

PUBLISHED EVERY WEEK. \$1.50 PER YEAR.

# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

Dairy and Cattle Storage Done  
Businesses of Agricultural  
Dept. of Agriculture

LV.

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1917.  
LONDON, ONTARIO, JUNE 24, 1920.

No. 1448

## Artistic and Economical

There is a beauty and individuality to a roof covered with Brantford Asphalt Slates that appeals to all lovers of the artistic. There is an economy in their low cost per year of service that appeals to all seekers of a sound roofing investment.

## Brantford Asphalt Slates

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

The asphalt is a blend of soft and hard asphalts, tempered to resist the extremes of the Canadian climate. The slate is the real quarry slate and its colors of reddish brown and dark green are the natural colors of the slate and are therefore unfadeable. Brantford Asphalt Slates never require painting. It would be hard to imagine a more durable roofing, let alone make one.

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

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

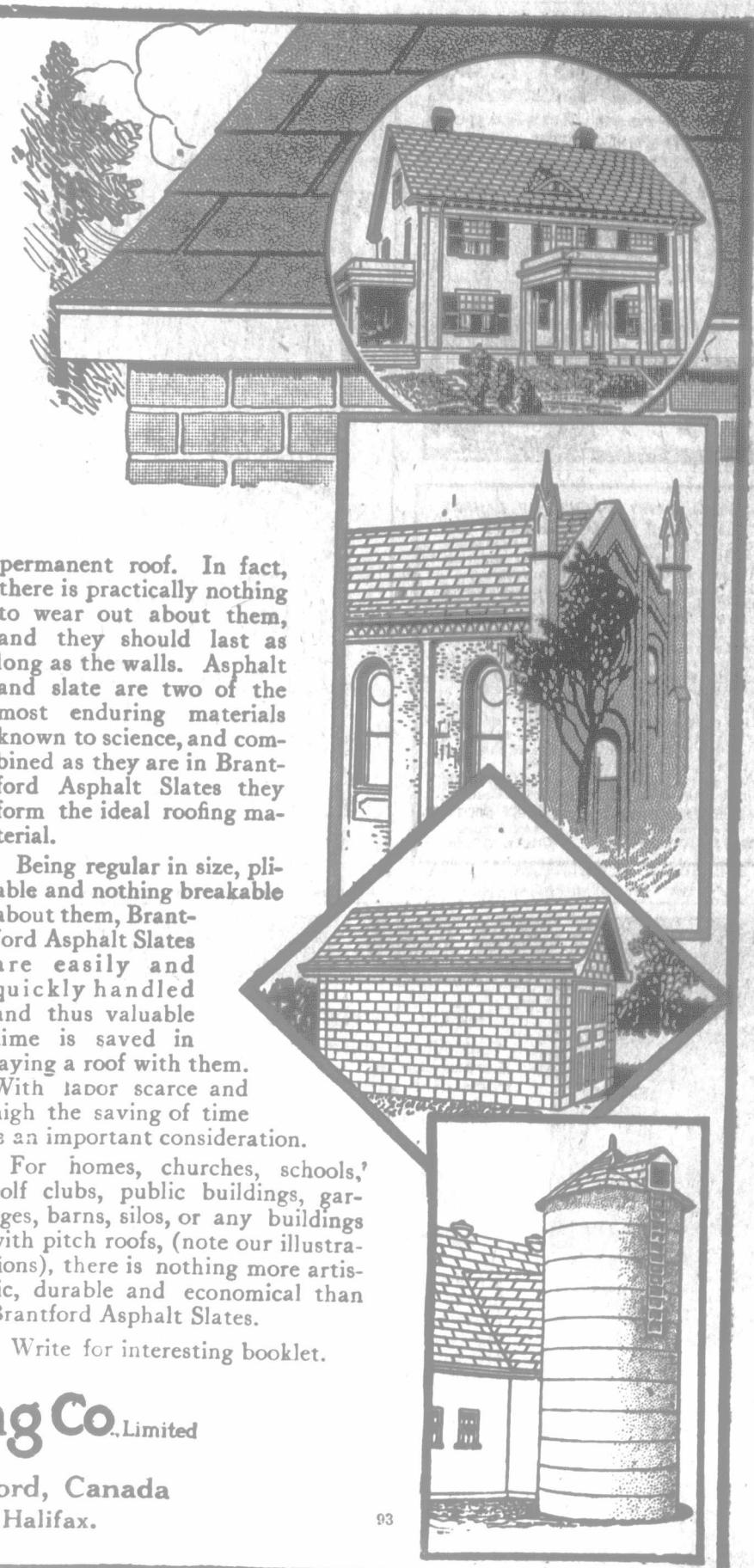
The cost of these slates is very moderate—and if you have an old, leaky roof you can reroof it with Brantford Asphalt Slates without requiring any additional braces. And the slates will make a completely watertight and

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

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

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

Write for interesting booklet.



**Brantford Roofing Co. Limited**

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

## Burn the Stubble

The weeds that serve as a "back-stop" for all the trash that blows across the fields, should be removed by burning the fence lines. When your fence is strung on

### PRESTON STEEL POSTS

this may be done without the slightest danger of fire. Before you waste another dollar on replacing rotten wood posts, investigate the Preston Post. Write for Folder that tells you how to fence for permanence.

METAL SHINGLE & SIDING COMPANY, Limited  
PRESTON, ONTARIO



## HYLO SILO

Sweet Fresh Ensilage down to the last forkful

THE HYLO SILO is perfectly air-tight. No frozen or spoiled ensilage around the walls. Convenient and perfect silage down, adjustable without hammer or wrench. Made of Corrugated Long Leaf Yellow Pine. Does not last a life-time. Disintegrates when empty. Write for prices and catalogue. AGENTS WANTED.

Glen Hill, Co. Ltd. 49 York St. Guelph, Ont.



### NATIONAL DAIRY COUNCIL OF CANADA

This Council has saved the milk producers of Canada hundreds of thousands of dollars in preventing shipping rates on milk and cream from being increased.

It wants to educate the consuming public to appreciate the food and the economic value of milk and its products so that they will use more of them and increase the home market.

The Council asks every dairy farmer in Canada to help it by giving 50 cents toward its funds.

With the patron's consent this 50 cents will be deducted from his June or July payments by the Concern to which he ships his milk or cream, and will be sent by that Concern to the Council.

All dairymen should help to protect and promote the great dairy interests of Canada.

E. H. STONEHOUSE, President  
Wes ton, Ontario

D'ARCY SCOTT, Sec.-Treas.  
Ottawa, Ontario

When writing please mention Advocate

## Your Profit and Your Binder

Getting down to brass tacks, isn't it just the last few bushels of your crop that represents your real net profit? Doesn't all the rest of the crop go for seed, labor, expense of all kinds? So, every sheaf lost means money out of YOUR pocket—no one else's. A

## Frost & Wood Binder makes the most money

for its owner because it is designed to work smoothly and fast and to get every kind of crop—straight, or down and tangled—heavy or thin—and get it in on time.

### Write for Binder Pamphlet today

You will see what an easy running, splendid cutting, sure elevating and sure tying binder our 80 years of experience has enabled us to develop. Not a single weak point. Every binder thoroughly tested again and again before it leaves the factory and ready to start cutting as soon as it gets to your farm

See the F. & W. Binder at our nearest Agent's—and the other implements of our big complete line

## The Frost & Wood Co., Limited

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

Sold in Western Ontario and Western Canada by

COCKSHUTT PLOW CO., LIMITED, BRANTFORD, ONT.



FOR BETTER SEPARATION  
The delicate construction of a cream separator and its high operating speed makes its correct lubrication of first importance.

### IMPERIAL Standard Hand Separator Oil

is a pure mineral oil, specially manufactured for the lubrication of cream separators. It thoroughly lubricates the close fitting bearings and insures frictionless operation. It prevents corrosion. Keeps separators running smoothly and accurately.

Imperial Standard Hand Separator Oil is for sale by dealers everywhere in sealed cans; sizes from 1 pint to 4 gallons.

"MADE IN CANADA"

IMPERIAL OIL LIMITED  
Power-Heat-Light-Lubrication  
BRANCHES IN ALL CITIES.

Save the surface and you save all - Paint & Varnish

## RAMSAY'S PAINT AND VARNISH

Time-tried and honest products that have withstood all tests and proven their superiority for 78 years.  
"The right Paint and Varnish to Paint and Varnish right."

A. RAMSAY & SON COMPANY

Makers of Paint and Varnish since 1842  
MONTREAL

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### 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 Mfg. Co., Limited  
269 York St., Guelph, Ontario

# More-than-Average Mileage

**T**HE average tire would run a thousand or many more miles farther if given proper attention.

Long service and accidents often cause hidden injuries, that develop into premature blowouts if neglected.

Many such injuries are inevitable, but not necessarily permanent. A Goodyear Reliner, applied before the break or injury spreads, will strengthen the tire for 25 per cent. to 50 per cent. extra mileage.

Try this plan and see how effectively it lowers tire bills

Goodyear Reliners can be easily and quickly applied by anyone. Any Goodyear Service Station dealer can supply you Or, if you prefer, go to your repairman, who will apply the Reliner for a small service charge.



The illustration shows a farmer wearing a hat and overalls, holding a spray nozzle and spraying a field of potato plants. In the background, there are rolling hills and a small building. In the foreground, a can of 'MUNRO'S PURE PARIS GREEN POISON' is shown. The can is labeled 'STRICTLY PURE' and 'GOVERNMENT STANDARD'. Below the illustration, the text reads: 'Don't Let Him Sneak Up on You'. 'Old Potato Bug doesn't blow a horn to let you know he is coming. Just when your potato plants are shooting out tender green leaves this deadly destroyer sneaks in and begins to chew them up. Have a hot reception all ready for the pest by spraying plants with MUNRO'S PURE PARIS GREEN. It is the good old killer that always does the job right. Spray early and as often as required, and your Potato plants will be impervious to attack. Munro's Pure Paris Green is made to conform to Government standard. It is a fine, fluffy, rich green powder, which mixes evenly in water. Ask for it by name at all stores where garden supplies are sold. Manufactured by M.C. ARTHUR, IRWIN, LIMITED. Established 1842 MONTREAL.'

### Who Does The Milking on Your Farm?

The illustration shows a cow in a milking parlor, with a person milking it. The cow is standing in a stall, and the person is using a machine to milk it. The text below reads: 'Do you do it yourself or does your wife have this tiresome job twice a day the year 'round? Perhaps you have hired help and are paying high wages that are eating up all your profits? There's a better way—a modern method that removes the drudgery and expense and increases the profit. The Macartney Machine Milker THE COW'S ADOPTED CHILD will do the work thoroughly and at little cost. Its better for the cows and better for you. Milking time becomes a pleasure—half the time, half the trouble, half the cost, but with more contented cows, more milk and more profits. Most certainly this method is worth learning about — you may not be ready to buy but the information costs you nothing. Dont buy a milker without investigating the exclusive features of the Macartney. Fill in the coupon and send it to us to-day.'

**The Macartney Milking Machine Co. Limited**  
316 Catherine Street, Ottawa

Fill in and mail this coupon  
The Macartney Milking Machine Co. Limited, Ottawa

Gentlemen—  
Please send me without obligation full particulars of the Macartney Milker.

Name \_\_\_\_\_  
Address \_\_\_\_\_  
Dept. "B" I have.....Cows, B 6

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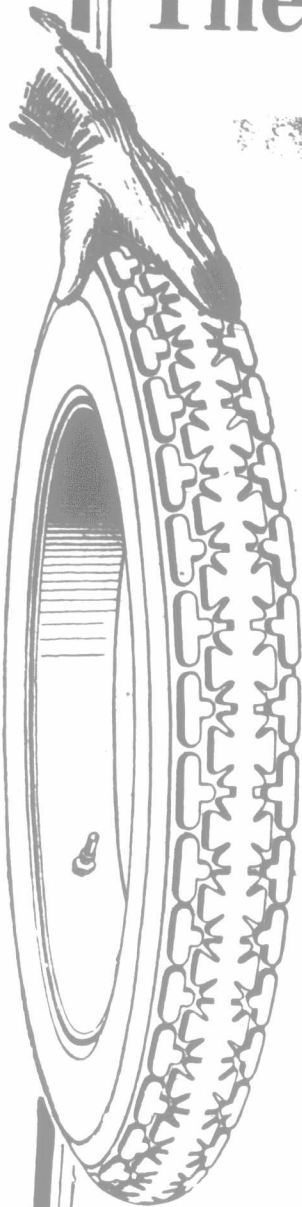
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# The Tire it Pays to Buy



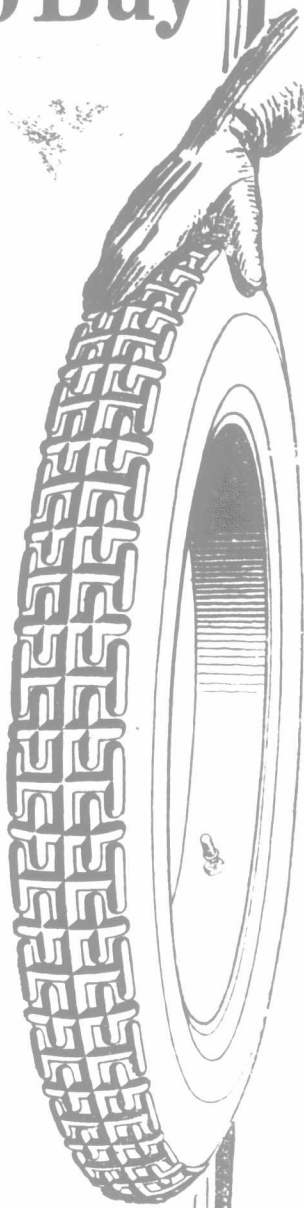
**B**UYING Tires is an Investment. They pay dividends in good mileage, or they prove a loss if they fail. Gutta Percha Tires not only pay dividends in long mileage and trouble-free service, but they are a money saving investment.

## "GUTTA PERCHA" TIRES

"The Tires That Give Satisfaction"

**Gutta Percha & Rubber LIMITED**

Head Offices and Factory: Toronto, Canada. Branches in all leading Cities in the Dominion



## BORDO-ARSENATE

Ideal for Potatoes and Garden Truck

An inexpensive, ready-mixed preparation, a combination of Cal-Arsenate and Bordeaux Mixture.

Put up in Paste and Powdered form, every package carrying a guaranteed analysis.

The paste contains 2 1/2% Metallic Copper and 10% Arsenic Oxide.

The powder contains 6 1/4% Metallic Copper and 25% Arsenic Oxide.

Like every J. C. product, it is of highest quality, chemically accurate and physically perfect.

Write for up-to-date Spray Booklet.

Other J. C. Sprays:

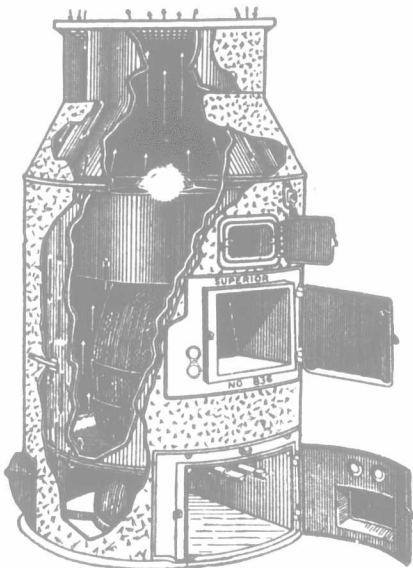
**CAL-ARSENATE  
LEAD ARSENATE  
BORDEAUX MIXTURE  
BORDEAUX DUST**

Made in Canada by

**John Cowan Chemical Co. LIMITED**

7 Dalhousie Street Montreal

## The Pilot Superior Heat for Business Buildings

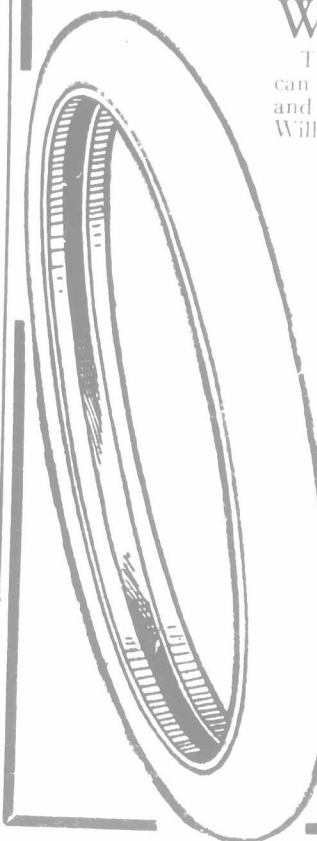


Hundreds of successful Pilot Superior installations have been made in stores, factories and other business buildings. Due to its original construction, the Pilot Superior has proved a safe and economical system in buildings of this character. It requires very small space and reduces the fire risk to a minimum. No valuable floor room is necessary and stocks of goods may be stored in the basement without fear of damage. A Pilot Superior Pipeless Furnace can be installed in six hours.

Manufactured by  
**The Hall Zryd Foundry Company, Ltd.**  
Hespeler Ontario

## GENUINE ECONOMY IN TIRES

These Bargains Shipped to You on Approval



**W**HY pay the increased price for tires when you can get such big bargains as we offer?

These are the cheapest tires on sale anywhere, and you can examine them before buying. Order by mail or wire, and we will ship tires to you at any address East of Fort William, express paid, C.O.D. Give them a thorough examination and satisfy yourself you are getting a genuine bargain. If they do not please you just ship them back at our expense.

Could anything be fairer?

Here are some of our phenomenal prices:—

Size	Plain Tread	Non-Skid Tread
30x3 1/2	\$.....	\$16.50
32x3 1/2	.....	17.00
31x4	18.00	26.00
33x4 1/2	.....	30.00
34x4 1/2	.....	33.00
35x4 1/2	28.00	.....

Other sizes in proportionately low prices. When ordering state size and style—whether "Clincher" or "Straight Wall," plain or non-skid.

**TUBES! TUBES!! TUBES!!!**

30x3 1/2 fully guaranteed \$2.25.

Order Now. You'll never find a better opportunity to cut down your tire expense.

**Security Tire Sales Co.**

516 Yonge Street, Toronto

## Is Your Spare Time Worth Money?

how you can make money in your spare time in an easy and pleasant way.

Write to The Farmer's Advocate and Home Magazine and learn

The Hit of the Season

For the Farmer's Boy



You want him good and healthy, You want him big and strong, Then give him a pure wool jersey, Made by his friend Bob Long—  
Let him romp with all his vigor He's the best boy in the land, And he'll always be bright and smiling.  
If he wears a Bob Long Brand.  
—Bob Long

## BOB LONG Pure Wool Worsted Jerseys

For Dad and the Lad

Pull-over or Button Shoulder Style

Made for Hard Wear, Comfort and Smart Appearance

R. G. LONG & CO., Limited  
Winnipeg TORONTO Montreal

Bob Long Brands  
Known from Coast to Coast

**Use More Beans.**

(Experimental Farms Note.)

The ripe bean is a form of food very much neglected in Canada. Lack of variety is one of the serious faults in our national diet. Many people seem inclined to use a very limited number of foods and, as far as possible, to make each day's meals resemble those of the day before; while, in other cases, the dull routine of a fixed seven-day cycle prevails. It is well-known that a varied diet is more wholesome than a restricted one, and, especially in these times when good food is scarce and high in price, it is really deplorable to note the neglect of some of the best Canadian-grown food materials, such as beans, peas, Indian-corn and barley, while an imported product, rice, remains quite popular in spite of its inferior quality as food and the commercial objection that Canadian money must be sent to some foreign country to pay for it.

Of all the neglected foods, the bean is perhaps the most important. It contains a large percentage of protein (approximately double the amount found in cereals) and protein is the most expensive ingredient in the materials which we consume. The bean may fairly be said to rank first among the common foods of vegetable origin; peas are of almost equal value, but wheat and barley fall below. Oats are also distinctly inferior on the whole, though they contain much more fat than beans. While it is not true, as has sometimes been assumed, that vegetable protein, as found in beans can entirely take the place of animal protein as found in meats, eggs and milk, nevertheless the vegetable proteins have a high food value and the bean could in many instances, be advantageously substituted for part of the meat ration. Considerable economy would be attained in this way, as beans are very cheap indeed in comparison with most animal products. It must be noted, however, that beans cannot be eaten freely by everyone. There are a few individuals for whom they seem quite unsuitable; but the vast majority of people would have better, cheaper and more enjoyable meals if beans were used more often. Matters of diet are so often settled by customs of the country rather than by intelligent thought that it is very hard to bring about changes, however, desirable. Yet there seems no good reason why the regular use of beans should be limited almost to Massachusetts and a few others favored localities. In these days when, owing to the high cost of living, many individuals are inclined to break away from some of the older and more expensive customs, the introduction of the bean as a regular article of diet offers an opportunity for the display of a little originality and the exercise of judicious economy at the same time.—Chas. E. Saunders, Dominion Cerealists.

**Preservation of Wood.**

From the standpoint of the average consumer, more has been expected of wood and less done to help it serve a great variety of uses than almost any other building material. It is a comparatively modern concept on that proper preservative treatment is practical and economical on the farm and around the home. Good paint is a good friend of lumber, and, while not usually considered in that light, is the one protection against the natural progress of decay which has been universally used. Yet the well-painted house may have unprotected floor beams in moist walls, door steps on wet ground, and many inside surfaces and timbers which are continually exposed to conditions favorable to decay. The wonderful service which wood has given during all the years, with little or no consideration of the factors which destroy, brings into greater prominence the possibilities of preservative treatment under the present-day desire for permanence and elimination of waste. No one expects unprotected steel to do anything but rust, concrete is water-proofed and its surface protected from abrasion and disintegration, fabrics are shielded from the elements, while wood has largely been left to shift for itself. The application of wood preserving methods of the every-day uses of lumber, where it needs protection from decay, is in keeping with modern ideas.



**Insuring Sure Tying**

**T**HE matter of supplying the farmer with good binder twine is not merely a twine-selling proposition on the part of the Harvester Company. It is much more than that. It is an obligation.

