liberally with a due allowance of roughage.

The rich protein content of  
The Campbell Flour Mills Co., Limited, affiliated with  
**Maple Leaf Milling Co., Limited, Toronto, Ont.**  
Also makers of Monarch Dairy Feed and Sampson Feed.

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**If You Want Fine Porkers, Use Gardiner's Pig Meal**

There is money in pork and the wise farmer pays careful attention to feeding the little pigs once they are weaned. The object is to fatten them quickly and yet maintain perfect digestion.

Gardiner's Pig Meal with skim or separated milk is the perfect substitute for the mother's milk. Pigs thrive on it and grow rapidly, thus bringing quick profit to the farmer.

Sold in 25, 50 or 100-lb. bags. If your dealer has none, order direct from

**GARDINER BROS.,**  
Feed Specialists,  
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**Maple Shade Farm**

Imported Shropshire ewes served by best imported rams, very desirable for foundation flocks.

**W. A. DRYDEN**  
Brooklin - Ontario

Shropshire Yearling Ewes bred to Bibby's 84 (imp.) ram and Two Clydesdale stallions.  
**W. H. PUGH, Myrtle Station, Ont.**

**YORKSHIRES**

Pigs of different ages, both sexes, from large litters.

**WELWOOD FARM**  
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**Big Type Chester Whites**—We cleaned up at Exhibitions, 1919. Now offering pigs from our 805-lb. sows, and sows bred to our 1,005-lb. boar.  
**JOHN ANNESSER, Tilbury, Ont.**

**Questions and Answers. Miscellaneous.**

**Cordwood.**

What do you understand to be the number of cu. ft. in a cord of wood. According to table there should be 128 cu. ft. However, wood is being sold it seems at 50 cu. ft. or thereabouts to the cord. For instance a pile is 4' high, 8 ft. long and cut in 18" lengths, would you say that constituted a legal cord? and if the matter were taken to law what would the judgment in your opinion be?  
**I. A. H.**

Ans.—Legally, 128 cubic feet constitutes a cord, but wood is very often sold in different lengths, for instance, it may be a cord of 18-inch wood. This would be a pile 8 feet long, 4 feet high and 18 inches deep. Then you might have a cord of 22-inch wood, which would be a pile 8 by 4 feet by 22 inches. Of course, the price of a cord of this length of wood would be considerably less than a cord of cord-wood.

**Sharefarming—Vicious Sow.**

1. A partner and I rent a farm which is worked solely by a hired man and his wife. My partner is fully occupied with business in the city, and suggests that I relinquish my occupation, which returns me \$35 a week in the city, and devote my whole time and energy to the farm. What remuneration or share of the profits should I be entitled to claim?  
2. What is the best way of dealing with a sow that at time of farrowing is vicious?  
3. I am advised to join a swine breeders' society. Kindly explain the justification of such societies, and how I would be benefited were I to become a member.  
**T. B.**

Ans.—1. It depends considerably on the amount of work which you would do and upon the class of farming engaged in. You might charge so much per month for your work and then share the profits and losses equally with your partner, or you might take a certain percentage of the profits. Where you work continually on the place, and also have half the investment, you should be entitled to eighty per cent. of the profits, and your partner twenty per cent. We scarcely know how it could be arranged if there were losses; therefore, we recommend the former plan.

2. One should have the sow in a pen several days before farrowing and feed lightly on a laxative ration composed quite largely of roots and bran. Fever and inflammation are frequently the cause of viciousness.

3. All breed societies are for the purpose of promoting the interests of some particular breed. The members meet together to discuss problems peculiar to their breed. By becoming a member of the Dominion Swine Breeders' Association you are able to record your pure-bred stock for half what it costs a non-member.