When the original founders of the Harvester Company gave to the world the first practical twine binders over forty years ago, they automatically assumed the responsibility of insuring satisfactory operation from these machines. They successfully met that obligation with good twine.

Today this inherited responsibility is greater than ever. Proper operation of thousands of good binders is threatened by the many brands of cheap, inferior twine. It is part of the Harvester Company's obligation to protect the owners of these machines against the hazards of such twine. This protection is rendered by supplying the farmers of Canada with twine of quality that insures sure tying and full length. Such twine bears one of these names:

**McCormick — Deering — International**

*Guaranteed for weight, strength, and length.  
Your nearby International agent sells it.*

**INTERNATIONAL HARVESTER COMPANY**

OF CANADA LTD.

HAMILTON CANADA

WESTERN BRANCHES — BRANDBON, 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.

**Shinn-Flat**

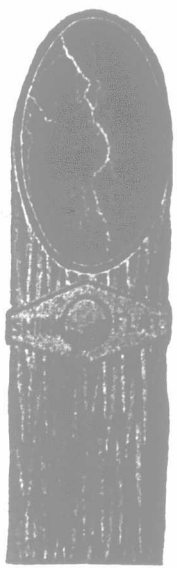
**Lightning Rods**

Are scientifically the nearest approach to absolute protection that has ever been devised. Their form gives them 36% greater electrical carrying capacity than old style round cable of the same weight and number of strands—putting them in a class by themselves and making them much easier to sell. There is no competition for Shinn-Flat.



We want good dealers who are interested in a specialty line that sells readily and affords a good margin of profit. Every property owner is a prospect. Ask us how we help you get started.

**Shinn Mfg. Co. of Canada, Limited**  
Prof. W. H. DAY, Secretary and General Manager  
Manufacturers of Shinn-Flat Lightning Rods  
"The Kind That Carry a Cash Bond"  
110 Woolwich St. Guelph, Ont.



There's a Big Need for

**KEATING'S**

It KILLS  
Disease Carriers:  
Bugs, Flies, Fleas  
Roaches

**STAMMERING**

or stuttering overcome positively. Our natural methods permanently restore natural speech. Graduate pupils everywhere. Free advice and literature.  
**THE ARNOTT INSTITUTE**  
KITCHENER, - CANADA

FOUNDED 1866



**PHOSPHATE**

**Potatoes  
on Truck**

ready-mixed  
combination  
and Bordeaux

and Powdered  
cage carrying  
analysis.

contains 2 1/2%  
and 10% Ar-

contains 6 1/4%  
and 25% Ar-

product, it is  
chemically  
perfect.

Spray Booklet.

**Sprays:**

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**Chemical Co.**  
Montreal

For  
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Bob Long

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a Shoulder**

, Comfort  
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Montreal

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to Coast

# MELOTTE Cream Separator

There is only one "Melotte"—The "Melotte" that we have been selling to Canadian Farmers for 25 years.



FOUR MODELS—16 SIZES

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



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.

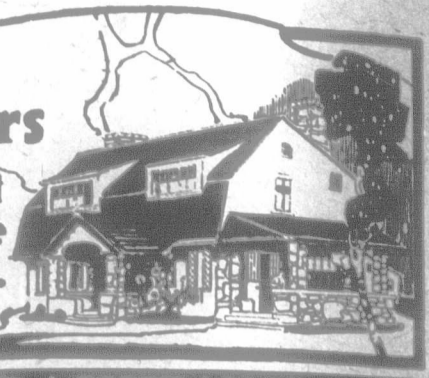
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# PARTRIDGE TIRES

Game as Their Name

that Home of yours

An Imperial Endowment will pay off the mortgage whether you live or die.



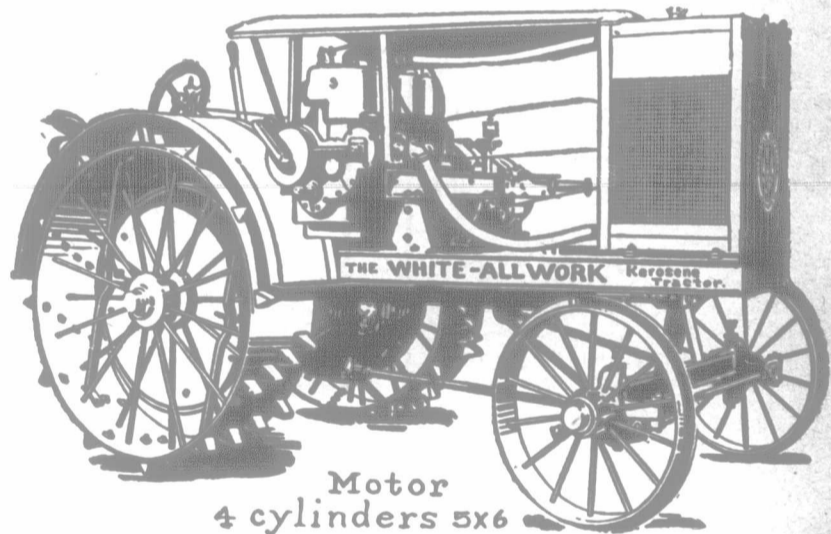
The **IMPERIAL LIFE ASSURANCE CO.**  
OF CANADA  
HEAD OFFICE TORONTO

## Of Sterling Worth

Are the Policies issued by The Great-West Life Assurance Company. Some men look upon the provision of Life Insurance as an expense to be avoided as long as possible. How often has this procrastination brought illimitable distress to a man's household in later years?

Life Insurance is the one safe means by which continuity of one's life plans may be brought to a successful issue. Ask any old-time policyholder to explain the merits of his Insurance and correspond with us when we will explain the merits of the policies issued by

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



Motor  
4 cylinders 5x6

## The White-Allwork Kerosene Tractor

### Sensible Every-Season Tractor

When you buy a tractor you want an all-weather, all-work power plant. The White-Allwork has power for every farm job. It is light enough to work on wet land or a soft seed-bed. Yet it has enough power for heavy field work. It runs on four wheels, and works well on rough land. Turns in 12-ft. radius.

It carries the largest engine we know of on any 3-plow tractor. The engine is set crosswise on

the frame so that the belt pulley is in a direct line with the crank shaft. There are no bevel gears. It will run a 16-inch ensilage cutter or a 28-inch separator.

It will pull an 8-foot road grader.

The White-Allwork is a compact, sturdy, and easily handled tractor, well worth a place in "The First Quality Line."

**How You Can Use It**  
We will gladly tell you what this practical tractor will do. You can then figure out how you can use it to save money. Write for descriptive catalogue.

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

Don't forget we are recognized leaders in Steam Tractors and Threshers  
"THE FIRST QUALITY LINE"

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Canada produce ducts in 1919. Incl pounds of creamery cheese.

Save this issue. and will often come back to the many v in these columns.

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# The Farmer's Advocate and Home Magazine

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ESTABLISHED  
1866

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875

L.V.

LONDON, ONTARIO, JUNE 24, 1920.

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## EDITORIAL.

Swat the rooster.

It is not too late to sow rape for pasture.

Keep the cultivator going in the corn field.

Killing a weed before it matures saves a good deal of hoeing later on.

Break up the broody hen; she is only wasting time remaining idly on the nest.

There is some fairness in the proposed changes in the new luxury tax, but the people like a Government that is able to make up its mind and then stick to it.

Senator Harding, of Ohio, is described by the Republican party leaders as a "safe" man. We wonder if he will endeavor to make the world safe for democracy.

Canada produced \$251,000,000 worth of dairy products in 1919. Included in this amount were 101,000,000 pounds of creamery butter and 137,000,000 pounds of cheese.

Save this issue. It is the semi-annual index number, and will often come in handy when you desire to refer back to the many valuable articles that have appeared in these columns.

It is stated by dairy experts that milk and its products should form 44 per cent. of our food. How many of us eat enough of butter, cheese, or ice cream, and how many of us drink enough milk?

Eternal vigilance is the price of clean crops of potatoes. The sprayer should be used frequently in the vines and the tubers are to be kept free from the ravages of blight and other serious potato diseases.

After the twenty-fifth of October it should be possible to know just how strongly the people of Ontario do feel on the question of prohibition. It will be a good thing to give the Government a mandate that they will know what to do with.

Butter grading is being very favorably received throughout Ontario this year. Had the produce men been able to get together in support of a premium for the best butter, much necessary improvement might have been made earlier.

Machine politics have secured another very decisive triumph in the Republican nomination of Senator Warren G. Harding, of Ohio, for the next President of the United States. No darker horse ever strode out of a semi-obscure at a people's convention.

Do not neglect to have your flock of hens culled sometime during the months of June, July and August. The Provincial Department of Agriculture is willing to assist you, and it will pay many times over next winter to have only those hens in the flock that will lay. It is possible now to cull out the hens that will be unprofitable next winter.

Those who are so fortunate as to have a supply of summer silage will be very glad of it before the summer is over. As a supplement to the dry pastures of late summer it will be invaluable, and those who have not had the advantage of it in the past will be wise if they have made provision for summer silage in 1921.

### Cream-Buying Stations.

A recent development of the creamery butter industry in Canada is the cream-buying station. These stations for the collection and testing of cream are being established as feeders for the large centralizer creameries, the annual output of which is much greater than can be provided by cream gathered in the usual way by wagon or motor truck. The cream-buying station is a means of increasing the business of the creamery as well as a method of keeping more closely in touch with the patron than can be done where the latter ships his cream to the creamery and lives perhaps a hundred miles away. There is no doubt that from the standpoint of butter manufacture and sale, increased volume of business carries with it distinct advantages both in making and selling. Nor is there any doubt that cream-buying stations can be made useful, as they have been in the prairie province for instance, in providing a market for considerable quantities of cream available from sparsely-settled or non-dairy districts which could not themselves support a manufacturing establishment. It is thus evident that the cream-buying station is coming to be regarded as a necessary factor in the success of a centralizer creamery, and also that the centralizer is, to some extent justified by the advantages accruing from increased size of business.

Observation, however, will easily bring out certain abuses within the creamery industry to-day that are concerned primarily with cream-buying stations. So far as the creamerymen of Ontario are concerned, cream-buying stations were practically forced upon them by competition from Detroit and other United States firms. This practice gradually spread from Southwestern Ontario over all of the western part of the Province, and although the creamerymen had the option of uniting in favor of direct shipment they refused to do so. The result has been a keen competition unrivalled in the history of Ontario's butter industry. An article in this issue makes reference to the effects of keen competition among creameries and the methods, not always honest, that are occasionally employed in order to get business. Butter-fat is paid for by the pound, and the common practice of most creamery patrons is to rely on the creamery for a fair and accurate test. It would not be fair to reflect in any degree on the honesty of most creamerymen, but the excessive amount of dissatisfaction with cream tests throughout the country indicates that there are some whose consciences can acquire a certain numbness on occasion. Very keen competition has encouraged creameries to reach out into territory that is already well served, and one may find among the 250 or more cream-buying stations in Ontario, as many as three or four located in one small village, which was previously well served by a good creamery located within a reasonable distance. A high price per pound for butter-fat is the bait held out to prospective patrons, but sometimes a price higher than competitors were paying has not meant any more money to the patron, because of low tests. There is the danger also that cream-buying stations in certain communities where prices are raised to meet competition may be maintained at the expense of other localities where competition cannot provide patrons with a ready check on either price or test.

Whether cream-buying stations as they are now conducted will prove economical in the end cannot be foretold at present. It is a question as to whether the advantage accruing from a larger volume of business will offset the added expense of several stations where one could serve the purpose. The logical remedy is the operation of these stations by farmers' clubs on a co-operative basis, and the sale of the cream to the creamery offering the highest price. Thus the members of a farmers' club might secure their best market a hundred miles away, but if the tests were supervised by someone appointed by themselves the present dissatisfaction

would be largely eliminated. The legislation now about to be put into force by the Department of Agriculture in Ontario will certainly provide means for checking up complaints, but it cannot eliminate dishonesty. In any event the farmer cannot lose by collective sale of cream, since volume is as advantageous to him as it is to the creamery man.

### A Village in Distress.

Now that we have nearly reached the second anniversary of the last great drive that culminated in the Armistice and the end of the war, we are perhaps inclined to believe that many of the war town centres of France and Belgium are regaining their normal appearance, and that conditions have vastly improved. No doubt they have in many respects, but a letter appearing in this issue makes clear the fact that many of the small villages in which the industrious French peasants formerly had their homes have been completely demolished, and that the conditions under which the sturdy villagers are endeavoring to till the surrounding land are, in many instances, pitiful in the extreme. To think of 3,900 villages needing rebuilding is to think of such scenes of devastation and ruthless destruction as can only command the most heartfelt sympathy from Canadians whose homes have not felt the destruction of war and whose prosperity has not been lessened by the great catastrophe.

Our correspondent embodies in his letter a strong plea for assistance to, if not for "adoption" of the destroyed village of Hesbe'court by some individual or body of farmers in Canada. Whether some sympathetic individual or some strong farmers' club will hear the appeal is a matter for each individual and each club to decide. "The Farmer's Advocate" does not present this matter in the light of a request, but it was felt that such force of commendation as this page carries should be freely bestowed on behalf of a people so unfortunate. What duty each one owes to the badly-shattered districts of Europe no one else can determine, but one's sympathies must always be aroused by conditions of distress. Moreover, appeals for any form of benevolence are seldom made in vain to those who till Canada's fertile soil and are so free to assist a more unfortunate neighbor. If country life barely brings riches it at least brings neighborliness and a sympathy that is never found in the crowded life of the city.

### A Packer's Viewpoint.

Business enterprise, shrewdness in finance and the ability to make money are coveted by all. None of us are altogether opposed to the making of money though some may be content with less than others. Profit is synonymous with success in business, and it is not dealing harshly with the truth to say that the accumulation of any considerable profit from farming requires a business acumen equal to that required for any occupation. The successful farmer requires a knowledge that is very diverse since he must deal with every problem from the life-history of an injurious pest to the operation of costly machinery and the condition of the markets. Regarding this latter part of the farming business one of the large packing firms in the United States has made the following statement with which we heartily agree: "As co-operative activities are extended among producers, it may be found advisable for livestock associations to employ expert buyers at the various markets whose duty shall be the filling of orders for association members, for the choice of feeders cannot be safely based on personal fancy. The only true guide is unbiased judgment as to what the market demands in the finished product and what type of feeding cattle will yield the result. An experienced buyer of keen judgment, constantly in touch with the market, should prove as valuable to producers as the expert

## The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE  
DOMINION.

Published weekly by  
THE WILLIAM WELD COMPANY (Limited).

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

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

The packing business, like that of farming, is a business of small margins on the amount of goods handled. Unlike farming, however, it has been signally profitable—through specialization. This specialization extends even to buying on the yards as well as to the division of labor in the curing plants. Rarely does the man who buys cattle buy hogs or sheep, and a degree of expertness is thus secured that is the wonder of the uninitiated and the foundation of the success of the packing business. The farmer who sees the market through the press and visits it once a year to sell or buy a load of live stock cannot know it like the man who is there from day to day. A small saving per pound in buying or an equal gain in selling may and does mean much to the farmer whose single buy or sale often determines his yearly labor income. Co-operative live-stock shipping associations can well serve a doubly useful purpose in providing expert facilities for buying as well as for selling. Only the occasional man is experienced enough to get the most out of the market. Joined together, the members of a club or shipping association could effect a considerable saving. Fortunately such a marketing service is already available to some extent in Ontario through the Live-Stock Department of the United Farmers' Co-operative Company. The man who can sell, however, is not necessarily the man who should buy, because the considerations are not altogether the same. Specialization on the market as well as between the farm and the market will, we believe, result in greater satisfaction for the feeder.

### Make an Occasional Holiday Possible.

The holiday idea is taking stronger hold upon the farming community, and rightly so. In days gone by rural folk have been loath to leave the fields for a day or two in the city, or a week at some summer resort. In many cases it is impossible to leave the farm even for a twenty-four-hour period, owing to having no one to look after the milking and chores. Consequently, year in and year out the farmer and his family have toiled

incessantly to produce the necessities of life. The advent of the automobile to the farm has changed things. After the chores are done in the morning the family can soon be miles away from the daily scene of their activity and spend a day in visiting or in pleasure beside some lake or river. This has an educational value, as new ideas and new impressions give one a different viewpoint on their own work. An effort might advisedly be made on every farm to relieve the entire family from work for a few days at least during the summer months when nature is at her best. If all cannot go at once, then arrange to go in relays, or volunteer to do a neighbor's chores while he and his family are away so that he may in turn relieve you. In every home provision should be made for the mother to have a real holiday away from the daily routine of work. The father gets away on a business trip, or at least he comes in contact with new scenes more frequently than the mother, but far too often it is the mother who plans for the children's comfort and sacrifices her own pleasure. Let the husband, and children, if old enough, plan on giving mother a real holiday this year and we venture to say that those who do so will be amply repaid for any sacrifices made. No matter what occupation one is engaged in a change of scene is beneficial to both mind and body. "Haven't time" is not a good excuse for not taking a vacation. A person constantly engaged in any productive occupation cannot afford not to get away and see what others are doing.

### A Trip Westward.

By SANDY FRASER.

Force o' circumstances an' the C. P. R. are takin' me oot tae the "wild and woolly West," an' it's only fair that I should be sendin' ye a word as to my progress an' impressions. It's about as easy writin' on a movin' train as it is walkin' uphill on roller-skates, but I'll dae my best.

I've been travellin' towards the "land o' the settin' sun" for nigh two days now, and my opinion o' this "Canada o' ours" isn't much to brag about at present. I can just shut my eyes an' see a succession o' rocks an' spruce swamps an' poplar trees passin' before them, wi'oot end. We're livin' in an unco' big country, but there's an awful lot o' it that wad hardly be suitable for a garden. They say that Nature never lets anything go to waste, but I'm afraid she'll have to soon show us what the biggest part o' the land lyin' between North Bay an' Winnipeg is good for if we're goin' tae continue tae believe in her household economy. Maybe we'll be mining the rocks and be growin' cranberries in the swamps some day, but it will be a while I'm thinkin'.

Weel, it's weary wark, this travellin'. I'm that tired sittin' on a soft seat that I have half a notion, at times, to be gettin' off the train an' runnin' behind for a spell. I need the exercise, all right, but at the same time I want tae get the worth o' the money I paid for my ticket oot o' the C. P. R. The first mornin' on the train I wakened at half past four, as usual, — can't get over a bad habit in a minute, I guess. There was some satisfaction tae think, however, that I was puttin' space, at the rate o' forty miles an hour, between me an' the coos that I had been in the custom o' milkin' at that time o' the day. Through time I'll not be wakenin' up sae early, I hope. This mornin' it was seven o'clock when I got my eyes rubbed open. Every time the engine stops an' starts again it gives everything sic a jerk that it's a wonder that naebody gets put oot o' the neck. At night it jars ye awake so I suppose ye sleep all the better between times. There ought to be a fortune in it for the mon that can invent a way for a train to start wi'oot makin' ye think somebody hit it close to the top o' yer bed at night. Ye're liable to be raisin' mair than hair on it, gin ye do. But on the whole, the C. P. R. deserves all kinds o' credit for puttin' this road through when it did, even if they did use all the half-decent land there was for layin' their track on. It must hae taken some courage to get that first survey finished.

One thing travellin' through a de'il-forsaken country like this does for ye is to make ye appreciate the privileges ye had back home. I'll observe Thanksgivin' Day next fall if I see Glengarry again. It's something tae be thankful for that one is livin' in Auld Ontario, after all. A little way back, before we cam' tae Fort William, I saw an Indian encampment in the bush beside the C. P. R. tracks. I had an idea that the Indian was about a thing o' the past, along wi' the buffalo, and I guess his time is short all right, for at the camp I saw this mornin' one o' the braves was cutting the wood for the breakfast fire, or maybe it was the chief o' the tribe. I can see the beginnin' o' the end when the squaw start to claim "equal rights," an' mak' the men wark.

Fort William is a town that looks like business, I'll say that for it. And there is some scenery around about it that makes up for the lack o' that some further east. There's not much money in scenery, maybe, but the right kind rests yer eyes when ye've been seeing nothing but poplar trees for what seems to ye like three weeks. Those grain elevators at Port Arthur an' Fort William are quite an institution in their way. To see those round grain tanks at a distance makes ye think ye are comin' to one o' the auld Roman temples wi' their pillars an' such like. They'd make grand silos those grain tanks only it wad

take some time tae fill them wi' an ordinary silage cutter an' a six-horse engine.

At the present time o' writin' (if the hieroglyphics I'm makin' can be called writin') we're headed for Winnipeg, over country that's improving a wee bit in appearance, but about which the less said the better, even yet. The "magnificent wheat fields of the West" aren't showing any great indications o' puttin' in an appearance. I'll write ye another letter in a few days givin' ye further particulars o' my progress, that is, gin I survive the efforts o' the engineer on this train to bring me tae an untimely end. I'm thinkin' he must be a retired cow-boy wi' the idea in his head that he is still ridin' some bucking broncho on the Western plains, judging from the way he handles that locomotive. She's rearin' an' plungin' in great shape just noo, a' richt.

### Nature's Diary.

By A. BROOKER KLUGH, M.A.  
FISH CULTURE ON THE FARM.

On a good many farms there are areas which are of no use agriculturally but which may, without undue expense, be made available for fish culture.

In some cases an existing pond may be enlarged and otherwise improved for fish-raising, in other cases an area of swampy ground may be excavated and turned into a pond, while in other situations an excavation may be made near a stream and part of the water diverted to supply the pond.

There is one vital consideration which must be very carefully taken into account in the construction of any pond, and that is to make sure of a sufficient supply of water at all seasons. Many such projects have failed because of neglect of this factor. There must be enough water to maintain a high water level even in the driest seasons, and a sufficient depth of water to preclude the danger of all the water becoming too hot in summer, or freezing to the bottom in winter.