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**Also English dual-purpose bulls.**

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**BERKSHIRES**

Registered sows, 7 months old. Just right for breeding.  
**MAIN AND COLLYER**  
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**Berkshires**—Boars ready for service and boar Premier's Successor 161500, Grand Champion, 1914, Champion Sire of 1915, 1916, 1917. His descendants have won Grand Champion honors at the largest and strongest shows of 1919. The Champion Berkshire barrows of 1918 International were double grandsons of Lord Premier's Successor. We have shipped many Berkshires to Canada with satisfaction to customers. Prices on request.  
**HOOD FARM, INC., Lowell, Mass.**

**Pure-bred Yorkshires**

We are now booking orders for young pigs (both sexes) for spring delivery.  
**F. W. DARBY, FERGUS, ONT.**

**Berkshires**—At the great Smithfield Show, London, England, in December, the Berkshires won the Grand Championship for fairs, and made the remarkable showing in the four classes of the Carcass Competitions for pigs of all breeds by winning ALL the four prizes in the four classes; all sixteen pigs being pure-bred except one. We have over eighty head of splendid stock. Come and see them, or send for our breeding list.  
**J. B. PEARSON, Manager, Credit Orange Farm, Meadovale, Ont.**

**TAMWORTHS**  
Young sows bred for May and June farrow, and boars for sale. Write or phone.  
**JOHN W. TODD - Corinth, Ontario**

**Meadow Brook Registered Yorkshires**  
Ten choice young boars fit for service, from prize-winning stock. Prices reasonable for quick sale.  
**G. W. MINERS, R.R. No. 3, Exeter, Ontario**

**BERKSHIRES**—My Berkshires for many years have won the leading prize at Toronto, London and Guelph. Highcleres and Sallys, the best strain of the breed, both sexes, any age.  
**ADAM THOMPSON, R. R. No. 1, Stratford, Ont.**  
Shakespeare Station, G.T.R.

**Invergie Tamworths**—Sows carrying second litters for March farrow, a few choice 200-lb. boars, gilts bred for April farrow; a splendid lot, either sex, 3 to 5 months old. Wee lads and lassies just weaned.  
**L. Hadden, Box 264, Sunderland, Ont.**

**Lakeview Yorkshires**  
If you want brood sows of any age, stock boars of any age, or young pigs, write me. All bred from prize-winners for generations back.  
**JOHN DUCK, - Port Credit, Ont**

**ELMHURST LARGE ENGLISH BERKSHIRES**  
From our recent importation of sows, together with the stock boar, Sudden Torredor, we can supply select breeding stock, all ages. Satisfaction and safe delivery guaranteed.  
**H. M. VANDERLIP, Breeder and Importer, R. R. 1, BRANTFORD, ONTARIO**  
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because it effects the greatest economy.

Its double action absolutely assures perfect baking at all times.

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## Our School Department.

### How to make a Garden

A LESSON PLAN.

**Aim:**—To interest the children in gardening.

**Materials:**—A vacant lot, or a part of the school-grounds, or a plot at home; rakes, hoes, measuring stick, line, seeds, etc.

**Method:**—1. Of what use are seeds? Why are we interested in looking through seed catalogues in spring? Why do we want seeds? What can we do with them? What does nearly every person plan to do out-of-doors in spring? How can a garden be prepared, planted, and cared for?

2. Discuss the making of the garden. If possible, actually do the work in a garden lot, or have the pupils do the work at home.

**First: Preparation of Soil.**—What should be done to the lot first? Should it be plowed in autumn or in spring? Of what use is the plowing? When should manure be applied? Why should the garden receive plenty of manure? Discuss the digging of the plot with a digging-fork.

**Second: Planning of the garden.**—Measure and make a plan of the garden. Divide it into lots or plots with paths between. Make the plots longer than wide. Why is it better not to have the plots too wide? In what direction should the plots run? Why is it better to have them run north and south? Mark the rows in the plots.

**Third: What to Plant.**—Decide as to what to plant, vegetables or flowers, or both, and what kind of each. Keep in mind what plants would look well side by side, and whether one kind would shade another if close. Consider also the use of each vegetable.

**Fourth: How to Plant.**—Discuss the planting of the seeds. Should they be planted in rows or hills, or scattered? How deep should they be in the ground? Should the soil be pressed down on them after planting? How could it be pressed?

**Fifth: Care of the Garden.**—Discuss the care of the garden after planting. When should it be watered? How often? How much water? How can weeds be kept down? How much care should the garden receive during the vacation?

3. Compare the making of a garden in good well-prepared soil with the making of one where there is sod only. Which should give a better garden? Why?

4. In planning a garden what are the chief points to be kept in mind? What work is required in a garden: (1) in the making and (2) in the care? Why should every child have a garden?

5. At school or at home make a garden and care for it. Notice other gardens and make comparisons.

6. Draw a plan of your garden showing the rows or beds, and how it is planted.

The above lesson plan is from Book 2 of Nature-Study Lessons, by Dr. D. W. Hamilton, Macdonald College.