Some sites which might strike one at first as being suitable are not really so. Such a site is along a stream in a deep, narrow valley, as in such a place there is always the danger of disaster from flooding, with the resultant loss of fish and damage to the banks of the pond.

Extended flats or swampy places make the best sites. In such a place one is nearly always assured of an abundant supply of water, there is little danger of over-flows, and there is usually an abundant growth of aquatic plants which add much to the value of the pond.

The size of the pond, and the depth of water it is possible to secure, will depend very largely on the location, and these factors will in turn determine the species of fish it is best to use in stocking the pond. If the pond can be made of fair extent, say two or three acres, with water not less than ten feet deep in places, and if the pond is spring-fed with cool, clear water, it is suitable for the culture of the Small-mouthed Black Bass—one of the best of all fishes, both as a game fish and as food. If it is of smaller extent, but of fair depth and with clear water, the Yellow Perch, or Speckled Bass may be used. If the pond is fairly large, but with a muddy bottom, a fish which will do well and will yield a good supply of food, but nothing in the way of sport, is the introduced German Carp. Any pond, large or small, deep or shallow, as long as it has a soft bottom, will suit that hardy species the Common Catfish, a fish which is really of much higher quality as a food-fish than is generally conceded. Sometimes it might be desirable to cultivate two or more species in the pond, but this is a matter which requires careful consideration and a good knowledge of the food-habits of the various species. It is rarely wise to introduce the poorer kinds of fish into a pond in which the better kinds will thrive, and if Black Bass will do well, no such fish as Carp or Catfish should be introduced as they are well-known spawn-eaters.

In making a pond particular attention should be given to the construction of the banks, and where the banks are built up on existing turf it is very important to see that all grass, weeds and roots are removed, and that the earth is well broken, as this allows the earth of the banks to assimilate with the foundation, leaving no seam for seepage which often leads to serious leaks.

If a pond is quite large and Black Bass are to be raised, there should be a gravelly shoal at some distance from the banks, for use in spawning. Over this shoal there should be a depth of about two or three feet of water. There should also be patches of water-plants to which the fishes can retire. It is also necessary to see that there is plenty of natural food, such as minnows, crayfish and frogs.

The bottom of a pond should be completely freed of snags, logs, boulders and other obstructions, for it may be necessary, at some time, to seine the pond, an operation which is rendered ineffective, if not impossible by the presence of such objects. At the height of the desired water level there should be drain-ways to carry off surplus water from heavy rain-falls, and the openings of these should be screened with fine-mesh netting to prevent the loss of small fish.

A mistake which is made by some of those who attempt fish-culture is over-stocking. Thirty pairs of Black Bass or Carp or a hundred pairs of Speckled Bass, Rock Bass, Perch or Catfish to the acre is a good estimate.

It is naturally important to see that there are plenty of aquatic organisms in the pond to furnish an abundance of food. Crayfish, minnows and frogs may be introduced, and it is desirable, at the time that the young fish are hatched, and are beginning to feed, to supply some very finely-chopped crayfish meat or fish.

When the fish are spawning they should be disturbed as little as possible.

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# THE HORSE.

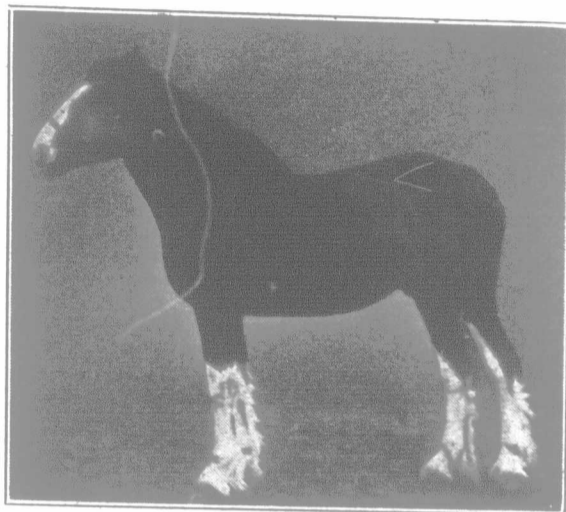
## The Examination of Horses as to Soundness.

While the official examination of horses as to soundness is solely the province of the veterinarian, and his certificate alone is of value in courts of law, there is no reason why the ordinary horseman cannot attain reasonable skill. In the strict sense of the term, any abnormality is an unsoundness, but if this definition were always acted upon, very few horses would pass as sound, as there are few that are absolutely sound, that is, that do not present some abnormality—for instance, a scar, a few white hairs as a result of a sore shoulder or back, a slight enlargement, the result of an injury, a wart, etc., are abnormal. Hence the definition usually accepted and acted upon by veterinarians and courts of law is somewhat as follows: "An abnormality that interferes with, or is liable to interfere with the animal's usefulness is an unsoundness. Hence the man who passes judgment in regard to soundness must of necessity have a knowledge of the various diseases and abnormalities that impair the usefulness or value of a horse; he must also be able to discriminate between degrees of the same disease or abnormality, and decide whether that which exists should be considered serious or not. For instance, a small splint when not situated quite close to a joint is not usually considered sufficient to condemn a horse, while, if it be large, double or quite near a joint, it is more serious. Again, slight bursal enlargements in the region of the fetlocks (usually called wind-galls) are not considered serious, but if quite large and tense they certainly constitute unsoundness. In order that a man may be able to detect unsoundness, he must be perfectly familiar with the appearances of, and the sounds made by the organs when in a healthy state. This knowledge can be acquired only by actual and extensive observation. Theory is not sufficient here; he must have actual practice. For instance, a man may study the anatomy of the eye and be able to state or write an accurate description of the normal eye, and at the same time not be able to recognize a normal one at sight. Familiarity with the different appearances of the different organs, or the different appearances of the same organ, all within the region of soundness, is necessary to enable a man to detect disease when it is present. It must be remembered that there are many divergences or differences in appearances or conformation of the various organs, not constituting unsoundness. As an example, we might mention the hock. There is probably no part of the anatomy that admits of such varied conformations, and we might say roughness, due to what may be called hyper-development of the various bones, the relative position one bone bears to another, as regards angles, etc., and still be sound, as this joint. In fact, it often gives the most expert veterinarian trouble to decide whether or not the hock is sound; hence, not only in respect to this particular, but to a greater or less degree to all points, it is necessary that the prospective judge examine carefully the different normal conformations and appearances, in order to be able to detect abnormalities.

In examining a horse, we consider him both standing and in motion. We first examine him when standing, and in order to do so thoroughly we must be systematic. We start at the head on the near side. First pass the hand carefully over the poll and search for symptoms of existing or pre-existing poll evil. If there be swelling or soreness, we condemn him; and although neither be present, if there be scars or cavities that indicate that he has at some time been operated upon for this disease, we are justified in pronouncing him unsound; as, while in many cases a perfect cure has been effected, it is not unusual to have a recurrence of the disease months after an apparent cure has been effected, and where suspicion exists we are not justified in giving the horse the "benefit of the doubt." His ear, then the forehead and then eye should be examined for any abnormalities. The latter is a very important organ, and one in which disease may exist, even to cause total blindness, and still there be no apparent alteration of structure to attract the attention of the casual observer. In order to examine the eye it is necessary to stand the horse with his head in a clear light, but the sun must not shine either in the eyes of the horse or the examiner. Being familiar with the appearance of the healthy eye, we look carefully into his eye, and if we become suspicious that there is anything wrong, we make false motions to strike the face with our hand; if sight be normal he will draw his head away at each motion. We know that the pupil is quite elliptical in the normal eye, and when we see an eye in which it approaches the spherical, we suspect disease. We also know that the pupil dilates in darkness, and quickly contracts when the light strikes it, so if we are suspicious we can shade the eye with our hand to allow the pupil to dilate, then suddenly remove the hand and watch it contract. As contraction is very rapid, it requires quickness of sight to detect it, but when we see an eye in which the pupil remains quite large in a strong light, we may at once decide that it is diseased. If cataract be present, except in the early stages, we are able to detect it. When we cannot decide in the way mentioned, we take the horse into a darkened stall and examine with a candle, but this examination can be done successfully and satisfactorily only by a veterinarian. Passing from the eye, we look carefully for bony or other enlargements or malformation of the face and cheek. We then come to the nostril. We look carefully at the mucous membrane, in order to detect disease that alters its condition or appearance, as nasal gleet, influenza glanders, etc. Then we reach the mouth, which should be carefully

examined. It is good practice to examine both sides of the mouth now, so that when we are examining the right side of the animal, we will not need to open the mouth. We look carefully at the incisor teeth to see that he is neither under-shot nor parrot-mouthed. While either of these conditions is more correctly termed a malformation than an unsoundness, it is a serious matter and must not be passed unnoticed. We find that either condition, when well marked, interferes more or less with the feeding abilities of the animal, and is often accompanied by an improper working together of the upper and lower molars. Hence we condemn a horse with a mouth of either kind. We also examine his incisors carefully to estimate age, as it is principally by the appearance of these teeth that we are able to judge. The molars indicate age until four years, but they are difficult to see, hence we depend largely upon the incisors. In cases of parrot-mouth or the reverse, the teeth do not undergo the normal wear, hence we cannot depend upon them. We should also examine the molars to see that there are none missing or decayed. The mucous membrane of the mouth and tongue should also be carefully observed for normal conditions.

(To be continued.) WHIP.



Denholmhill Prince.

A Clydesdale winner at several shows in 1919. Bred by W. W. Hogg, and sold to a Virginia breeder at a good figure.

## LIVE STOCK.

Use some fly repellent on the stock.

Pastures in many localities are suffering from the drouth, and stock are not making desirable gains.

The Carpenter & Ross sale of 227 Shorthorns averaged \$1,425. This is considerably below the average made in 1919, when 172 head averaged \$2,142.

In the best herds there is bound to be a percentage of calves that should not be kept for breeding purposes. Inferior males calves should be altered.

Some breeders apparently lay a good deal of stress on those letters (Imp.) after a pedigree, but of what value are they if the animal hasn't individuality?

Already this season cattle have been seen racing wildly around the fields, evidently stampeded by flies. Shade and running water in the pasture field is an asset to the stock raiser.

Did you ever note the number of inferior herds seen on pasture during a day's trip across country? If the inferior grade or cross-bred was a good grade with character and quality, the returns from the herd would be considerably enhanced.

Just because wool prices are not equal to those of the past four years, some sheep owners talk about going out of the sheep business. They should think twice before acting upon such an impulse. What other class of stock gives equal returns for money invested?

The work of the spittle beetle is again noticed in some fields. This tiny black beetle sucks the juices from the grass plants and imbeds itself in a frothy mass on the side of the plant. Comparatively little injury is done, although stock apparently avoid feeding where the beetle is working extensively.

The movement now on foot to cope with and eventually to eliminate tuberculosis from our herds should have a direct bearing on the health of humans. Whole-hearted support should be rendered by Government, consumers, producers and packers. Disease-free herds is the goal towards which every producer should be working, and his efforts should be backed by the public.

Through an Order-in-Council the duty which has existed on cattle entering the Dominion from the United States has been removed until February 7, 1921. This is done to permit of re-stocking Canadian farms, principally in the Western Provinces, which have suffered from excessive drought during the past few years. It is claimed that the prospects for grass on the prairies is excellent and apparently there is a possibility of securing feeder cattle at a reasonable figure in the Western States.

## Australian Notes.

EDITOR "THE FARMER'S ADVOCATE":

The United States Government has informed the Australian Government, in reply to an effort on behalf of the long-wool association, that the embargo against ruminants must stand against any country where the disease of pleuro-pneumonia exists. This means the veto against the introduction of any Australian live stock, which is considered to be unnecessarily cautious. It is considered that as sheep do not contract the disease, and doubtful if they would carry the germs at all, that the embargo could be quite safely waived. Even in horned cattle, which alone are liable to attack, the disease is quickly and safely treated by the inoculation if caught in time, by injecting in the butt of the tail some of the virus drawn from an affected beast.

The winter this year opened rather gloomily in Australia owing to the lack of copious rains. This is the third dry year in succession. Wide belts have for a long time been with practically no rain, while the specially favored coastal centres have only been living from hand to mouth. Should this winter continue in drought another quarter of the live stock will perish, increasing the total losses to one-half. In the grazing districts there are hundreds of miles without stock at all—either they have been removed or have perished.

Sir Joseph Carruthers, whose farm lands are in the 3,000-foot zone, has been conducting exhaustive trials with Canadian-bred wheats. He declares that the variety known as Ruby is the best he has ever tried. The specific advantages are extreme earliness, high yields, and splendid quality grain. It does not necessarily follow, however, that this wheat would be equally successful in the warmer belts.

While the war was running the British Government induced a number of Victorian farmers to grow flax at a guaranteed price of £170 a ton. At their request the growers were allowed to sell on the open market, when the extraordinary price of £325 a ton was reached. In addition the growers had a good asset in the seed, which is by reason of the impetus realizing high rates.

Owing to the high price of sugar the Victorian Government is guaranteeing 35s. a ton for beet, which is almost double that regarded as a payable price. The industry is not largely pursued, but its expansion now looks hopeful.

The Farmer's party, who hold the balance of power in the Federal Parliament, have carried a motion decreeing that so far as primary producers are concerned their income tax is to be based on a five-years' average. This is to minimize the effect of droughts.

An important discovery has been made in the commercialization of the great rabbit pest. Hitherto in the work of removing the fur in the hat industry the pelts were so destroyed as to possess no leather value. But by using a chemical solution this is now obviated, which means millions sterling a year, and thus easing the leather market.

Sydney, Australia. J. S. DUNNET.

## Our Scottish Letter.

May is ending. The latter weeks have been suitable for vegetation, but it has not been possible to make good the time lost in the earlier part of the season on account of the excessive rain. Taken all over the season of 1920 is to see late crops, and, unless Providence be kind, a late harvest. The grub has not been at work as in some years recently. Should there be warmth during the remainder of the season the crops should be up to a full average. The wheat crop is considerably less than it was in 1918 and 1919. This crop is not much grown in Scotland. Oats are our leading cereal. Work is being prosecuted with vigor, and on the whole the policy of "Ca canny" does not have many patrons amongst those in the ranks of agricultural labor.

Interesting literature is now appearing bearing on general agriculture. The Farmer's Club, London, is an institution before which from time to time important papers have been read. Recently there have been papers on Cockle Park pasture experiments and the making and storing of farmyard manure. Cockle Park is the Northumberland Experiment Station. It has become historical as the scene of a series of experiments in the reclamation of rough pasture on inferior land. Professor Douglas Gilchrist, who now controls the Station, reviewed the situation in a paper read to the Farmers' Club a month ago. The key to the success of the pasture there is found in an American formula "Phosphates are the key to Agriculture." The application of lime to bogland has been accompanied by the best results both in England and Ireland. By the use of basic slag which contains a limited quantity of lime, at Cockle Park the grazing season has been greatly prolonged; the grass land has been more than quadrupled in value; the bulk of the old land hay has been increased, and the quality improved by over twenty per cent. These results have been proved by demonstration at Cockle Park. In addition, it has been proved that mixed stock grazing—that is, grazing with bullocks, sheep and horses, gives the best results in respect of cleaning the pasture, and keeping the sole of grass level and sweet. The best means of improving moorland grazings are found in encouraging the growth of clover plants. By sowing wild white clover and plowing it down the fertility of the soil is enormously increased. Those who have followed this practice have found that the oat crop out of an old clover field is generally far too heavy. The white clover appropriates the nitrogen that is in the air and greatly enhances the fertility of the soil in which the nitrogen is buried.

Stock, especially pedigree stock, of all kinds continues to make phenomenally high figures. A dispersion sale of Shorthorns was held at North Loviston, Nigg,

near to Aberdeen, three weeks ago. The farm is being taken over by Dr. Sinclair, the proprietor, who is an enthusiastic supporter of the British-Friesian cult. David Anderson, who vacates the farm, had a choice herd of Shorthorns, and the public responded splendidly on the day of his sale. Fifty-eight head made an average of £429 7s. 6d. apiece. The highest prices were paid for three red females. Lady Cathcart, of Cluny, who has a very fine herd, gave £1,470 for Lavender 71st, a two-year-old heifer. Peter Wilson, Lawhill, Dunning, Perthshire, gave £1,060 for the red cow Lavender 65th, and Mr. Duthie paid £840 for Rosewood 94th, a red three-year-old. The stock bull, Collynie Master Lavender, made £3,675, his purchaser being Stephen Mitchell of Boquhan, Stirling. David Anderson is a first-rate judge and had built up a first-rate herd. It is to be hoped that he may soon find a suitable farm on which to resume his breeding enterprises.

At a recent sale of Clydesdales held at East Seales, Gretna, near Carlisle, high prices were realized. Thirty-seven head made an average of £258 3s. 1d. each. The highest price was £1,050 paid by Mr. Ellwood, Hill Farm, Crosby, for a well-bred mare Lady Toward 34771. This mare was got by the Cawdor Cup champion Oyama 13118, and her dam was of the famous race of mares owned at Toward, in Argyle, by the family of Lamonts, who bred the famous Sir Everard 5353. A two-year-old daughter of Lady Toward, named Border Princess, was sold to Colonel Brook of Hoddam, for 810 guineas, or £850, and a three-year-old filly named Moonshine made £682, the buyer being Lord Forteviot, of Dupplin, Perth. The East Seales sale was rendered necessary through the death of the later owner, George Armstrong, who was an excellent judge of Clydesdales and was never afraid to pay a long price for anything that suited him.

The lambing season has brought its own special features. On the high grazing of Bluidburn, in Coquetdale, Northumberland, a Blackface ewe gave birth to four lambs. Three of them survive. Last year the same ewe produced four lambs, but unfortunately all four perished in a snowdrift. The Blackface ewe is one of the hardest of farm stock. She is a forager second to none, and has been denounced as an expert thief by one who certainly loved her kind. No more useful class of farm stock live in this country than Blackface

exports in 1919 was £54,000,000, whereas in 1908 when she was regarded as quite prosperous the value of her exports was £24,000,000. Evidences of this prosperity everywhere abound in the Emerald Isle. In the past, it was often said that poverty lay at the root of Irish discontent; to-day this cannot be maintained. Never was there in the memory of man such prosperity in Ireland, and never during the long weary feuds of many centuries was there experienced such a season of discontent as prevails in Ireland at the present hour. One sees nothing of this in the North East of Ireland, whence I have just returned, but the news from the South and West is disquieting in the extreme.

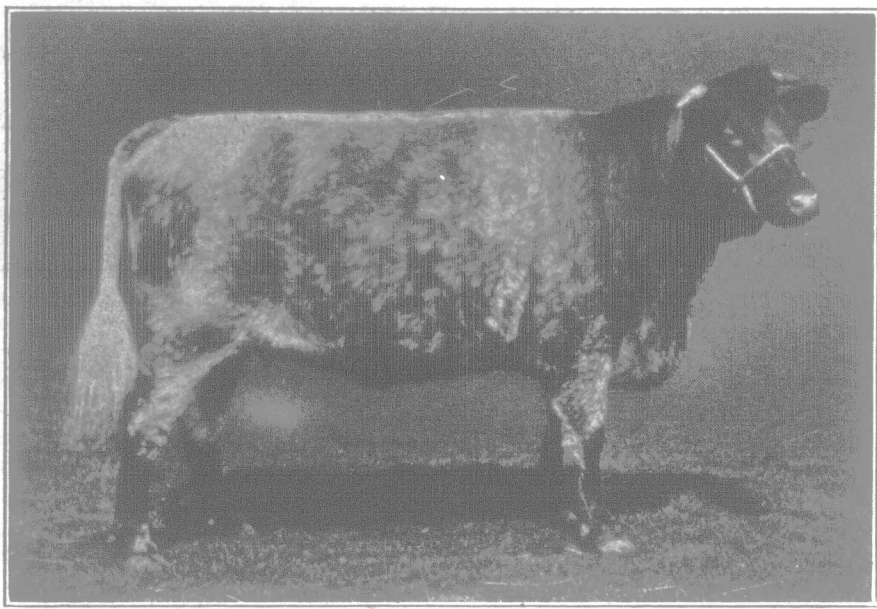
Shows are now in full blast. During the past week we have had the Glasgow Summer Show, and the Royal Ulster Show at Belfast. At both, the exhibition of stock of all kinds could hardly have been surpassed. Yet the drawings at the gates at Glasgow were £602, whereas last year on the same day they were £800. On the other hand, Belfast drawings must have exceeded anything ever experienced during the long history of the North East Show. The showyard at Balmoral, Belfast, on Thursday last recalled the scenes at the Dublin Horse Show in August. Everywhere evidences were seen of prosperity. The exhibition of implements was on an extensive and most attractive scale. The exhibition made by the Department of Agriculture and Technical Instruction was one of the best and most practical of its kind we have ever seen. The Irish Department has skilled Scotsmen at its head. They have put forth their best efforts to make the Department a success, and unquestionably they have attained their end. The breeding of Clydesdales makes rapid progress in Ireland, especially in Ulster. This week the show included many high-class animals bred in the Province, although both champion prizes went to Scots-bred animals owned by Irishmen. Ranken Morrison, in Coleraine, in County Antrim, won the male championship with the grand big horse Ken Signet 19478, a three-year-old of extraordinary depth and weight, with the best of feet and legs. He was much admired. The female championship was won by Harviestown Duchess, a black yearling filly owned by Mr. Thompson, a small farmer in Killinchy, County Down, who bought her last year for over £700, from her breeder, J. Ernest Kerr, of Harviestown. She is only

was reserve champion, and fourth in a large class of cows. Her son Petunia was champion bull, and her two daughters Perusia and Perusia 2nd, were respectively first in the two-year-old and yearling classes, and the former was champion female. Then the old cow and her three progeny won the special as the best group of Aberdeen-Angus cattle shown. Petunia was sire of the champion Perinthian, which was lately sold for export at a phenomenal price.

SCOTLAND YET.

### Standard of Wool Grades Raised.

Wool is coming in quite freely to the grading station at Guelph. Up to June 9, over 153,000 pounds had been graded and between 60,000 and 70,000 pounds were on hand ready for grading. The Winter Fair buildings at Guelph are well adapted for the grading of wool, and L. O'Neil, who is looking after the grading, has things well in hand. The wool producers are pessimistic as regards prices this year, as it is a foregone conclusion that wartime prices will not be maintained. Producers who have studied world conditions will realize that this year it is a buyer's rather than a seller's market. For the last four years wool has been in great demand, and the keen competition to secure an adequate quantity for their mills has led manufacturers to pay unprecedented prices. However, when the war closed and many of the contracts were cancelled, the manufacturers found themselves with a vast quantity of wool on hand, and this year they are going to play safe in the price which they pay. It is possible that some producers will not be satisfied with the grading which they get, because it has been found necessary to bring the grades to a higher standard in order to get the best prices. A man who had medium wool last year may have low medium this year from the same sheep, owing to the raising of the standard of grades. The lower grades of wool are not in demand as there is already an excess on the market. The other countries are adopting closer grading and are competing with Canadian wool on the world's markets. Then, too, distant countries accumulated a large surplus



**Inverness Nonpareil.**  
Champion Shorthorn female at Glasgow.

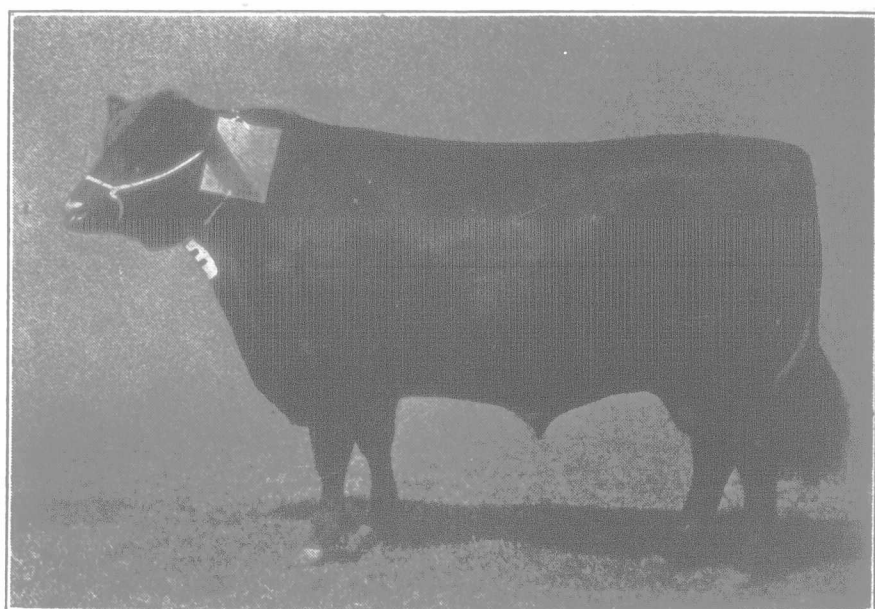
sheep. They live and thrive under the most adverse conditions. Akin to them are the Herdwicks of Lakeland in Cumberland and Westmorland. This little hardy breed has a reputation all its own for endurance. They and the Scottish Blackfaces have an unerring weather instinct. They never turn their backs to the storm but go forward in all weathers. They perish, if at all, in snowdrifts—not when facing the blast on mountain sides but when taken unawares. Their mother instinct is of the most acute and marvellous character and their tenacity of life even when buried in a snowdrift has often been remarked on.

Decontrol of food stuffs is taking place gradually in this country. The Government has at length taken its courage in its hands and all imported mutton was put upon the market about a fortnight ago. Decontrol of meat takes place on the 4th of July, and speculation is fairly rife as to what will happen next. The general expectation is that the price of the finer qualities of meat will at first bound upward. Thereafter there will be a rebound, and in the end it is possible that prices may come down. Control has never been popular with the British farmer. He is a very independent person and prefers comparative poverty to dependence and control. Whatever else may not be true, it is certain that the British farmer, and assuredly the Irish farmer, has during the past five years experienced a season of prosperity such as was undreamed of by his father. It is hard to believe that this is the country in which from twenty to thirty years ago there was little evidence of prosperity among farmers. To-day few could be named who have not been amassing more or less modest fortunes. Men who thirty years ago would have been pleased to net a profit of £300 per annum have during the year 1919 made £3,000. Many have done far better than this. Ireland has had an era of amazing prosperity. The value of her agricultural

one year old, and was got by the famous Dunure Footprint, out of the exceptionally high-class breeding mare, Ambrosine, one of the most remarkably prolific mares in the history of the breed. Ken Signet, the champion stallion, was bred by Mr. Wallet, Castle Douglas, and was got by the famous Signet 16816. Several interesting features were seen at Glasgow. The judges, who acted singly, were William Dunlop, Dunure Mains, Ayr, for females, and Matthew Marshall, Stranraer, for males. A show of geldings was presented such as has seldom been witnessed at any show. The champion male was James Hamilton's first-prize, two-year-old chestnut colt, Dunduff Chancellor, which has been placed third and fourth at earlier shows. This is a grand colt built on true draft horse lines. His own sister, the black filly Dunure Wish, was reserve champion female at the H. and A. S. last year. The champion female was John P. Sleight's Blackwood Dawn, the first-prize three-year-old mare, by Dunure Footprint, which also is sire of Dunduff Chancellor. The respective reserves were Walter Aitkenhead's Haining Castle, a black three-year-old, and Messrs. Dickens & Butler's Farleton Lady Alice, from Red Court, in the North of England.

In the Ayrshire section at Glasgow three ladies were owners of the best animals in both sexes. The champion cow and the reserve champion cow were both from the Island of Bute, and are owned and bred by Mrs. McAlister, Meikle Kilmory, and her sister-in-law, Mrs. Mackay, Bruchag, respectively. The stock of Ayrshires owned by these two ladies is worth going far to see. The champion bull was Mrs. E. L. Howison-Crawford's two-year-old Howie's Hot Stuff, the highest priced Ayrshire of 1918.

A notable exhibit at the Belfast show was F. J. Robb's group from Lisnabrieny, County Down. The old cow, Pride of Aberdeen 330, now fifteen years old,



**Prince of Pedigill.**  
First prize Angus bull at Glasgow.

of wool during the time when there was a shortage of tonnage and now this is coming on the market. Manufacturers and dealers have in the past borrowed a good deal of money from the banks to finance the purchase of large quantities of wool. These loans are coming due and the market is not absorbing the lower grades, consequently the wool houses are not anxious to borrow further to finance the present clip. Another tendency to lower price and raise the standard of the grades is the tightening of the money market. The banks are not as anxious as they were to loan large sums as an advance for buying wool.

Prices being paid at local points are such that the purchaser cannot lose money eventually. Similar prices to those of the past four years will not be paid this year, but selling through the Co-operative should net the producer a higher price than he can secure elsewhere, although it may mean waiting a considerable time for final settlement. Wool may have to be held in storage for some time in order that the best sale possible may be secured.

Reports indicate that the depression in the Boston wool market is still serious and buyings in the country are restricted. Prices vary a great deal, and quotations vary all the way from fifteen to thirty-five cents per pound. After receiving such high prices for four years, many wool growers are reluctant about accepting a low figure, and are pessimistic regarding the future of the sheep industry. Wool is a product which will always be in demand in this country, and we see no reason why the market will not be remunerative, especially when conditions reach a more normal state. Canada has very few sheep as compared with other countries. Honorable Dr. Tolmie, Minister of Agriculture, recently referred in the House of Commons to the fact that Canada has only 3,500,000 sheep as compared to 80,000,000 in Australia and 27,000,000 in Great Britain.

### Gains

Comparatively few litters of pigs cost less than what gains the pigs until weaned. This upon how well the and attention given the O. A. C. is present time by different litters pound of gain varies and ages of pigs, twenty cents per pound of gain per pound of grain per week they weighed twenty-six one week they weighed sixty-six, the fifth one hundred and fifty-four sixty-three pounds a first week, and one the fourth week, which only reached ninety-is room for a good shows that the breed selection of his breed. It should be more breeding female from milker and raised he the pigs were not selection has been but comparatively which the young do with the profit marketed. The pig up to the weaning at six months of age brought along from aim at keeping the minimum if there is under the present it be done to increase by supplementing milk, whey, etc. To to the average herd idea that hogs should time of year the so run in a paddock will be noticed that a good deal of this will be cut and carried not available. The secure when getting to increase thriving feed and live hogs, the interest on investment and the man who is doing so at a loss.

### New York A

The Aberdeen-Angus sale of Doddies in the In spite of many a total of twenty-two \$293, going principal. The majority of the the business, and the prices. The yearling topped the sale at \$8 of New York. He Erileen 2nd, with a priced female, and pr of the sale. She wer of New York, at \$54 an informal gathering of the American A which there was a affairs and problems.

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### French I

EDITOR "THE FARMER'S ADVOCATE,"

"The French far General A. D. McR Advocate," March 2 can you imagine in had crossed the unhar Armistice, you'd have houses, dumps of rubble landscape. On all no longer did one hear yore. Absent was the town hall. No cut-up road was heard the song of the cock not a soul in the cour of these poor fields, u

It appeared that l it has recovered and part of the farmer. are nearly all plowed crops; and this same money of the relentless Do you think of the of France? Put yo years of suffering of ing of the soldier on in captivity—hundred

**Gains with Young Pigs.**

Comparatively few breeders are able to tell what a litter of pigs cost them at weaning age, nor do they know what gains the pigs make from the time they are born until weaned. This gain will depend to a large extent upon how well the sow milks and upon the extra feed and attention given the litter. Professor Sackville, of the O. A. C. is securing valuable information at the present time by keeping track of the feed and weight of different litters in the College herd. The cost per pound of gain varies a good deal with the different litters and ages of pigs, running all the way from eleven to twenty cents per pound, and it takes from three to five pounds of grain per pound of gain. One litter of seven weighed twenty-six pounds when born. At the end of one week they weighed fifty-two pounds, the second week sixty-six, the third eighty, the fourth one hundred, the fifth one hundred and forty, and the sixth one hundred and fifty-four. Another litter of eight weighed sixty-three pounds at birth, eighty-three at the end of the first week, and one hundred and sixty-eight at the end of the fourth week, while another litter of the same number only reached ninety-five pounds at the same age. There is room for a good deal of study in these figures, and it shows that the breeder should pay more attention to the selection of his breeding stock than he has in the past. It should be more profitable to select a herd sire or a breeding female from a litter where the dam is a heavy milker and raised her pigs well, than from a litter where the pigs were not nearly so well fed. A good deal of selection has been done in our dairy and beef herds, but comparatively little with the hogs. The start which the young pigs get has a good deal to do with the profits which they will return when marketed. The pig which does not get all it wants up to the weaning age is not so likely to weigh as much at six months of age as the one which has been well brought along from the time it is born. Breeders must aim at keeping the cost of production of pork at the minimum if there is to be much profit in hog raising under the present feed conditions. A good deal can be done to increase the thriftiness and lower the cost by supplementing the grain with green feed, roots, milk, whey, etc. There is far too little green feed fed to the average herd of swine. Many seem to have the idea that hogs should live solely on grain. At this time of year the sow and her litter might advisedly run in a paddock where there is plenty of grass, and it will be noticed that the young pigs as well as the sow eat a good deal of this green feed. Clover and weeds may be cut and carried to the pigs when a grass paddock is not available. The exercise which the growing pigs secure when getting their own supply of green feed helps to increase thriftiness. With the present price of feed and live hogs, the feeder has very little for labor and interest on investment, even if the pigs make good gains, and the man who is raising unthrifty pigs is undoubtedly doing so at a loss.

**New York Aberdeen-Angus Sale.**

The Aberdeen-Angus breeders held their first auction sale of Doddies in the State of New York, on May 19. In spite of many handicaps the sale was a success as a total of twenty-two animals were sold at an average of \$293, going principally to New York and Maine buyers. The majority of the purchasers were men starting in the business, and they secured well-bred cattle at fair prices. The yearling bull, Eveth, by Evnest of Bleaton, topped the sale at \$850, going to the bid of L. M. Taylor, of New York. He was consigned by C. W. Eckardt. Erielen 2nd, with a bull calf at foot was the highest priced female, and probably one of the greatest bargains of the sale. She went to the new herd of F. C. Hayden, of New York, at \$540. The night previous to the sale an informal gathering was held and talks given by officers of the American Aberdeen-Angus Association, after which there was a free discussion of Aberdeen-Angus affairs and problems.

**THE FARM.**

**French Farms Need Help.**

EDITOR "THE FARMER'S ADVOCATE":

"The French farmer is hard at work," says Major-General A. D. McRae, in his article in "The Farmer's Advocate," March 29th. Yes, friends of Canada, but can you imagine in what condition they work? If you had crossed the unhappy, destroyed districts after the Armistice, you'd have felt sad and afflicted. Ruined houses, dumps of rubbish, volcanic fields; there was the landscape. On all reigned the heavy silence of death. No longer did one hear the joyous and familiar noises of yore. Absent was the bell of the church, the clock of the town hall. No longer the crack of whip on the cut-up road was heard, nor the barking of a dog. Dead the song of the cock and the rings of the flock—and not a soul in the country! Saddest of all was the sight of these poor fields, untilled but by the shells.

It appeared that life could never recover. However, it has recovered and only by an admirable effort on the part of the farmer. Consoling sight! Now the fields are nearly all plowed, planted and ready to yield new crops; and this same spectacle is, so to speak, the testimony of the relentless and fruitful work of the farmer. Do you think of the pain they suffer, these peasants of France? Put yourself in their place. After five years of suffering of every kind (can I relate the suffering of the soldier on the battlefield, and of the civilian in captivity—hundreds of thousands of corpses of both

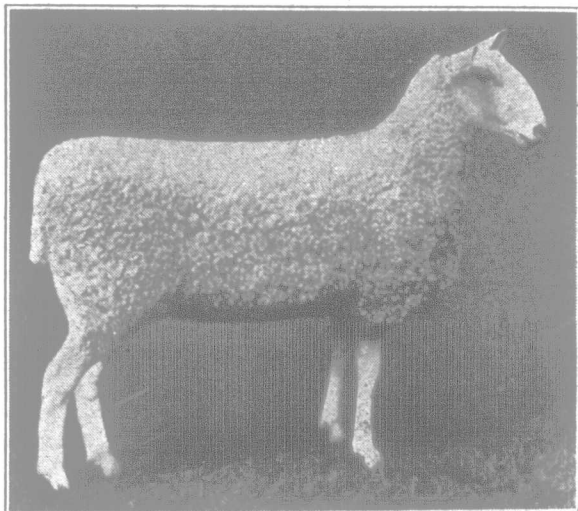
speaking eloquently of this) they are back in their devastated villages, badly housed, badly lighted, badly warmed and badly nourished. At daybreak they are up to answer the call of the land they will till until night. No eight-hour day for them, but an obstinate, desperate striving which alone will permit them to gather the fruits of their labor. How many difficulties there are to surmount from the errors of a slow and formalist administration to the redoubtable fancies of nature and weather.

Yes, French farmers are hard at work, but there is work they cannot do without getting help. They cannot reconstruct their farms without materials and money. Rain and weather continue the work of the shells and the mournful ruins, the result of four years of war, will remain a menace for years. There are 3,900 villages to reconstruct in France, and their destroyers, the Germans, will only pay for that in thirty-three years, if they ever give a mark!

Dear friends of Canada, hundreds of villages have been adopted by societies or towns in every part of the world. To-day a little village of farmers of less than forty houses is calling for adoption. It is totally destroyed, but all the farmers are back and the land is plowed and planted. There is not a roof for the farmers, but only huts to shelter themselves and their cattle, with nothing at all for their crops. Will this little village call in vain for help? Will some kind hearts of yours adopt and help it? The neighbors will do that, you may say. Yes, but the neighbors say the same, and those who have most suffered will still suffer for years. You can locate this village on the Somme area. It is Hesbe'court, near Roisel, in the Teronne District. I would say "Come and see." I would be pleased to receive for a spell any visitor who would do that. He could see that speedy reconstruction is above our strength if we do not receive more help from those who are in a position to offer it.

M. DRANCOURT.

Hesbe'court, Somme, France.



Type of Leicester Ewe that Won at Glasgow.

**Making Palatable Hay.**

Although growth was late in starting, there is every evidence that the grasses and clovers will be ready for the mower earlier than in most seasons. By the middle of June alfalfa and sweet clover were in fine condition for cutting in many localities, and red clover was in full bloom. The prospects throughout Ontario are for a rather light crop of hay, as the rains did not come soon enough to give a bountiful stand. The quality of hay stored will depend a good deal upon weather conditions at the time the crop was being cured. The labor-saving implements now in use facilitate the handling of the crop, but the hay is scarcely of as good quality as when handled in the old way. Curing clover in the coil prevents loss of leaves and maintains more of the freshness of the plant than when it is sun-cured in swath and windrow. However, the quality of hay made when side-delivery rake and hay-loader are used is very acceptable to the stock. If the grasses and clovers are cut at too early a stage they contain so much sap that it takes considerable time to cure, while if cutting is delayed too long the hay is more or less woody and lower in food nutrients. Timothy cut before coming into bloom is higher in ash and protein than that cut when nearly ripe, according to Henry's "Feeds and Feeding." These two constituents of the plant are valuable from the feeder's standpoint. However, timothy cutting is generally delayed until after the first blossoms have fallen, and sometimes the second. What is lost in protein and ash is made up in the increased weight. As plants mature there is generally an increase in fibre, which makes them less palatable when cured. The aim should be to cut and cure the crop so that it will be palatable and have the highest digestibility. Cutting fairly early prevents weeds from maturing and as a rule the second growth of clover will be considerably better from the earlier than from the late cutting.

Favorable weather is important for good hay-making. However, a man has no control over the weather, and must make the best use of his time when the sun shines. Rain, or even a heavy dew, on partly cured clover bleaches it and lowers the feeding value. When the plant is dried quickly in the sun the leaves become brittle before the stems are properly cured. Loss of leaves considerably decreases the feeding value of the

hay. Where a small acreage is handled it is a common practice to cut clover or alfalfa after the dew is off in the morning, then rake and coil it the same evening. Several days in the coil tends to make first-class hay. As a rule, the mower is started in the field the first thing in the morning, and as much as can be handled in a day is cut. If it is a heavy crop, the hay tedder will loosen up the swath and give the sun and air a chance to do their work. The rake can then be put on the following morning, and hauling commenced in the afternoon. On some farms the mower is not started until after the dew is off, because the grass and clover will dry off much quicker when standing than when lying in the swath. Cutting early leaves a man and team free to do the raking before noon. The side-delivery rake leaves the windrow more open than the dump rake and permits of the crop curing considerably in the windrow.

The hay loader saves a good deal of heavy pitching, and if the sliding hayrack is used in conjunction with the hay loader, one man can do the loading fully as easily as two on an ordinary rack. One has to use this type of rack before appreciating its value in handling the hay crop.

If hay is put in too fresh there is danger of heating and mow-burning. We have found that the moisture on the hay is more likely to injure it than the sap in it. The rain or dew should be completely dried off before the crop is stored. In the early part of the season there is a good deal of sap in the stems. Unless it is good drying weather considerable of this sap remains in the plant when it is stored. In this case, leaving the hay where it is dumped from hay-fork or slings is more conducive to heating than if the hay is kept levelled over the mow. In the past few years quite a few barns have been burned and the cause traced to spontaneous combustion. Dr. F. T. Shutt, of Ottawa, claims that the initial cause of many cases of spontaneous combustion is the storage of hay in a damp or moist condition. Clover appears to heat or ferment more readily than timothy. This fermentation is due to the growth and multiplication of bacteria. As the bacteria increase, due to the right amount of heat and moisture and a sufficiency of air, the temperature increases and gases are produced which may be combustible. Sprinkling salt over the mow is a preventative of fermentation and thus tends to assist in keeping hay from spoiling. Thorough ventilation of the barn so as to carry off the heat evolved from the heating of crops stored in the barn is a preventative of spontaneous combustion. Care should be taken to cut, cure and store the hay properly so as to insure high feeding quality and to minimize the risk of hay spoiling in the mow through heating. There is no set date for commencing haying, as one must depend upon the condition of the crop, which will vary according to the lateness or earliness of the season. Because haying commences on the first of July one season, is no reason why the mower should be started to work on the same date the following year. It is important that a study be made of the crop so that it may be cut and cured to give the highest feeding value for the animals to which it is to be fed.

**Potatoes for Profit.**

EDITOR "THE FARMER'S ADVOCATE":

Potatoes, one year with another, pay as well as any other crop on the average Ontario farm. For one thing, they stand up well under the market test. This year the farmer that had a fair yield simply coins money when he is able to sell his tubers at the price so eagerly offered on all our city markets. Further, the crop may be harvested in such a way that it may be marketed the whole winter through. The main difficulty has been in raising a crop that is reasonably sure of a good yield when the season is dry. Here is a method that has stood the test for about twenty years.

The best field for potatoes is a clover sod. The field should be well carpeted with manure as soon as the hay is harvested. In this way the manure leaches into the soil, the moisture of the field is conserved and a fine aftergrowth and an abundant root system rich in nitrogen is encouraged. By October there is a second growth of hay that will require a chain for its thorough plowing under. Further all weed seeds in the manure and in the hay will be germinated and killed by the fall plowing. The plowing should be done as deeply as the soil will permit without turning up much of the unsunned subsoil. By the first of May the manure and the aftergrowth and the roots will be decomposed and available for plant food. As soon as the soil will allow one to do so in the spring, it should be disked to conserve the soil moisture and to encourage the germination of weeds. A good practice is to work the soil as deeply as one can, as the tubers do best in loose, deep, mellow soil that allows them to move about freely without their being forced to the top of the soil, and thus lose both in color and flavor. A week or ten days before planting, it is advantageous to drill up the patch as if one were going to plant. Leave the drills till about ready to plant and then harrow the field thoroughly. This process adds to the destruction of the weed seeds and allows the soil to be thoroughly warmed before the potatoes are placed in the ground.

The seed should be free from scab. If there is any appearance of scab whatsoever, the seed should be treated and treated thoroughly, as the scab will detract seriously from the sale.