### A Springtime Game

"All work and no play makes Jack a dull boy."

Whatever you do, do it well even if it is playing. Play enthusiastically when you play, and work hard when you work.

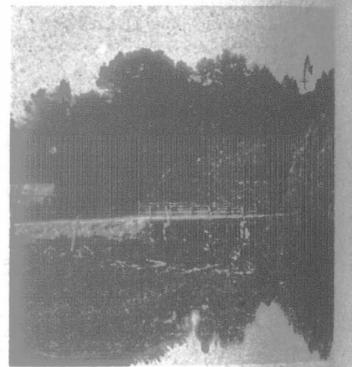
HEADS AND TAILS.

Divide into two teams and line up the teams facing each other in two lines with about three feet between the lines. The teams take up their positions in the middle of the playing space each with their backs turned to their own den and facing the opponents. One side is called the "heads" and the other "tails." A leader is chosen who tosses up a coin—when it falls "heads" he calls out "heads," if it falls "tails," he calls out "tails." The side whose name is called turns and runs for its den, which may be a wall, fence or a line drawn about thirty feet from the centre of the playing space. The other side meantime tries to tag as many of the team called as possible before they get to their den. Everyone so tagged has to pass over to the other team. The teams then line up as before and the coin is tossed again and again until only one player is left on one side or the other.

### Some Illusions Regarding Buds and Twigs

BY G. W. HOFFERD, M.A.

There seems to be a general opinion among pupils that the bud scales and woolly coverings, such as found inside the scales of the horse-chestnut, are to keep the delicate bud warm. A little reflection on winter conditions would soon convince one of how entirely inadequate bud scales, as a covering, are to keep out the cold of winter weather. How would you like to stay out all winter exposed to "zero weather" with such a scant protection as scales afford? The best they could do is perhaps to protect the bud a little from too rapid a rise or fall in temperature. The real function is to protect the young delicate shoot from losing too much water, and from mechanical injury. The air of winter is much dryer than that of spring and summer, and so woody plants must protect themselves against this cold, dry air of winter, which practically places the plant under desert conditions. At the same time the cold soil almost entirely retards root absorption, and also water-raising forces are at a minimum. Thus, bud scales protect against evaporation during a period when the plant cannot afford to lose moisture from its dormant growing shoots. Nature prevents the drying out of twigs by bud scales and the excretion of resin between the scales.



A Beauty Spot.

Another general belief is that the "winter killing" of trees and shrubs is due to freezing. Cold in freezing, however, is only indirectly the cause of death. "The real cause is the abstraction of water from the cell by the ice crystals forming in the intercellular spaces." These ice-crystals, of course, are formed from the water content of the cell itself, extracted from the cell, and consequently its moisture is reduced below the danger point for that cell, and death ensues. Investigation has shown that, on freezing, ice never forms within a cell, but rather in the space between cells, and that freezing does not rupture the tissue or cell wall as many suppose. Hence freezing is, in reality, a drying process; and dryness is the real cause of death in winter-killing, and not cold. Have you ever noticed how dry twigs are during the winter months compared with that of other seasons?

Another error is common regarding the elongation of woody plants. They grow in height only by the growth of new sections of the stem which start out each growing season from the terminal and lateral winter buds. Consequently branches once formed on a tree remain the same distance apart and the same distance from the ground year after year. But from whence come the trees with those long limbless trunks? This is an illusion in forest trees due to the dying away of the lower branches, and not to any elongation of the length of any season's growth. The growth goes on in diameter, but not in length. Compare a tree in the forest with one of the same species in the open field where it is bathed in a flood of light. The difference is due to the presence of abundant sunlight in the open field, and the shaded condition which prevails in the forest.

Department.

Illusions Regarding  
Buds and Twigs

W. HOFFERD, M.A.

It seems to be a general opinion that the bud scales and coverings, such as found inside of the horse-chestnut, are to protect the delicate bud from winter conditions. A little thought would soon show that this is entirely inadequate as a covering, for in winter weather, how could the bud stay out all winter exposed to "weather" with such a scant covering as scales afford? The best protection is perhaps to protect the bud from too rapid a rise or fall of temperature. The real function is to keep the young delicate shoot from being killed by such water, and from mechanical injury. The air of winter is much drier than that of spring and summer, and woody plants must protect themselves against this cold, dry air of winter, which mechanically places the plant under great strain. At the same time the dryness almost entirely retards root growth, and also water-raising forces to a minimum. Thus, bud scales, which prevent evaporation during winter, when the plant cannot afford to lose water from its dormant growing structure, prevents the drying of the buds by bud scales and the resin between the scales.