In the case of early potatoes, the seed should be well sprouted. This is done by putting the seed one row deep in carriers. The tubers should be placed seed end up, and kept in a warm room till the sprout shows up of a deep purple color from half an inch to three-quarters of an inch in length. It is all the better when the seed

is about the size one hopes to harvest. On the day of planting the early potatoes they should be carried to the field and planted as soon after cutting as possible. Of course every care should be taken to plant the seed with the sprout unbroken. The drills should be made about thirty-six inches apart, the seed dropped by hand and covered with the hoe. One stroke of the hoe is sufficient, as all that is needed at this stage is the covering of the seed. About a week after the planting, the light harrows or the weeder should be driven over the patch, for the further covering of the seed and for the disturbance of any weed seeds that may have germinated. If a frost should threaten, there is little difficulty in covering any of the plants that may be showing through. The advantage of the shallow covering is that the tubers are kept warm by their being left near the surface of the soil. In this way early growth is hastened.

The late potatoes may be planted with the planter or plowed in with every third furrow. In their case, there is not the same need for shallow covering and there is not the same need for protecting the sprouts. Once planted, both early and late potatoes should be harrowed or gone over with the weeder till the whole crop shows well above the ground. This process destroys the weeds by wholesale and saves a deal of hoeing and after cultivation.

Once well above the ground, the cultivator should be sent through the drills at least once a week. The first cultivation the cultivator should be set both deep and wide. With every succeeding cultivation the cultivator should be set an inch or so narrower. If any weeds appear they should be removed from between the vines with the hoe. With the last cultivation the soil should be thrown about the vines. This process should be followed with another hoeing in which any neglected vines are protected or released. Many growers believe that they obtain better results by sowing with their potatoes an artificial fertilizer rich in potash at a rate of five hundred pounds to the acre. When wood ashes are obtainable, they may be advantageously used in place of the artificial fertilizer. When the potatoes are followed by fall wheat the value of the fertilizer appears in the increased quality of the wheat berry.

Potatoes thus cultivated clean the land without the loss of a crop, provide for thorough aeration, and put the land into the best of condition for other farm husbandry.

While the specialist in potato growing obtains the best results, the agriculturalist who practices mixed farming will find this crop a soil cleaner and improver, and a money maker.

Elgin Co., Ont. J. ANTHONY.

CANADA'S YOUNG FARMERS AND FUTURE LEADERS.

"The Farmer's Advocate" Scholarship at the O. A. C.

There are some who do not believe that a college course can be of any real assistance to a young man starting farming. The truth is that a college course for a farmer can be made just as helpful as for a young man entering any other profession, but, as in all things, much depends upon the man. "The Farmer's Advocate" believes in college courses for young men who intend to farm, and has often called attention to the good to be derived from them. Such courses, however, should be practical and of such a nature as to be helpful in dealing with crops and live stock, the care of which presents the greatest problems the farmer has to face. With the idea of encouraging a thorough study of subjects dealing with live stock and field crops at the Ontario Agricultural College, "The Farmer's Advocate" is giving an annual scholarship of \$50 in cash to the student who successfully completes his second year at the College and who has shown the greatest proficiency during his first two years in all the subjects taught in the Department of Animal Husbandry and Field Husbandry. "The Farmer's Advocate" is doing this to encourage the study of practical farm subjects so that our college students may be a credit to themselves and to the industry they represent. We are pleased indeed to reproduce on this page a likeness of Douglas Hart, Oxford County, Ontario, who was awarded this scholarship at the close of the spring term this year. Mr. Hart was born in the township of East Zorra, Oxford County in 1896, and attended public and high school from 1902 to 1912, the last four years being spent at the Woodstock Collegiate Institute. On the receipt of his scholarship he wrote us a very nice letter of thanks, the most of which we are passing on to other readers in order that the inspiration which this letter contains may be enjoyed by them also. Mr. Hart says:

"I had always been a fairly close student of practical farming methods and of farm magazines, including 'The Farmer's Advocate', so, as help was scarce at home, I started farming in earnest when I finished High School. Father had always been a good farmer, but long before the end of the first year I found that it was a much more difficult proposition than I had expected. I began to realize how much I did not know about farming. However, I resolved to master it if possible.

Thus, in the winter of 1913-14, I took the first Short Course in agriculture held in Oxford County under the leadership of G. R. Green, Agricultural Representative of the Ontario Department of Agriculture, and his assistant, R. G. Sutton. Mr. Green, whose team of junior farmers won the Provincial Judging Competition last winter, gave me my first practical instruction in

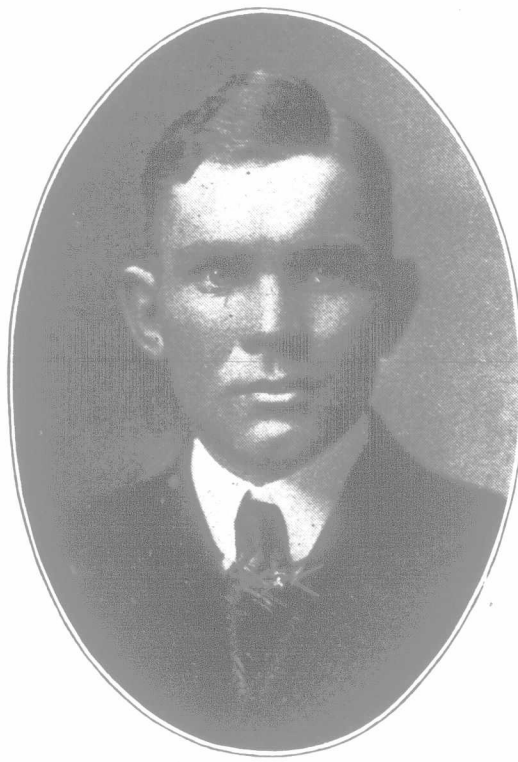
stock judging, and to him is due a great deal of what little success I have had.

"As the result of this Course I was sufficiently interested to enter the Ontario Agricultural College the following year. Owing to the war, my course at the O. A. C. was broken up. I took my first year in 1915-16, and my second year in 1919-20. I would not have missed my course there for many times what it cost me. Theory is excellent when one knows how to apply it.

"At present I am on a dairy farm at home. We have a herd of pure-bred Holsteins and sell sweet cream. In co-operation with the Department of Farm Management at the College I am keeping cost accounts of the farm business this year, and I find that it is not nearly so complicated as it would appear from the outside. Although it requires five or ten minutes' time every evening, it is proving quite interesting.

I have coached the boys of the two nearby school sections in stock judging so that they might send teams to the rural school fairs, and I believe that herein lies a great opportunity. If we can develop a liking for good live stock on the part of the growing generation, we have dealt the scrub bull and his kind a mighty blow. It has been clearly shown by the Department of Farm Management that the labor income of the farmer depends more upon the quality of the live stock he keeps than upon the crops he grows, so that this should prove a potent influence toward increasing the prosperity of Ontario farms."

We sincerely hope that Mr. Hart will continue to maintain and develop a strong interest in the business and scientific side of farming, and that his success in a practical way may be fully commensurate with the intelligence that he is evidently bringing to bear on his farm work. We further hope that farm life will ever hold for him the greatest attractions and that those who are successful in securing "The Farmer's Advocate" Scholarship in future years will also return to the farm, there to put into practice the newer knowledge gained at college.



Douglas Hart.

Winner of "The Farmer's Advocate" annual scholarship of \$50 in cash at the O. A. C., Guelph.

The Warkings o' a Literary Society.

EDITOR "THE FARMER'S ADVOCATE":

In your issues of February 26, "A Young Farmer" undertook to tell o' a literary society that has done guid work. It may be a bit hard to tell just where a' the wark comes in, but I presume that he means at the banquet, an' I hae na' doot that some o' them will wark sae hard that their "tummies" will be bracken doon for the next twa days or mair, but those banquets such as the young farmer was a' speakin' about are a richt, a richt. I ken weel remember bein' at one o' them myself. I hae always been more or less o' a lucky sort o' chap, an' on this particular night I happened ta be selected ta drive one o' the "homie lassies" frae the Community Centre daon ta the place o' meetin', an' say: "I wadna' hae missed it frae a' the world. I dinna' ken which I liked best, the night, or the lassie, or the banquet, but puttin' the three o' them tagether you couldna' beat it. But as I was just a thinkin' is there no some little danger o' some o' the chaps becomin' a wee bit swelled about the heid? I hae no muckle displeasure o' hearin' a chap speakin', providin' he may hae something ta speak about, but mony o' the chaps o' to-day think that their speakin' depends mair on the length o' time they might be able ta haul the floor, rather than the amount o' common sense that might be attached ta it. The smartest mon in a community is usually the mon that is smart an' dae na' ken it, or rather dae na' show it."

The young farmer was sayin' the advancement o' every member o' his society was plainly seen. I am mair glad o' that, but I hae heard o' some members an' presidents who had got themselves sae far advanced as ta be wearin' pairs o' twa colors, but I hope that will never happen in the society the young farmer was speakin'

about. There wull nae doot be an over supply o' young leaders before lang. Every chap is strivin' fer something great, an' when they think they hae attained a' the brains their heids will haul, they dinna' want ta wark—they leave their auld dads ta dae the chores about the farm, and rin awa' ta the city ta become janitor o' a factory, or some ither oot-buildin', an' think they hae reached the top o' the ladder. Nae doot there wull be enough leaders ta control the country that woulдна' be muckle guid for onything else. What we want mair are chaps that understand the methods o' feedin' calves and hogs, an' attendin' ta the needs o' farmin' in general, if we are ta keep oor city folk frae starvin' an' aquarrelin' about the high cost o' livin'. Perhaps some o' us aulder chaps canna' understand the methods o' the new wark, but nae doot the young chaps do, an' before lang we can a' sit doon in an easy chair, press a button, an' oor chores wull a' be done; an' the money wull be returned frae a pipe intae oor laps, an' a' we will hae ta do wull be ta eat an' drink, an' count oor dollars, providin' o' course that the chaps dinna' overluk the fact that we will need a little o' the eatin' material ta gae us strength ta count the vast number o' dollars that will be flowin' frae the pipe. That woulдна' doot be what they call a "Forward movement." Even the meenisters are a closin' a' the sma' kirk in the country an' gaein' mair money ta the big guns in the toons an' cities, an' if I'm na' mistaken, I think they call that a "Forward movement."

I dinna' want onyone ta think that I am tryin' ta rin doon the literary society in general, frae frae that, there are some guid ones nae doot, but I'm sure that none o' us woulдна' get along very fast if at the end o' every year we woulдна' hae a banquet an' eat up a' the profits o' the year. But if you want ta hae a guid time, juist tak' a rin doon some nice bricht nicht an' we'll gang awa' thegither ta the banquet.

Oxford Co.

SANDY MCGRAW.

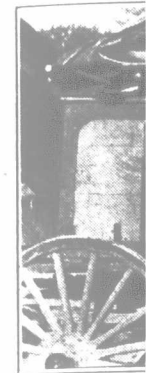
THE DAIRY.

Sunnybrook Farms Holstein Sale.

The dispersion sale of Holsteins held at Sunnybrook Farms, North Toronto, on Wednesday, June 9th, could hardly be said to have come up to expectations, although in many respects it was a fair sale. Breeders, however, did not seem to take into consideration that a long, hard winter with high-priced feed was just past, and the cattle they were bidding on had come through in splendid condition. The sale was well managed, and before five o'clock 51 head catalogued had passed through the rings at an average of \$279.85 throughout, making the grand total of \$14,272. Twenty-eight cows three years old and upward made an average of \$338.47, four two-year-old heifers averaged \$217.50, 12 heifers under two years averaged \$207.91, and 7 young bulls averaged \$224.27. The top price of the sale was \$1,025, paid by Gordon S. Gooderham, Clarkson, Ont., for the 29.12-lb. cow, Sunnybrook Annie Belle. This was a fine type of young cow sired by the 31-lb.-bred sire, Sir Natoye Oakland, and her milk production for the 7 days was 684 lbs. Her highest day during the test being 105 lbs. Several other females reached the 400 mark, and Mercedes Canary Girl, a four-year-old cow, who had completed a 7-day record of 24.96 lbs. of butter and 698 lbs. of milk, sold at \$540, the second highest price for the day. She also went to Mr. Gooderham. The top price in males was \$465, which was paid by E. A. Tobin, of Bramptonville, Que., for the 18 months' bull Sir Hengerveld Segis Lyons, who was from a 21.77-lb. dam and sired by Sir Lyons Hengerveld Segis, the 33-lb.-bred son of King Segis. Although there were several American breeders present, J. C. Reagen, of Tully, N.Y., was the only one who made purchases. A feature of the sale not yet mentioned was 14 calves, all of which were too young to catalogue, which made an average of \$109.28. The catalogued animals going for \$100 and over were as follows:

Patricia Johanna De Kol, David Powrie, Bramptonville, Que.	\$385
Sir Hengerveld Segis Lyons, E. A. Tobin, Bramptonville, Que.	405
Patricia Lyons De Kol, E. F. Osier, Bronte, Ont.	320
Rag Apple Mercedes King, D. N. McCougherty, Streetsville.	125
Victoria Posch De Kol, E. E. Muirhead, Clarkson, Ont.	450
De Kol Segis Inka, R. A. Hamilton, Newmarket, Ont.	225
Inka Segis Faforit, J. C. Reagan, Tully, N. Y.	195
Sunnybrook Annie Belle, Gordon S. Gooderham, Clarkson, Ont.	1025
Segis Sylvia Bell, E. W. Tobin	405
Rag Apple Echo Lad, E. W. Tobin	380
Mercedes Marie Belle, T. A. Dawson, Bronte	375
Netherland Natoye, Messrs. Griffith & Bennet, Scarborough Jct.	330
Princess Netherland Posch, E. W. Tobin	305
Posch Netherland Echo, J. C. Reagan	125
Netherland Fayne Posch, J. C. Reagan	160
Netherland Pontiac Posch, R. P. Morton, Keswick, Ont.	145
Posch Netherland Belle, J. C. Reagan	190
Sylvia Pride Pontiac, Thos. Callaghan, Reaboro	145
Rooker Korndyke Hengerveld, J. C. Reagan	180
Korndyke Sylvia Rooker, C. Norman, Islington	120
De Kol Segis Pride, Jno. C. Brow, Stamford	350
Netherland Segis Hengerveld, E. W. Tobin	190
Ruby Doralice Posch, E. E. Muirhead	400
May Belle W. Lass, E. E. Muirhead	390
Mark Pontiac, W. C. Prouse, Tillsonburg	115
Sara Hengerveld Korndyke, E. W. Tobin	315

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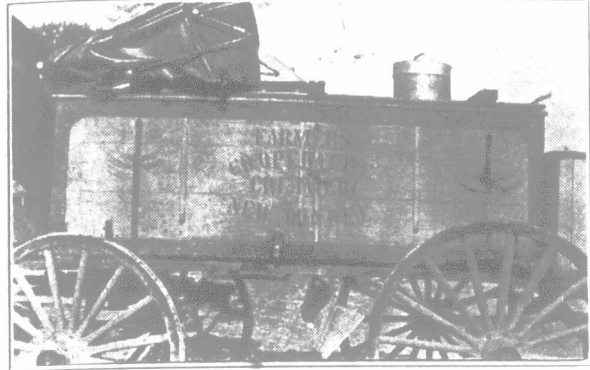
Our

Segis Sylvia Maida, J. C. Reagan ..... \$235  
 Sir Pontiac Inka, J. E. Griffith, Weston ..... 185  
 Sylvia Segis Faforit, E. E. Muirhead ..... 290  
 Inka Sylvia Maida, Gordon S. Gooderham ..... 425  
 Hengerveld Pontiac Korndyke, Eglinton ..... 170  
 Wayne Segis Pride, R. A. Hamilton ..... 325  
 Purity Mercedes Pride, Con. Slavin, Malton ..... 255  
 Purity Pride Segis, E. F. Osler, Bronte ..... 250  
 Segis Hengerveld Wayne, J. C. Reagan ..... 110

Sunnybrook Butter Princess, Jas. Chesney, Norval ..... \$270  
 Prince Pontiac Sylvia, N. I. Bernoth ..... 110  
 Faforit Princess Pontiac, E. W. Tobin ..... 275  
 Coral Natoye Mercedes, C. Blair, Port Credit ..... 300  
 Coral De Kol Mercedes, J. C. Reagan ..... 235  
 Princess Betta of Harlaam, L. H. Parker, Hartley, Que ..... 205  
 Pontiac Harlaam Posch, Chas. Usher, Edgeley ..... 145  
 Harlaam Belle, R. M. Bell, Isrin ..... 315  
 Olga De Kol, E. W. Tobin ..... 245

Olga Mercedes De Kol, Gordon Taylor, Toronto ..... \$187  
 Olga De Kol Mercedes, E. W. Tobin ..... 430  
 Olga Natoye, Jno. Reagan ..... 185  
 Queen Segis Lyons, Chas. Usher ..... 215  
 Hengerveld Olga De Kol, E. F. Osler ..... 300  
 Sunnybrook Pet Canary, T. A. Dawson ..... 400  
 Elington Mercedes, Jos. Todd, Agincourt ..... 135  
 Mercedes Canary Girl, Gordon S. Gooderham ..... 540  
 Mercedes Sylvia Lass, W. R. Cummings, Cumming's Bridge ..... 110

# Finding a Market for Our Milk.



An old-style Cream Gathering Wagon.

### III.—The Butter Market.

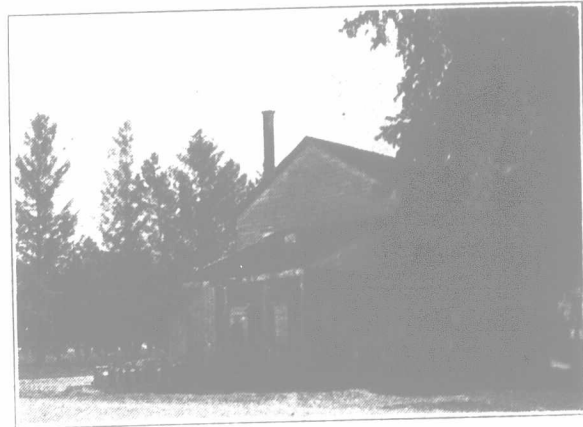
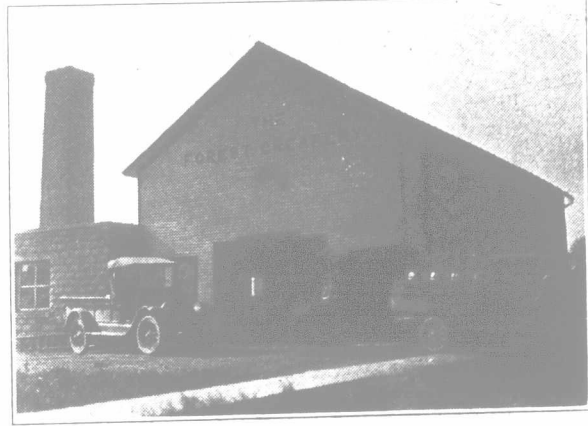
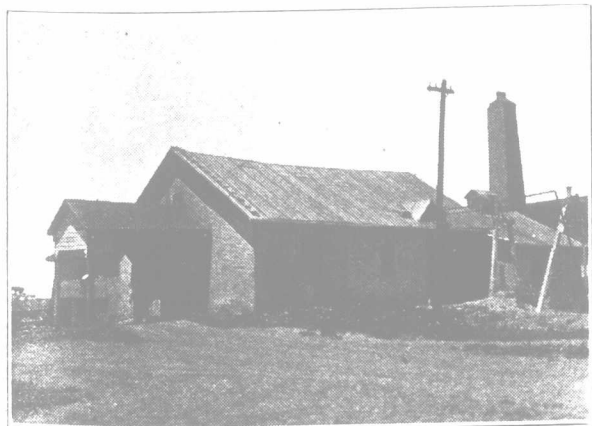
Notwithstanding the fact that cheese-making is so much a part of the Canadian dairy industry, butter-making is of even more importance to the country. In 1919 Canadian dairy production amounted to \$251,526,201, or more than a quarter of a billion dollars. Toward this huge amount 101,554,131 pounds of creamery butter contributed \$55,182,422 in addition to dairy or farm butter, the production of which is estimated at 125,000,000 pounds worth \$56,250,000. Thus, butter production contributed 45 per cent. of our annual dairy production in 1919, even if we include the very large sum of \$72,000,000 estimated as the value of milk produced and used as milk. Cheese production in 1919 was 167,734,982 pounds worth \$44,805,794, or only 80 per cent. of the value of creamery butter alone.

The significance of the cheese industry in Canadian dairying appears in connection with our exports, however, because statistics show that we have exported practically as many dollars' worth of cheese in the last three years as we have in the last thirty years of butter. In fact, our butter exports, except for the year 1919, have not averaged more than \$3,000,000 per year since 1890, while there has never been a year since 1891 when our exports of cheese have not been worth more than \$10,000,000. The year ending March, 1920, was our largest year for butter exports, when we exported 17,612,685 pounds worth \$9,844,359. This compares with 126,395,777 pounds of cheese worth \$36,336,863. The explanation of these figures lies in the difference between the per capita consumption of butter and cheese. In 1919 over 200,000,000 pounds of butter were required for home consumption, and only about 40,000,000 pounds of cheese; or, in other words, Canadians eat about 25 pounds of butter per year as compared with 5 pounds or less of cheese.

Before the war the British people consumed about 11 pounds of cheese as compared with 19 pounds of butter. In 1919 the United Kingdom consumed under food restrictions 396,000,000 pounds of butter as compared with a normal consumption of 469,554,800 pounds in 1914. It is estimated that the United Kingdom in 1919 imported 70 per cent. of the cheese consumed and 42 per cent. of the butter consumed, or an amount of butter 57,000,000 pounds in excess of all the creamery butter produced in Canada. These figures proclaim the size of the British market, and point to the fact that there is abundant opportunity for the expansion of our butter industry.