A Beauty Spot.

It is a general belief that the "dying" of trees and shrubs is due to freezing. Cold in freezing is only indirectly the cause of the real cause is the abstraction of water from the cell by the ice crystals which form in the intercellular spaces. These ice crystals, of course, are formed from the water content of the cell itself, and consequently the water is reduced below the danger point of the cell, and death ensues. It has been shown that, on freezing, water forms within a cell, but rather between cells, and that freezing ruptures the tissue or cell wall as a result. Hence freezing is, in reality, a process of dehydration. Have you ever noticed how the trees die during the winter months with that of other seasons? The error is common regarding the death of woody plants. They die not only by the growth of new wood in the stem which start out in the spring season from the terminal buds. Consequently the ice formed on a tree remains a distance apart and the same in the ground year after year. Hence come the trees with the limbless trunks? This is an illustration of trees due to the dying of the lower branches, and not to the death of the length of any branch. The growth goes on in the stem, but not in length. Compare a forest with one of the same extent in the open field where it is a flood of light. The difference is the presence of abundant sunlight in the open field, and the shaded conditions which prevail in the forest.



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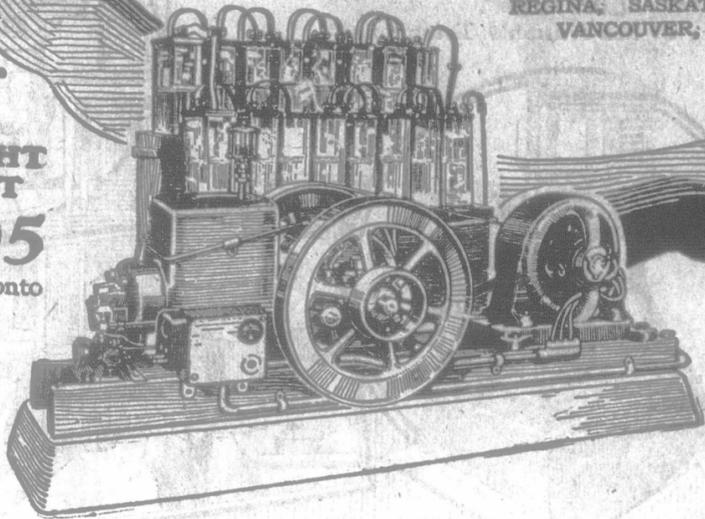
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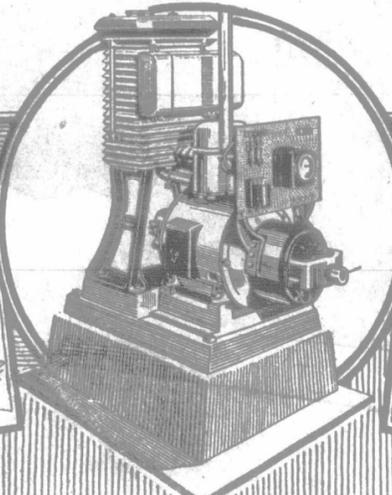
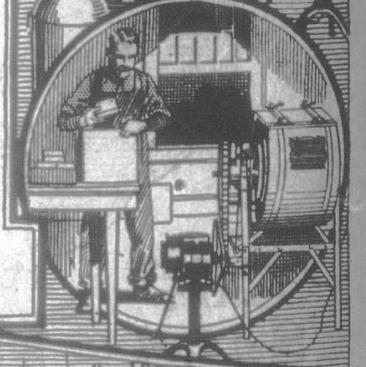
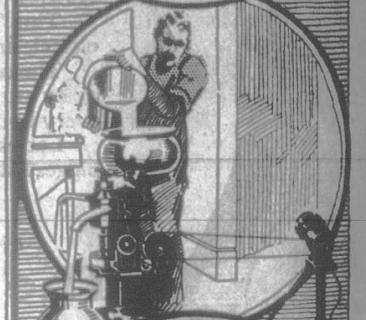
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