### OUR BUTTER PRODUCTION INCREASES.

Our butter production is climbing upward and partly at the expense of the cheese industry. The latter has decreased from 194,904,336 pounds in 1917.



Three of the Many Creameries in Western Ontario, they are located at Kerwood, Forest and Warwick.

to 174,878,313 pounds in 1918, and 167,734,982 pounds in 1919, while creamery butter production increased from 82,564,130 pounds in 1916 to 87,526,939 pounds in 1917, 93,298,348 pounds in 1918, and 101,554,131 pounds in 1919. The number of cheese factory patrons has remained about constant (around 65,000) since 1915, but patrons of creameries have increased from 107,905 in 1915 to 150,973 in 1918. Although there were only about 3,700 more patrons of all dairy factories in Canada in 1918 than in 1917 (252,416 as compared with 248,683) the number of creamery patrons rose from 139,032 to 150,973, a gain of 11,941. During this period combined cheese and butter factories lost 7,655 patrons, and it is evident that these were all absorbed by creameries as well as 500 cheese factory patrons and 3,700 new patrons to dairy factories. Condenseries gained 269 patrons. The number of creameries increased from 949 to 990, but combined factories decreased by 73—many of them no doubt turned to butter only. The development of the large centralizer creamery is indicated by the fact that although the number of creamery patrons increased from 1916 to 1918 by 30,106, the number of factories decreased by 3.

As far back as 1880 Canada exported over 18,000,000 pounds of butter worth \$3,058,069. Beginning in 1897 and lasting until 1907, our exports were never under 11,000,000 pounds and averaged about 23,000,000 pounds, the biggest year being 1903 when we exported 34,128,944 pounds or 33 pounds more than all the creamery butter produced in Ontario in 1919. With the increase in our population, however, our butter has been needed at home, with the result that in 1919, for example, New Zealand exported about ten times and



Modern Jacketed Milk or Cream Cans.

Australia fifteen times the amount of butter to the United Kingdom than Canada did. For years practically all the surplus butter of Eastern Canada went to the Western Provinces. Now, however, the three prairie provinces are developing the creamery industry very rapidly, having had in 1918 over 67,000 dairy patrons of whom all but perhaps 5,000 could be counted as creamery patrons. Production for the three prairie provinces in 1918 was 24,080,137 pounds.

As in the case of cheese, Ontario and Quebec lead in butter production by a wide margin, and are responsible for about 70 per cent. of our total production. Quebec in 1918 produced 36,761,057 pounds, while Ontario produced 29,452,422 pounds with an increase to 34,128,911 pounds in 1919. Western Ontario from 1908 to 1918 increased her butter production by more than 17,000,000 pounds, while cheese production de-

creased by more than 15,000,000 pounds. In 1919 Western Ontario produced 24,419,782 pounds of butter as compared with 5,032,640 pounds in Eastern Ontario. This amount of butter in Western Ontario was secured from cream supplied by 46,927 patrons.

### BUTTER, LIVE STOCK AND SOIL FERTILITY.

It will be readily seen from the above figures that butter production is steadily increasing, especially in Ontario and the Prairie Provinces. How to account for this increase, partly at the expense of other branches of the industry, is rather difficult unless one does so on the basis of the very keen demand for butter, and partly on account of the more valuable by-products left on the farm. It is a fact that milk sold from the farm in the form of butter removes less than one per cent. of the fertility value of the whole milk itself, all of which is lost if the whole milk is sold and no by-products secured for feeding. The value of skim-milk for calf feeding is a factor which is of considerable importance in many sections in influencing farmers toward the butter industry. This is especially noticeable for instance in the beef-producing areas of Western Ontario where the creamery is the natural and most popular outlet for the surplus milk produced. In these districts the skim-milk is required largely for calf feeding, and it is here that the creamery has reached its greatest development in Ontario. Whey is not suitable for calf feeding, and where the skim-milk is retained on the farm the fertility of the soil is also maintained with but little loss. Both skim-milk and buttermilk contain practically all of the protein of the milk, while whey is low in this particular. For hog feeding skim-milk is commonly rated as worth twice as much as unskimmed whey, which is about 25 per cent. more valuable than separated or skimmed whey. In addition to the protein, all the valuable fertilizing ingredients of whole milk and practically all the protein, ash, and carbohydrates required for feeding are left in the skim-milk. Farm live stock returns, as manure, an average of about 80 per cent. of the fertilizing constituents of the feed consumed, the dairy cow about 75 per cent. of the nitrogen and 89 per cent. of the ash, while the growing calf returns only about 30 per cent. of the nitrogen and 45 per cent. of the ash. If a farm produces 100,000 pounds of milk yearly from twenty 5,000-pound cows, this milk will include 580 pounds of nitrogen, 190 pounds of phosphoric acid and 170 pounds potash. Where the skim-milk is fed to calves and pigs, 30 per cent. or more of this is returned to the farm as manure and nearly all the rest is retained by the live stock. Comparative figures have been given to show that the loss of fertility per cow per year (not based on present prices) where butter is sold is .59 cents; where cream is sold \$1.11; where cheese is sold \$4.34, and where whole milk is sold \$6.68. Similarly it has been stated that a herd of 18 cows in 30 years would restore \$10,000 worth of fertility to 100 acres of land, and that this herd would not only support the crops grown to feed themselves, but additional fields of 20 acres of corn and 14 acres of wheat where whole milk is sold; 24 acres of corn and 18 acres of wheat where cheese is sold; 33 acres of corn and 23 acres of wheat where cream is sold; and 35 acres of corn and 24 acres of wheat where butter is sold. There is no doubt that where farmers' manure is relied upon chiefly to maintain soil fertility, the butter market has its advantages as a means of disposing of milk. We venture to say further that as improvement in the quality of our live stock takes place skim-milk will be appreciated to a much greater extent as necessary for the proper growth of dairy and beef calves, baby beef and young pigs. It should be noted here, however, that with large herds the amount of skim-milk left in the farm where cream is sold is often so large that it is not used to the best advantage. Observation also shows that the bulk of creamery patrons are those with

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comparatively small herds, and the cream is for the most part a minor source of income. As to the question of soil fertility also it must be admitted that the final effect of cream shipping depends on whether the number of live stock units on the farm is cut down when a change from whole milk to cream shipping is made. If fewer cows are kept when cream is shipped the advantage of keeping the skim-milk at home may be more than neutralized.

#### FARM DAIRY BUTTER.

Figures have already been given to show that more than half (125,000,000 pounds) of the butter produced in Canada is farm or dairy butter. The amount, however, is decreasing, as indicated by the fact that in 1910, according to census figures, the make of dairy butter amounted to 68 per cent. of the total butter production, or 137,110,200 pounds. This reduction in dairy butter is entirely logical and economical, the effect being to do away with much unnecessary labor on the part of the already over-worked farmer's wife and to replace a product entirely lacking in uniformity by one made on a large scale with every equipment necessary for proper control of temperature and method. The creamery is also able to secure economy through uniformity and a knowledge of market conditions and requirements. It is safe to say that hundreds of farmers are actually losing money by going to market each week with fifty pounds or less of dairy butter. The farmer who can spare the time to make butter and deliver it to customers in town or city when a good creamery is available should have no complaint about the scarcity or high price of labor. It is, of course, true that a little extra money is received by making the cream into butter on the farm in addition to the buttermilk, but the extra labor and time lost will in the great majority of cases far outweigh these advantages.

#### DEVELOPMENT OF THE CREAMERY.

Butter has been known for nearly 4,000 years, but it is only within the last 65 years that the creamery has been known in North America. The first creamery in the United States is thought to have been built in 1856, in Orange County, New York State. At first all the butter made was home made. Later the milk of a community was skimmed collectively in the first creameries by the deep setting method. Finally, the cream gathering system developed and farmers skimmed

provinces where the comparatively sparse population makes hauling in the usual way entirely out of the question. What the ultimate significance of these cream buying stations operated by big centralizer creameries will be is hard to estimate now. The problem which time must determine is whether large central manufacturing plants served by many cream buying stations are more economical and conducive to a better product than smaller factories gathering cream from a more restricted area. It seems evident, however, that the present tendency toward larger factories and even several factories controlled by single companies will be sustained unless there should develop a movement toward co-operative creameries or milk distributing plants. At the present time competition among creameries is very keen and, as a result, we may frequently find in a small village three or four cream buying stations in addition to a creamery only a few miles away. This duplication of expense cannot be economical, since all the cream coming into the village could easily be handled by the same man and with practically the same equipment. Cream is now being drawn to Toronto, for instance, from centres near the Border, and in the Counties of Lambton and Middlesex cream within a very small area may be going to as many as six or seven creameries, some of them not within 125 miles of each other. Increasing quantities also, are being drawn across the Border by United States firms. One of the disadvantages of the cream buying station is that the patron is a long way from the factory man and there are many opportunities for dissatisfaction. Moreover, the men who do the testing may not be able to do good work. The fact that some creameries can and do offer several cents more per pound butter-fat than those into whose natural territory they are reaching, while at the same time giving low enough tests to annul the difference in price, is a dangerous and unsettling result of the centralizer as well as evidence of the keenness of competition. This very fact also is a hindrance to the progress of cream grading. One very great advantage of the centralizer and its cream buying station is the fact that it draws a great deal of cream from small shippers many of whom live in sparsely settled or poor dairy districts that could not support a creamery. It is also true that the disadvantage due to unsatisfactory tests (and there is a great deal of dissatisfaction now on this score) can be overcome by legislation, although it is

in order that the uniformity of a product may be maintained throughout storage and in order that the buyer may be assured of a product that will not deteriorate if it must be held for any length of time.

#### CO-OPERATION, OLEOMARGARINE.

In view of the forward steps that are being taken and the increase in production, we believe the creamery patron to be in as solid a position as a contributor to any other branch of the dairy industry. This is indicated by the fact that except for dissatisfaction as regards cream tests, (which is a matter affecting the individual producer and creameryman rather than the industry as a whole and can be remedied very largely by legislation) creamery patrons are not complaining to the same extent as other milk producers, as to the comparative net returns from the milk they produce. The relation of the butter industry to live stock and soil fertility, and the fact that cream, unlike milk, need not be shipped every day, are advantages over and above the matter of price which cannot be gainsaid. In addition to this, from the nature of its place in our diet, people eat butter in increasing rather than decreasing quantities. Oleomargarine, or any other so-called butter substitute, cannot influence the price of creamery butter, which, in spite of our small export, is set by the world's market. This fact, which may at times cause loss to whole milk producers, cannot affect cream producers to the same extent. The fat of milk has more uses than the milk itself and although dairy butter, which is not exported, may be affected by oleomargarine (of which there were 14,000,000 pounds sold in Canada in 1919) the position of first-class creamery butter is sounder than it ever was.

Co-operative creameries have not developed in Ontario nearly to the same extent as cheese factories. In Saskatchewan the creamery industry was caught in its infant stages by the Government and shown the advantages of co-operative effort. A change may yet come in the East, and, in fact, Quebec has already a very large co-operative creamery business, while the United Farmers of Ontario have already taken over one of the largest of Ontario creameries. There are many advantages in co-operation for milk producers, not the least of which is the fact that if one market proves unsatisfactory, the plant belongs to the patrons and can be turned to some other use so as to provide a more



For Proper Fruit Development These Trees Should Have More Room.



The Frame of the Tree Must be Strong to Bear the Weight of a Good Crop

the cream themselves. In the early 90's, however, after the discovery of the centrifugal separator in 1872, many creameries installed power separators and the whole milk creameries again developed. Only a few years afterwards the separator was made practical for farm use, with the result that farm skimming again came to the fore where it is destined to remain. The coming of the farm separator thus revolutionized the butter industry, and it is now possible to ship the butter-fat from a large number of cows for very long distances before it is made into butter at the creamery. There were in 1919 in Ontario 177 creameries in operation, the great majority of them comparatively small and drawing cream supplies from a radius readily reached by wagon or motor truck. The average butter production per factory is about 200,000 pounds, with many producing only about 100,000 pounds, and some half dozen making about 1,000,000 pounds yearly. No large creameries have developed as yet in Canada such as are in existence in the United States, where as much as 12,000,000 pounds may be made in one factory. It is obvious that a creamery making 1,000,000 pounds per year cannot draw all its raw material from a small area and by wagon or truck. The cream is rather drawn from a very large area and large quantities are shipped in by rail to the centres of manufacture.

#### THE CREAM BUYING STATION.

The development of these large creamery businesses has brought into the dairy industry the cream buying station, similar in intent to the old skimming station of the whole milk creamery. These cream buying stations are established for the receiving and testing of cream and are the result of recent growth during a very few years. In Western Ontario there are in the neighborhood of 250 such stations, but perhaps their most extensive development is to be found in the prairie

equally true that humanity cannot be legislated into honesty.

#### GRADING AND PASTEURIZATION.

For the last three years butter grading has been a live subject in Ontario. The prairie provinces, newer in the business and with an easily handled output, have been grading for some time and have even passed compulsory grading laws. Our problem was much more difficult by reason of our larger volume, and the large number of factories. Then, too, the demand for butter has been so keen that the produce merchants would not trust each other to buy on grade, with the result that none did so. Much argument for a good cause has finally prevailed, however, and although some official grading has been done for the last two years by the Ontario Department of Agriculture, it has been much more widely taken up by the creameries this year under the stimulus of a differential of one cent per pound in favor of graded and pasteurized butter. We feel confident that this will prove a very forward step and one that requires to be seconded at the earliest possible date by the introduction of cream grading. Just as butter grading was a matter between produce men, so cream grading is a matter between creamery men, who must be confident that their competitors will not buy cream except on grade, before the system can be adopted. Co-operative creameries could more easily adopt cream grading, but failing this, competition must first become less keen.

The demand for pasteurized butter is an important factor in developing the large creamery. Many of the smaller creameries feel that they cannot afford to spend \$1,000 each for one or more pasteurizing vats. The larger companies can afford this equipment and all other necessary improvements with the result that the smaller factories are handicapped. Pasteurization is necessary

profitable outlet for the milk or cream received. Co-operative management of cream buying stations seems the only way out of the present state of affairs and a move in this direction would undoubtedly put the affairs of the patron in a more secure condition.

## HORTICULTURE.

### Peach Pruning, Soil Fertility and Distance of Planting.

The commercial production of peaches on a profitable basis is an accomplishment requiring the most careful study of all the problems of orchard management. Pruning is a very important peach orchard problem, and heretofore has been very severe in the case of bearing orchards. Because the growth of the peach tree is very rapid, the question of soil fertility also assumes much importance, and there is an inter-relation between these two problems and the distance of planting. Discussing this matter some time ago with E. F. Palmer, Director of the Horticultural Experiment Station, Vineland, a representative of "The Farmer's Advocate" was informed that a very comprehensive experiment is planned at the Experiment Station to specifically study these three problems in connection with peach culture. The object of this experiment, as explained by Mr. Palmer, is to be as follows and he also comments at some length on the practices of peach growers in the light of some of the things that are known in regard to the growth of trees and fruit production.

"The general purpose of our peach experiment is to study methods of pruning the peach as affected by different distances of planting and varying degrees of soil fertility; to determine the soil fertility and severity of

dormant pruning is reached which is same time produce healthy tree, well s in orchard management of profitable To determine, for pruning and distar maximum crop in the tree. (In able bearing, freed in addition to such crops.)

"The need of a experiment along Ontario growers, w method of pruning feeling amongst ex ers also through general should re until bearing age i heretofore. It has several Experiment at the Woburn Ex for apples heavy pr development of wo

"The correlated and soil fertility h consideration in th matter of fact they cance in the prunin peach, with its r bearing habit. Th with it the necessi ample supply of has been accomplish and heading back. this same result by allowing them to at growth through mo coupled with proper

"Since light pru of a greater tree de the necessity of Pruning, particular as already pointe whether of peach or heavy pruning to Bearing is then ser greater number of whether such an or fruit as the more wi bearing, larger, stro greater longevity. served that heavily p ible to diseases, par planting would also time and of easier s It has also been frequ accident, trees have distance, such trees t up so high in the ai being borne within sunlight and a free planting would aid disease.

"An excess of soil As long as there is will be delayed; for duction are diamet aged at the exper of growth in a too tend to fruitfulness accomplished by int soil of some of its fe grow without check trees themselves fertility. It is poss a tree may be produ the fruit so far from easy breaking. Ma annually set on old manured soils. Wha orchards receive?"

"It will be seen of pruning must b planting and fertilit interdependent and of pruning is known i pruning problems stil Also the value of ex in its practical de California might ca this and arrive at the the results were give be infinitely slower to had been secured in t also see the orchard i

"Data from the e be available at the er pruning and soil ferti orchard. From that accumulation of dat of pruning to follow f years it is estimated will pass out of p normally complete th be advisable to retair mine their limit of pr

"The results an than that now recor hasten bearing and stronger tree, better younger. Also that th the usual rank grow

dormant pruning from planting time until bearing age is reached which will induce early bearing and at the same time produce a vigorous, mechanically strong, healthy tree, well shaped for convenience and economy in orchard management, capable of producing a succession of profitable crops over a long period of years. To determine, for the bearing orchard the method of pruning and distance of planting conducive to annual maximum crops of number one fruit, and longevity in the tree. (In determining longevity, length of profitable bearing, freedom from disease, etc., to be considered in addition to such data as weight and quality of annual crops.)

"The need of an extensive and carefully conducted experiment along the lines indicated is keenly felt by Ontario growers, who agree to disagree as to the proper method of pruning the peach. There is a growing feeling amongst experimental horticulturists, and growers also throughout America, that orchard trees in general should receive considerably lighter pruning until bearing age is reached than has been advocated heretofore. It has been proven at this Station, at several Experiment Stations in the U. S. and particularly at the Woburn Experiment Station in England, that, for apples heavy pruning not only retards the tree in its development of wood, but also greatly delays bearing.

"The correlated problems of distance of planting and soil fertility have not, however, been taken into consideration in the apple pruning experiments. As a matter of fact they probably have not the same significance in the pruning of the apple as they have with the peach, with its ranker growth and totally different bearing habit. The bearing habit of the peach carries with it the necessity of providing for a continuous and ample supply of new wood. Heretofore this object has been accomplished by severe annual thinning out and heading back. May it not be possible to accomplish this same result by giving the trees more room, and allowing them to attain a greater size; stimulating new growth through moderate pruning (thinning out mostly) coupled with proper soil fertilization?

"Since light pruning while the tree is young allows of a greater tree development, this in turn presupposes the necessity of a greater distance of planting. Pruning, particularly heavy pruning, delays fruiting as already pointed out. Closely planted orchards, whether of peach or other fruits, require comparatively heavy pruning to prevent the trees from crowding. Bearing is then seriously delayed and in spite of the greater number of trees to the acre it is questionable whether such an orchard will produce as big a bulk of fruit as the more widely planted orchard with its earlier bearing, larger, stronger, healthier trees, and possible greater longevity. Healthier, because it has been observed that heavily pruned peach trees are more susceptible to diseases, particularly the peach canker. Wider planting would also permit of inter-cropping for a longer time and of easier subsequent culture including picking. It has also been frequently observed that where, through accident, trees have been allowed more than the usual distance, such trees tend to spread out instead of growing up so high in the air, a greater proportion of the fruit being borne within easy reach of the ground. More sunlight and a freer circulation of air with the wider planting would aid materially in the control of fungus disease.

"An excess of soil fertility promotes excessive growth. As long as there is rapid growth of the tree, fruiting will be delayed; for vegetative growth and fruit production are diametrically opposed. One is encouraged at the expense of the other. A slowing up of growth in a too vigorously growing young tree will tend to fruitfulness. This slowing up can be best accomplished by inter-cropping and thus depleting the soil of some of its fertility, or by allowing the trees to grow without checking by pruning, thus making the trees themselves establish a more moderate soil fertility. It is possible, however, that too unwieldy a tree may be produced in this way, with too much of the fruit so far from the centre of the tree as to induce easy breaking. Many young peach orchards are annually set on old strawberry land and other heavily manured soils. What pruning treatment should such orchards receive?

"It will be seen from the foregoing then that type of pruning must be studied in relation to distance of planting and fertility of the soil. The problems are interdependent and while the effect of varying degrees of pruning is known in a general way, yet there are many pruning problems still to be worked out with the peach. Also the value of experimental work lies a great deal in its practical demonstration. Seeing is believing. California might carry on an experiment similar to this and arrive at the same conclusions; and yet, though the results were given to Ontario growers, they would be infinitely slower to profit by these results than if they had been secured in their own province where they could also see the orchard if desired.

"Data from the experiment we have planned should be available at the end of five years as to the degree of pruning and soil fertility best suited to the young peach orchard. From that time on there should be a constant accumulation of data with respect to the best system of pruning to follow for the bearing orchard. At twenty years it is estimated that the closely planted orchard will pass out of profitable existence. This should normally complete the experiment though it will likely be advisable to retain the widely planted trees to determine their limit of profitable bearing.

"The results anticipated are that lighter pruning than that now recommended for the young trees will hasten bearing and at the same time give a larger, stronger tree, better able to carry large crops in later years. Also that the heavily manured trees will give the usual rank growth found in so many young peach

orchards, and which is usually heavily cut back to keep it within bounds thus greatly delaying fruiting; or if it is not cut back the trees soon crowd and the fruiting area is at the end of long bare scaffold branches which easily break when loaded. For rich ground it is therefore anticipated that a greater distance of planting will be found advisable. It is further anticipated that widely planted, moderately pruned trees will be longer lived than where either no pruning or heavy pruning is practiced."

## POULTRY.

### Poultry and Profit.

EDITOR "THE FARMER'S ADVOCATE":

Many persons have started with expectant hopes to keep poultry for profit, and, after some time spent in financing the incidental expenses, have given up the venture, blaming the birds for their failure. Poultry will, however, yield a nice sum if handled intelligently; and given a little time, capital, and thought, any person can make a success of it. The farmer who can raise on his farm all of the grain and roots needed for food, of course, has an advantage over persons who must purchase the wherewithall for the sustenance of the flock, but even considering the present high cost of supplies, intelligent co-operation of the poultry keeper with his birds will surely bring a profit. The way to success is to make every pound of feed tell in eggs or flesh. To do this, a vigorous culling of the flock is required, as well as good housing and care, business methods in buying the feed, and in selling the product. By culling the flock is meant getting rid of non-producers. No person on earth would think of keeping in their employ a person who will not work. And yet the poultryman will hang on to hens that will not, "deliver the goods," and then blame the hens because there is no money in them. It is not the useless hen's fault that she is kept to eat up the profit.

Now, when brooding time is at hand, is the right time to begin to keep poultry for profit. From the chicks raised during the present season, will be drawn the members of next winter's flock. And right now many can be culled, whose absence will make the funds grow larger. Keep for laying only those that will be likely to lay winter eggs or produce good, strong germ eggs for hatching in the spring. This means that in the heavier breeds, hens over two years old should be sold or eaten and only the best of the one-year-olds kept. Keep none of the late hatched pullets of last season. Early hatched, last season's, well matured pullets should be carefully selected, doing away with any that may lack vigor or constitution.

Pullets, to be egg producers for winter, should be April hatched. If well fed and cared for, these will begin to produce eggs in November, and keep it up throughout the winter months, giving perhaps three times the number of eggs that old hens can produce over a given length of time, on the same amount of feed. Any pullet that has not come to maturity by November, is likely to be a loss to the poultry keeper. Such pullets will probably not give eggs until February thus eating up the profit. Feed all such birds with the cockerels and fatten them well (because thin fowl do not bring good prices) and market them as soon as possible. Do not keep old hens. If any have been mistakenly carried over winter, get rid of them now.

In selecting the one-year-olds to keep for breeding, pick out those that moulted late last fall. Those that are in full, new feather in November are not the layers. Keep the poultry houses clean, and give a coat of white-wash as often as possible to obliterate vermin. Stop all cracks to do away with drafts and have all openings to the south. Allow the birds to get plenty of fresh air and sunshine. Do not allow dogs to prowls about the runs and excite the fowls. Every time the hens get frightened, egg production lessens; thus it means a loss of money. Use judgment in selecting feed, and give what the birds will eat clean and no more. Feed a mixture of grains in the litter morning and night. In the mash, dry or moist, use bran, shorts and ground oats. If you have sour milk, give it to the hens to drink, and failing this, use beef scrap. Some farmers say there are no beef scraps available, but the local butchers will be glad to sell the lights and other portions of animals now being wasted. This, boiled with a little salt, can be given to the hens. It is not necessary to waste time cutting this sort of meat up. Place a piece of it in a clean trough and the hens will soon do the rest. Keep all utensils used in feeding as clean as possible; give plenty of shell and grit; and do not allow the hens out of doors in wet weather. If kept under the above conditions, profit will surely accrue from the flock.

With newly hatched chicks, some persons feed them too soon and nothing is more sure to kill them. The baby chick brings with it out of the shell, nutriment for the first two or three days, consisting of the yolk of the egg from which it hatched, which has developed its tiny intestines. The first feed for chickens, can be bread crumbs moistened slightly with a little warm, sweet milk, or some coarse flaked, dry rolled oats, giving plenty of pure water, and some clean sand. Usually, unless the weather is warm, chicks should be kept indoors for a fortnight, placing upon the floor of the house a few sods, so that they can scratch. Scalded corn meal, formed into balls, to keep warm, as they peck it, may be given them. Do not give sour milk or buttermilk until the chicks are at least ten days old. Keep them indoors until the ground is warm each morning, and also in wet, or windy weather. All this of course, is trouble, but if no chicks die, it is worth something to the poultry keeper.

### DUCKS AND GEES.

Success can be gotten with other birds than hens. Ducks and geese pay well with less care. Any person having a swamp or running stream, or any sort of water way available would find geese and ducks to pay well. These birds will forage for themselves, only needing a little feed at evening to coax them home.

Neither ducks nor geese can be successfully hatched artificially, the parent bird, or a hen being used as a hatching medium. The birds get for themselves frogs, minnows, bugs, worms and grass, and the evening meal may consist of whatever is convenient. The geese are raised for their flesh and feathers, their egg product being only enough to hatch. But the ducks are kept for feathers, flesh and egg supply as well, producing eggs from March until late in the autumn. Ducklings take three weeks and three days to hatch, while goslings break their way into the world in from thirty to thirty four days.

Any sort of house will do as winter quarters for ducks and geese, if it has a dry, well-littered floor and some way of getting sunlight. Sometimes a part of the south side is left open and a cloth covered frame arranged to close the opening in windy or stormy weather. As a rule the males and females in a flock of geese select their mates before the breeding season, and remain with those selected until late summer. For that reason allow the birds of both sexes to run together, choosing their mates naturally. The young ducks and goslings may be fed as the chickens are, but require some vegetable mash such as potatoes boiled and pounded. And in early morning keep them shut in until the sun has dried the grass. Also on wet days until their first feathers are grown. In the winter it is necessary to feed ducks and geese, because the frost has cut off their natural supplies. In the early fall, select the best of your stock to keep for breeding, fattening all the rest for the market. The birds fatten more quickly if not allowed too great a supply of drinking water, or moistened feed. They should have plenty of mash made of boiled potatoes and corn meal, and an extra ration of grain. Rouen, or Indian Runner ducks are the best varieties. In geese, the Toulouse, Gray, and the Embden pure white are the most popular. It is not perhaps generally known that sugar beets, given in a raw state to poultry, will fatten them as well as anything obtainable. Sugar beets are easily grown, and containing about 6 per cent. sugar, are very nourishing and the birds are fond of them.

Halifax Co., N. S.

MARGARET McLAREN.

## FARM BULLETIN.

### Apple Prospects Good in Nova Scotia.

A decidedly optimistic feeling prevails in the Annapolis Valley, Nova Scotia, in regard to the prospects for an apple crop in 1920. A representative of "The Farmer's Advocate" has just completed a survey of the Valley where one and a half million barrels of apples were produced last year and, where almost as many more will have to be handled this coming fall if the bloom and early set are good indication. As this is being written, June 14, the last of the bloom is falling in most districts and the embryo fruit is beginning to show on the earlier varieties. It is still too early to arrive at definite conclusions or make any strong predictions, but the growers are watching the trees carefully with a pleased expression in their eyes. In the majority of cases the centre flower in each cluster has left a young apple and in a great many instances there are two or three promises in each group. Most growers are satisfied with a one-spur set for the fruit is larger, more uniform, better colored, and the chances are in favor of it being cleaner than where two or three are huddled together on the same stand.

June 6 would have been "Bloom Sunday" in the Valley had it been fine weather, but the much-needed rain which fell then disappointed thousands of Nova Scotians who motor from as far as Halifax on the East and Yarmouth on the West to see one of the most beautiful sights in the world, namely, the Annapolis Valley in bloom. Many set out on June 13, but turned back sadly disappointed when they learned that the gorgeous display and beautiful perfume of apple blossom time were past for another year. There are, in the counties of Annapolis, Kings and Hants approximately 30,300 acres of orchards and a great part of this is compassed on two sides by the North and South Mountains which are only about five miles apart. Many roads through the Valley are lined on both sides by orchards and when the petals unfold early in June there is a sight and a fragrance that cannot be surpassed anywhere in the world.

The amount of bloom this spring hardly equalled that of 1919. S. B. Chute, the unchallenged "Apple King" of the Valley, predicted 75 per cent. of last year's crop, which was one and a half million barrels. Mr. Chute guarded his statement by the remark that he was judging largely by what he had observed in the Western end of the district. A. E. McMahon, Manager of the United Fruit Companies, prophesied a crop equal to that of last year, while Prof. Blair, Superintendent of the Experimental Farm at Kentville, thought there would be just an average crop, judging by the bloom.

Geo. Sanders, in charge of the Dominion Entomological Laboratory at Annapolis Royal, was enthusiastic over the outlook but thought the possible set might be reduced by the scarcity of bees to fertilize the bloom.

Many grovers, speaking for their own localities

only, considered the bloom about equal to that of last year but the majority, perhaps, were of the opinion that it was not quite so generous. There is, however, a very considerable acreage of young orchards coming into bearing and it is always difficult to predict what they will yield. When they bear at all they usually surpass expectations. The Annapolis Valley will not likely exceed 1½ million barrels this year and probably the more conservative estimates may correspond closely with the actual records this coming fall. Fond hopes are often crushed by a heavy June drop and up to the present there is only the promise of a set upon which to build.

#### PRICES PROBLEMATICAL.

A big crop may be a liability rather than an asset if the price is not right, and the growers are watching for market prospects with an eagerness that almost equals their interest in the crop itself. A. E. McMahon would not hazard an opinion regarding prices and remarked only that they are "problematical." S. B. Chute said: "The prospects in regard to prices are good. The British crop is only 25 per cent. of last year, and New York State is fair." Mr. Chute further remarked that growers should receive \$5 for ones and twos when oranges are selling for \$12 to \$15 per box. However, he did not say that the growers would get it. Buyers are already busy trying to get the option, at least, on good orchards and this is not a bad omen. A. K. Clark, one of the oldest and most extensive growers has actually sold his prospective crop for \$2, tree-run, clear of the barrel.

In spite of the large crop last year apple growers in the Annapolis Valley did not realize large revenues from their orchards. Those who sold early fared best. An almost prohibitive freight rate, unfavorable exchange on British cheques, a crop that was not clean, and a severe frost on October 20 were four factors which combined to terribly reduce the income in 1919 from one of the largest crops ever produced in the Valley. A frost, the severity of which was unprecedented at that season of the year, occurred on October 20 and it caught, perhaps, 20 per cent. of the crop. Much of the fruit showed no injury until discharged on the other side where it gave the Nova Scotia apple a bad name. It is also claimed that much of the crop was frosted during the Ocean Voyage. These and other circumstances combined to make the 1919 season unfavorable for many who are now looking for an opportunity to recoup.

#### THE BARREL PROBLEM.

It is easy to understand how such a demand for containers would create a barrel problem. It was acute last year and many paid as high as one dollar for barrels. The writer saw 200 barrels sold for 75 cents each on June 8, and it is altogether likely that that will be the minimum price this year. Coopers are not selling where they have storage facilities and are not in immediate need of capital. They are waiting for someone to pay \$1.00 per barrel, and established a precedent on which to work. The Manager of the United Fruit Companies stated to the writer that there was sufficient stock (staves and heading) sawn to make two million barrels. A good many are getting their own stock as a sort of protection and

will not allow the price to go above 75 cents if they can help it. The adoption of the Standard Barrel has caused and is causing some confusion in Nova Scotia. The inspection was not rigid last year because of the great rush to get containers of any kind for the apples but a more strict inspection is promised for 1920.

#### SPRAYING AND DUSTING.

The evaporators paid \$2 per barrel last year for apples and many who attempted to sell otherwise did not receive any more. On this account not a few have boasted that they can make as much out of a crop by not spraying and selling holus-bolus to the evaporators as by caring for their orchards. However, the great majority realize that such a market for indifferent fruit is too good to last and that clean fruit is the only kind that will pay over a term of years; consequently they are going about the work of destroying fungus and insects in earnest. Three times as much spraying material has come into the Valley as was used last year and it will all be used unless the weather remains ideal as it has been up to the time of writing. Lime-sulphur is still used by a very few and we can almost say that temporarily at least, lime sulphur has been relegated to the past. Bordeaux mixture, in a modified form, has again come into favor. The more extensive growers are now dusting instead of spraying. In one hour as much orchard can be dusted as could be sprayed in a whole day and the efficiency of the method is not questioned by many. It is conceded that C. M. Ruscoe of Centreville, had the cleanest orchard in the Valley last year, and it was dusted; other orchards which rivaled this one in the quality of fruit were also dusted and there is a steady swing over to the newer method. About 50 dusters were in use last year, but three or four times as many have been in use this spring. Unless something unforeseen occurs to condemn the duster its purchase and use by the majority of growers will be restricted only by the difficulty of getting delivery. Both Bordeaux and sulphur dust are used in the proportion of almost 3 to 1, respectively. Further information will be given regarding spraying and dusting in a later issue and suffice it to say here that growers in the Annapolis Valley are making rapid strides in the matter of insecticides and fungicides, as well as in the manner of applying them. The immense areas to be covered and the very considerable cost of material and equipment has forced the growers to give the spraying question serious consideration.

#### A BOOM PERIOD.

The writer has enjoyed an intimate acquaintance with the apple growing industry in the Valley for more than twenty-five years, and never in this period, which has seen several ups and downs, has the growers' confidence in the business as a specialized enterprise been more marked than now. Optimism prevails among those who give apple growing 75 per cent. of their attention and a noticeable boom is drawing a good many new men to the district to try their fortune at the game. There have been years when, in the minds of some, the industry was doomed. Then would follow more prosperous years of good prices and plenty. The sun is now shining and only the difficulty of getting suitable help

prevents a great many from giving tangible evidence of their confidence in the future by setting more trees and extending their plantations. The growers are wisely looking after what they now have and attempting to bring a good many neglected young orchards into better condition. Bearing orchards are being fed systematically and quite generously by not a few growers, and it is only reasonable to expect that better cultural methods will increase the number of fat years and reduce the number of lean ones. Then there is that great problem of markets. If Nova Scotia could be assured a steady, remunerative market it would be a matter of only a few years before the "Province down by the sea" would be in a position to offer three million barrels of apples.

#### Changes in O. A. C. Curriculum.

Announcement was made last week by the Hon. Manning W. Doherty, Minister of Agriculture in Ontario, that certain changes in the courses and terms of admission to the Ontario Agricultural College have been made and will take effect at the opening of the College in September. According to the new proposal, any candidate for admission to the College may enter the two-year course in agriculture, provided he is at least eighteen years of age and has had one year of farm experience. Applicants for entrance to the B.S.A. degree course must be eighteen years of age, must have had one year of farm experience, and must have passed the examination for Junior University Matriculation. It is provided, however, that experienced farmers who are twenty years of age or over, and who lack not more than one year's study in order to attain Matriculation standing, may commence the four-year course on the condition that they complete their matriculation before entering the third year. The following is part of the statement authorized by the Minister of Agriculture in connection with the contemplated change:

"An agricultural college is expected to satisfy two distinct demands:

"1. To train and educate men who intend to make farming their occupation.

"2. To train and educate men who will become professional agriculturists, that is teachers, investigators, agricultural representatives, journalists, administrators in agricultural departments. Up to the present the Ontario Agricultural College, as well as some other agricultural colleges in Canada, has tried to combine these two aims. The course for those intending to farm has covered two years. To the end of this two years' course, the course for technical and professional agriculturists has been the same as for those intending to farm. For professional agriculturists, two years are added, making a four-year course leading to the degree of B.S.A.

"These two aims are so different that the attempt to combine them in the same course has lessened the value of the course for either purpose. It is now proposed to recognize this difference of aim, and to establish two entirely distinct courses in agriculture. About twenty-five per cent. of those who enter the Ontario Agricultural College continue for the four-year course.



An Orchard Scene Just West of Lakeville in the Annapolis Valley.

Ray Clark's orchard is in the immediate foreground, with Joseph Kinsman's on the left. Many practicing orchards are included in this photograph.

A small proportion of farmers, but the professional agriculturists, by attempting to have a very different

"The separation made long ago with considerable entering the College whether they would years. It was, then, given time to make and the course led for the first two had made the choice for them by the of the College has siders, it is best students embark

"There is another to be made upon College from farm collegiate institutions in Mathematics, desirable for a A farmer can use natural science to extended course in have been attained accounts and transcripts mathematics beyond course. A commendable for any sary to take an and literature in advanced work beyond the public who intend to pro

"Accordingly, decided that high whereas for the two will be exacted. farming and a de teaching which th ditions of admissi It is important at of practical training horses and implem and many other fa agricultural college actual work called one student amo small. When a yo applies at the Agr ing," which for hi work of the farm, some good farm. time to go to the to teach him after perience, so much

#### Soil-Fer

The second annual Canadian Fertilizer Conference at the Ontario Agricultural College, Thursday and Friday, was held. The conference was held on the subjects connected with fertilizers and manure. The conference was held at the convention, a delegates by the Ministry of Agriculture, and the conference was held at the Ontario Agricultural College. The conference was held on the subject of soil fertility. Mr. Bell stated that the soil through crop loss in 1919 the loss of nitrogen was seven and a half per cent. actual weight, while in 1918 it was sixteen and three per cent. four trains of one per cent. equivalent to 9,800 lbs. acid and potash were lost by the necessities of the soil can be replaced by fertilizers. In countries where theories are not so ancient times as so the limiting factor is the appetite of crops, guidance in the use of soil requirements. Legumes, the special fertility of the soil place to add fertilizer and corn, rather than clover and timothy. The amount applied to wood, Physics Department and its relation to soils needing drainage, moisture available for action, more porous plant food, greater of air, a greater availability of plant food to explain that the soils, but that it is structure or arrangement



A small proportion of this twenty-five per cent. become farmers, but the most of them become technical or professional agriculturists. It is quite apparent that the course intended for farmers should not be weakened by attempting to combine it with another course which has a very different purpose.

"The separation of the courses would have been made long ago but for this reason. It was claimed, with considerable truth, that most students when entering the College for the first time could not decide whether they would spend one year, two years or four years. It was, therefore, necessary, if they were to be given time to make a choice, that the course for farmers and the course leading to the degree should be identical for the first two years. By the end of that time they had made the choice, or the matter had been decided for them by their class standing. The teaching staff of the College has now concluded that, everything considered, it is best that the choice be made before the students embark upon the courses.

"There is another factor which will enable the choice to be made upon entering. Many boys come to the College from farms without much, if any, high school or collegiate institute education. An advanced education in Mathematics, English and Natural Science, while desirable for a farmer, is not absolutely necessary. A farmer can understand and apply the results of natural science to the work of production without an extended course in the methods whereby those results have been attained. He can keep the necessary farm accounts and transact the business of the farm without mathematics beyond a good elementary public school course. A command of good, pure English is highly desirable for any Canadian citizen, but it is not necessary to take an extended course in English grammar and literature in order to be a good farmer. But advanced work in these subjects, that is, advanced beyond the public school grades, is necessary for those who intend to proceed to a degree in agriculture.

"Accordingly, for the degree work it has been decided that high school matriculation shall be required, whereas for the two-year course no educational standard will be exacted. Some practical acquaintance with farming and a desire to profit by the best practical teaching which the College can give are the only conditions of admission required for the two-year course. It is important at this juncture to insist that the amount of practical training, that is, actual work in handling horses and implements, handling and feeding live stock, and many other farm operations that can be given at an agricultural college, is strictly limited. The amount of actual work called farming that can be required of any one student among seven hundred students is very small. When a young man without farming experience applies at the Agricultural College to be taught "farming," which for him certainly means to learn to do the work of the farm, he is generally advised to work on some good farm. If, in addition, he can afford the time to go to the College to learn what the College has to teach him after he has gained the actual farm experience, so much the better."

**Soil-Fertility Conference.**

The second annual Soil-Fertility Conference of the Canadian Fertilizer Association was successfully held at the Ontario Agricultural College, Guelph, on Wednesday, Thursday and Friday, June 16, 17 and 18. The conference was very well attended and a full range of subjects connected with the manufacture and use of fertilizers and manures were discussed. Several prominent authorities on the subject of fertilizers addressed the convention, and a welcome was extended to the delegates by the Hon. Manning W. Doherty, Minister of Agriculture, and by the President of the O. A. C. The conference was in charge of Henry G. Bell, Director of the Soil and Crop Improvement Bureau of the Canadian Fertilizer Association, who addressed the convention on the subject of "Fertilizer Theories and Practices." Mr. Bell stated that the drainage of plant food from the soil through cropping alone is very considerable. In 1919 the loss of nitrogen in Ontario amounted to forty-seven and a half trains of one hundred cars each by actual weight, while the loss of phosphoric acid amounted to sixteen and three-quarter trains, and potash thirty-four trains of one hundred cars each. Thus an amount equivalent to 9,825 carloads of nitrogen, phosphoric acid and potash were removed from Ontario soil in 1919 by the necessities of crop production. This plant food can be replaced by the use of manures, legumes or fertilizers. In connection with the latter, modern theories are not so much improved over those held in ancient times as some might think. Mr. Bell discussed the limiting factor theory, and the theory of the dominant appetite of crops, and concluded that the best plan for guidance in the use of fertilizers is a combination of the soil requirements and the special needs of the crops. Legumes, the speaker thought, were not sufficient if the fertility of the soil was to be kept up. He thought the place to add fertilizers was to the money crops, wheat and corn, rather than to the remainder of the rotation. The clover and timothy could benefit from the excess amount applied to the cash crops. Professor Blackwood, Physics Department, O. A. C., discussed drainage and its relation to crop production, pointing out that soils needing drainage could be given a greater amount of moisture available for the use of the plant, freer capillary action, more pore space, greater warmth, more available plant food, greater bacterial action, a freer circulation of air, a greater available supply of plant food, and less loss of plant food. Professor Blackwood was careful to explain that the drainage cannot affect the texture of soils, but that it exerts a beneficial effect upon the structure or arrangement of the soil. Dr. C. A. Zavitz

discussed the co-operative fertilizer experiments conducted by the Ontario Agricultural and Experimental Union, and pointed out that this year each experiment will consist of four crops, one to be unfertilized, a second with a low-grade fertilizer (1-8-1), a third with a higher grade fertilizer (3-8-3), and a fourth with farmyard manure. Oats or spring wheat, seeded to red clover or sweet clover, will be used to test out on these fertilizer plots, and the experiment will be conducted for at least two years. Eighteen experimenters are using these fertilizers on spring wheat, and thirty-seven are using them on oats. Professor Wade Toole briefly outlined the work that is being done on the College farm, but said that as yet no artificial fertilizers have been used. From seventy to seventy-five acres of land are manured per year, of the five hundred acres comprising the farm. A four-year rotation is followed as closely as possible, for the reason that one hundred and forty to one hundred and fifty acres of hay are needed yearly, and some of the land must be left two years to grass. The speaker gave it as his opinion that the good live stock farmer is the most progressive man and the best prospect for fertilizer sales. On the College farm they try to grow all the roughage that is needed, and the acreage of corn has been increased this year to fifty-seven acres, as compared with forty-five acres grown last year, in order to provide for plenty of summer silage. One hundred and twenty-five head of cattle, representing six breeds, are kept on the College farm, in addition to one hundred head of Shropshire and Leicester sheep, breeding herds of Yorkshire, Berkshire and Tamworth swine, fourteen Clydesdale and Percheron work horses, and representatives of several more breeds of the different kinds of live stock kept for class-room purposes.

**"Luxury" Tax Changes and Exemptions From "Sales" Tax.**

On June 15 the following changes passed the House of Commons with respect to the Luxury Tax proposed by the Minister of Finance in his Budget speech of May 18.

The tax of 10 per cent. now applies on men's hats over \$7 each. Formerly hats were taxed over \$5.

Underwear (except silk) is now taxable over \$4 per garment or \$8 for combination suits. Formerly these figures were \$3 and \$6, respectively.

Velvet, velveteen, plush and silk goods are now taxable at prices over \$2 per yard (10 per cent.). This tax formerly applied to such articles at any price.

Ribbons, laces and braids, formerly taxable at any price, are now assessed on prices higher than 50c. per yard for general goods, and collarettes at \$2.

The tax on carpets and rugs is now confined to those costing more than \$6 per lineal yard of 27 inches wide.

The word "cushions" was removed from the list of taxable articles.

Snowshoes were removed from the list of taxable articles.

Baseball requisites and lacrosse sticks are now taxable over \$2 each, where formerly they were taxable over 50c. Skis in excess of \$3, instead of taxed on the whole price.

Articles plated in nickelware or brass for household or office use are now exempt, as are also band instruments.

The following articles were taken out of the 20 per cent. class and placed in the 10 per cent. class: Ebony goods in toiletware, curtains in excess of \$7.50 value, gramophones, gas and electric wall brackets over \$3 each, and chandeliers over \$12 (except for churches). Oriental rugs are in the 15 per cent. class.

Pianos under \$450 and organs under \$150 are now taxed 5 per cent.

The following items were added to articles taxable at 10 per cent:

Pianos over \$450, organs over \$150 (except for religious purposes), mechanical piano-players, talking machines and records, music boxes. All jewelry over \$5 in value. Wedding rings were exempted altogether from the jewelry tax. Gold-mounted fountain pens do not now come under the 50 per cent. tax on gold articles unless they cost more than \$5.

Silk and silk fabrics are now taxable 10 per cent. in excess of \$2 per yard. Formerly this tax applied on any price.

Playing cards are now taxable as follows: 15 cents a pack on cards sold at \$24 or less per gross packs, 25c. between \$24 and \$36 per gross packs and 50c. over \$36. Formerly playing cards were taxed 25 cents a pack when selling at \$25 per gross packs or less and 50c. a pack over \$36 per gross.

Proprietary medicines containing not more than 40 per cent. proof spirits are reduced from 30 per cent. to 20 per cent.

Jewelers are to pay 10 per cent. tax on turnover, less receipts from stationery, books and magazines, spectacles and eye-glasses, cameras and gramophone records.

Candies and cakes in cartons bearing manufacturer's name selling at 10 cents or less per carton, also candies selling at one cent. each, are exempt from taxation. Chewing gum is reduced from 10 to 3 per cent.

The following list of goods were declared exempt on June 16 from the Federal Sales Tax, which was likewise proposed by the Minister of Finance in his Budget speech.

Animals, living; poultry; fresh, salted, pickled, smoked or canned meats; canned poultry; soups of all kinds; milk, cream, butter, cheese, buttermilk, condensed milk, condensed coffee with milk, milk foods, milk powder and similar products of milk; oleomargarine, margarine, butterine or any other substitute for butter; lard, lard compound and similar substances; cottelene; eggs; chicory, raw or green, kiln-dried, roasted or ground

coffee, green, roasted or ground; tea; hops; rice, cleaned or uncleaned; rice flour, sago flour, tapioca flour, rice meal; corn starch, potato starch, potato flour; vegetables, fruits, grain and seeds in their natural state; buckwheat, meal or flour, pot, pearl, rolled, roasted or ground barley; corn meal, corn flour, oatmeal or rolled oats; rye flour, wheat flour; sago and tapioca; macaroni and vermicelli; cattle foods, hay and straw; nursery stock; vegetables, canned, dried or desiccated; fruits, canned, dried, desiccated or evaporated; honey; fish and products thereof; sugar, molasses, maple, corn and sugar cane syrups and all imitations thereof; fibre to be used only for binder twine; ice; newspapers and quarterly, monthly and semi-monthly magazines, and weekly literary papers unbound; gold and silver in ingots, blocks, bars, drop sheets or plated unmanufactured; gold and silver sweepings; British and Canadian coin and foreign gold coin; materials for use only in the construction of ships; anthracite and bituminous coal and coal dust; lignite, briquettes made from anthracite or bituminous coal or lignite; coke, charcoal, peat, wood for fuel purposes; electricity; calcium carbide; gas manufactured from coal, calcium carbide or oil for illuminating or heating purposes; ships licensed to engage in the Canadian coasting trade; artificial limbs and parts thereof; donations of clothing and books for charitable purposes; settlers' effects; articles enumerated in schedule C of the West India Agreement, or to articles purchased for use of the Dominion Government or any of the departments thereof, or for the Senate or the House of Commons.

**The Veterinary Practice Board.**

The Honorable Manning W. Doherty has announced the personnel of the Veterinary Practice Board, appointed in accordance with the provisions of a Bill passed at the last session of the Provincial Legislature, providing for the regulation of veterinary practitioners in Ontario. The Board, which will be composed of Dr. C. D. McGilvray, Principal of the Ontario Veterinary College, Toronto; A. G. Farrow, breeder of Shorthorn cattle and Oxford sheep, Oakville; and C. W. Gurney, breeder of Belgian and Percheron horses, and Shropshire sheep, Paris, will grant certificates to all veterinary practitioners in the Province of Ontario, except some specified common practices. Certificates may be granted to graduates of the Ontario Veterinary College or any others college of equal standing, as well as to any person who without this training has been practicing veterinary science for a living in Ontario for a period of at least five years prior to the passing of the Act. The certificates will be issued by the first of January next, and applications may now be addressed to the Chairman of the Board, who is Dr. McGilvray, Principal, Ontario Veterinary College, University Avenue, Toronto.

**Chief Cold Storage Inspector Resigns.**

J. A. Ruddick, Dairy and Cold Storage Commissioner, Ottawa, announces the resignation of Jos. Burgess, Chief Cold Storage Inspector, from his Branch, the resignation to take effect July 31. Mr. Burgess will begin new duties with a Montreal firm of produce dealers. "The Farmer's Advocate" agrees with Mr. Ruddick, who says that, "Mr. Burgess' knowledge of the cold storage warehouses in Canada, his experience and judgment as a grader of butter and cheese, his general knowledge of dairy work, and his high standing among the dairymen of the country made him a very useful officer, and one whom it will be hard to replace."

**W. W. Moore Leaves Government Service.**

It is announced from Ottawa that W. W. Moore, who for many years has been Chief of the Markets Division of the Dairy and Cold Storage Branch, Department of Agriculture, Ottawa, has resigned his position to take service with the United Dairymen Co-operative, Limited, at Montreal. Mr. Moore had outstanding ability along the lines of his former work, and his departure will be much regretted. During the war he performed signal service to the Government and the country as a whole by the efficient manner in which he handled the purchase of hay and grain for the army. J. F. Singleton is now Acting Chief of the Markets Division.

**Ontario Field Crop Specialist Resigns.**

The resignation is announced of Justus Miller, Field Crop Specialist of the Ontario Department of Agriculture, who will take up commercial work. Three years ago Mr. Miller entered the Department of Agriculture as Assistant Commissioner, being given the position of Field Crop Specialist when Dr. G. C. Creelman resigned as Commissioner. A large part of Mr. Miller's work had to do with the potato industry, from which good results were secured. No successor to Mr. Miller has been appointed.

**Second National Ayrshire Sale.**

The Second National Ayrshire Sale was held at the Eastern States Exposition Grounds, Springfield, Mass., on June 10, and drew a large and representative attendance. Forty-four head sold for a total of \$42,490.00, or an average of \$965.00. Henderson's Betty, a mature cow, consigned by Strathglass Farm, topped the sale at \$4,100.00, being purchased by Weymouth Farms, Mass.

# Toronto, Montreal, Buffalo, and Other Leading Markets

Week Ending June 17.

Receipts and Market Tops.

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

	CATTLE						CALVES						SHEEP					
	Receipts		Top Price Good Steers		Receipts		Top Price Good Calves		Receipts		Top Price Good Lambs		Receipts		Top Price Good Lambs			
	Week Ending	Same Week	Week Ending	Week Ending	Week Ending	Week Ending	Week Ending	Week Ending	Week Ending	Week Ending	Week Ending	Week Ending	Week Ending	Week Ending	Week Ending	Week Ending		
Toronto (U. S. Y.)	5,364	3,809	4,495	\$15.50	\$14.50	2,878	1,681	1,615	\$18.50	\$19.50	2,689	830	1,351	\$21.50	\$16.00	\$21.00		
Montreal (Pt. St. Chas.)	726	361	782	16.00	13.75	2,584	2,475	2,540	16.00	13.00	699	616	465	20.00	20.00	20.00		
Montreal (East End)	794	434	819	16.00	13.75	1,409	2,204	1,947	16.00	13.00	785	859	511	20.00	20.00	20.00		
Winnipeg	1,201	644	1,932	16.50	14.50	259	65	392	17.00	16.00	347	153	307	15.50	21.25	15.00		
Calgary	1,524	1,528	1,703	13.00	12.90	70	—	69	14.00	—	44	278	—	—	—	15.00		
Edmonton	291	558	322	14.75	12.50	46	39	59	17.00	13.00	46	—	—	—	—	—		

## Market Comments.

(Toronto Union Stock Yards.)

There was an increase in receipts of cattle for sale amounting to about six hundred head as compared with those of the previous week. Of the total of fifty-three hundred and ninety-eight head a large percentage consisted of light butcher cattle and cows. Despite an increasing number of grass cattle and a diminishing number of stall-fed animals, the market on choice stuff remained strong although individual sales did not reach as high a top as during the previous week, due to lack of as choice individuals as on the previous markets. Monday's market opened firm with prices steady and fairly active on good butcher cattle, but unfinished cattle were weaker by 50 cents, heavy bulls were draggy and cows were easier. On Tuesday trading was slow with butchers steady, and unfinished cattle hard to dispose of, and, as a consequence about eight hundred head were held over for Wednesday's market. The following day found butcher cattle steady to strong with but few of good quality offered. The top loads of butcher cattle sold at \$15.75. Numerous individual sales reached \$16, while good quality stuff sold generally from \$14.50 to \$15.85. Most of the loads of light butcher steers sold at \$15.50; one load of twenty-two head weighing ten hundred and fifty pounds sold at \$15.60, and one load of twenty head averaging ten hundred pounds at \$15.75. Butcher heifers sold from \$14.25 to \$15.25 for choice and from \$11.50 to \$13 for medium. Choice cows and bulls were unsteady and sold generally from \$11.50 to \$13.50, while Thursday's close found cows steady, with a few sales reaching \$13.50, and one cow weighing fourteen hundred and thirty pounds reaching from \$10.50 to \$12.50. The stocker and feeder market closed weaker than during the previous week; sales were made generally from \$12.50 to \$13.50, for choice feeder steers, while stockers were not much in demand lacked in quality and the market closed with a weaker undertone. The close of the week found unfinished stuff fully \$1 lower than at the previous close. There were twenty-nine hundred and fifty-seven calves on the market, and late on Thursday buyers were uneasy and were offering \$1.50 to \$2 under their bids of the previous week. Buffalo shippers remained off market on Thursday owing to a drop of \$2.25 in the Buffalo market.

The sheep market opened on Monday and unsteady prices for clipped sheep but woolled sheep were slightly stronger. The end of the week found all classes of sheep steady. Spring lambs opened strong on Monday but Tuesday found the market lagging, while at Thursday's close offerings were changing hands from \$1.50 to \$2 lower.

The hog market was steady during the week at \$19.25 for selects, fed and watered; a few sales were made at \$19.50.

Of the disposition from the Yards for the week ending June 10, Canadian packing houses purchased 1,244 calves, 3,772 butcher cattle, 62 feeders, 4,602 hogs, 712 sheep and 62 lambs. Local butchers purchased 183 calves, 223 butcher cattle, 725 hogs, 406 sheep and 125 lambs. Canadian shipments were made up of 8 calves, 10 bulls, 143 stockers and 213 feeders. Shipments to United

## TORONTO

CLASSIFICATION	No.	Avg. Price	Price Range Bulk Sales	Top Price
STEERS				
heavy finished	192	\$15.25	\$14.75-\$15.75	\$16.00
STEERS good	350	15.00	14.75-15.25	15.50
1,000-1,200 common	5	12.50	10.25-14.50	14.50
STEERS good	894	14.75	14.50-15.00	15.25
700-1,000 common	70	12.00	10.25-14.00	14.00
HEIFERS good	697	14.75	14.25-15.00	15.25
fair	374	13.00	12.25-14.25	14.25
common	46	10.43	9.50-11.00	11.00
COWS good	492	13.00	12.25-13.25	13.50
common	1,224	11.50	11.00-12.00	12.00
BULLS good	158	12.49	11.00-12.50	13.50
common	50	10.32	10.00-11.75	11.75
CANNERS & CUTTERS	302	6.00	5.50-6.50	7.00
OXEN	1	—	—	—
CALVES veal	2,878	15.92	15.00-16.50	18.50
grass	—	—	—	—
STOCKERS good	283	11.75	11.50-12.00	12.25
fair	113	10.55	10.00-11.00	12.25
FEEDERS good	94	13.00	12.50-13.50	13.75
fair	10	11.00	11.00	12.00
HOGS selects	4,931	19.28	19.25-19.50	19.50
heavies	10	18.25	18.25	18.25
(fed and lights	477	17.25	17.25	17.25
watered) sows	256	15.25	14.25-16.25	16.50
stags	15	—	—	—
LAMBS good	760	19.28	17.00-20.00	21.50
common	9	17.77	16.00-18.00	18.00
SHEEP heavy	3	9.00	8.75-9.25	9.50
light	1,326	12.00	11.50-12.50	13.00
common	591	6.00	5.50-6.50	7.00

States points consisted of 395 calves, 2 bulls, 85 butcher cattle, 24 stockers, 79 feeders and 113 sheep.

The total receipts from January 1 to June 10, inclusive, were: 128,334 cattle, 41,499 calves, 155,950 hogs and 20,420 sheep; compared with 135,879 cattle, 30,621 calves, 164,063 hogs and 30,041 sheep, received during the corresponding period of 1919.

### Montreal

During the past week, particularly on Monday prices were very high and about equal to those paid two weeks ago. While this applied to all grades there was not as keen a demand for heavy cattle as recently. Cattle arriving after Monday were nearly all thin, of common quality, of dairy breeding, had been on grass, and were evidently shipped on account of the present high prices and fear of a sharp decline within a very short time. Good steers from Toronto and Western Ontario brought from \$14.50 to \$16, and light steers of fairly common quality from \$13 up. There were not many steers sold as low as \$11. The majority of the good cows brought from \$12 to \$12.50, some car lots of mixed quality cows sold around \$11.50, and strippers in just fair flesh moved from \$9 to \$10.50. During the recent months canners and cutters have been very leniently dealt with many of the latter class being purchased as common but her cows within a range of \$7 to \$8. Grading

of the thinner kinds of common cows is likely to be more strict in the near future. Good bulls brought from \$11 to \$12.50, an odd choice bull around \$13 common grass bulls at the close of the week were down to \$8. There was a continued strong demand for veal calves throughout the week, but only a few of the best calves brought \$16. Good calves in car lots brought up to \$15 and \$15.50, and common thin calves and drinkers from \$10 up. Inspection of calves is being rigidly enforced at all points and any trower shipping immature calves loses those calves outright. The improved quality of calves offered due to inspection has in part caused the continuation of steady markets. Buyers are predicting a lowering of prices for next week owing to a poorer market in New York. Shipments of dressed calves by local packers to United States points during the last week in May amounted to about five thousand carcasses.

Sheep and lambs remained steady until Wednesday when there was a break of about \$1 per hundred in the price of sheep. Lambs were not affected by this decline but remained at \$18 to \$20 per hundred. The prices for hogs showed considerable weakness throughout the week and the market closed with indications of a further decline on Monday. Selected hogs sold to local butchers brought \$20.50 off cars on Monday and \$20 off cars Wednesday. Rough mixed lots sold to packers from \$18 up.

### PT. ST. CHARLES.

The total receipts from January 1 to June 10, inclusive, were 13,046 cattle, 35,928 calves, 28,258 hogs and 6,795 sheep; compared with 14,186 cattle, 35,642 calves, 31,072 hogs and 6,957 sheep, received during the corresponding period of 1919.

### EAST END.

Of the disposition from the Yards for the week ending June 10, Canadian packing houses and local butchers purchased 1,947 calves, 780 butcher cattle, 1,166 hogs and 511 sheep. There were no shipments to United States points during the week.

The total receipts from January 1 to June 10, inclusive, were: 14,240 cattle, 28,827 calves, 18,776 hogs and 5,814 sheep; compared with 16,241 cattle, 25,829 calves, 17,168 hogs and 7,248 sheep, received during the corresponding period of 1919.

### Winnipeg

Twelve hundred and one cattle, two hundred and fifty-nine calves, three hundred and forty-seven sheep, and two thousand and forty-seven hogs made up the offerings for the week; this offering represented a reduction of over seven hundred cattle and two thousand hogs as compared with receipts of the previous week, sheep receipts were, however, slightly heavier.

Markets continued on page 1190.

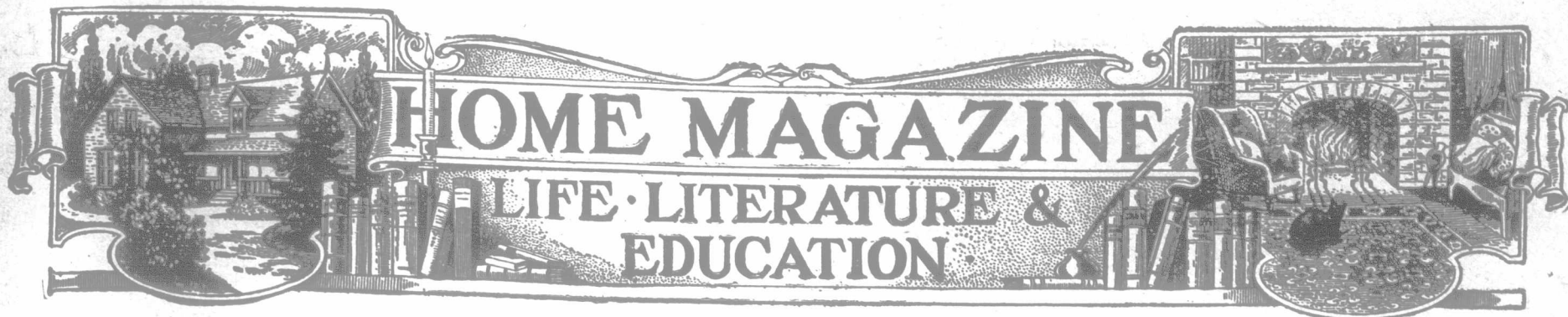


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**The Cup.**

BY SARA TEASDALE.

This little gem comes from *Harper's Magazine*.

I can not die who drink delight  
From the cup of the crescent moon,  
And hungrily, as men eat bread,  
Love the scented nights of June.

The rest may die—but is there not  
Some shining, strange escape for me,  
Who found in Beauty the bright wine  
Of immortality?

**The Rose, Queen of June.**

TO the great majority of flower lovers the rose is the Queen of flowers as well as the Queen of June. That alone would be sufficient reason for growing this superb shrub. Nor is there any reason to shrink from trying it because of the bugaboo stories about thrips and aphids; with a little care and a very little expense these can be kept under control.

It is not advisable, however, to depend upon rose-bushes for the chief decorative effect about a place; other shrubs, e. g., lilac, syringa, viburnum, even the native sumachs, elderberries and dogwoods, are ever so much more effective for that. Rose bushes are not especially attractive except for their flowers, so, while an isolated bush may be effective enough in certain situations, the rose-lover who wishes a great variety usually puts them in a plot by themselves—taking the pains to have a few comfortable seats near in blooming-time, when folk can sit and enjoy the wonderful flowers to the full.

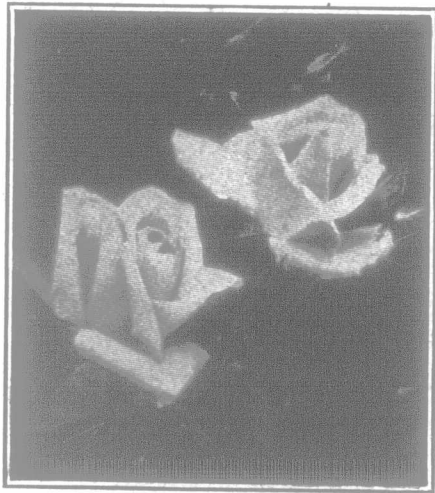
There is another advantage in having the roses by themselves: They are very heavy feeders, and, as someone has said, they "like to dine alone." With the exception, perhaps, of a few very shallow-rooted plants such as pansies or gladioli, other plants should never be grown among them, and these should be few and far apart, to permit the constant surface cultivation of the soil that helps so much in securing healthy, satisfactory roses.

No list of varieties is given here. Choose only the kinds that are sure to grow well in your latitude, and the best way to find out that is to consult neighboring gardeners. Also send to the Central Experiment Farm, Ottawa, for a bulletin on the subject. If the hybrid teas and hardy perpetuals will grow in your locality, they are very advisable, as their bloom continues practically until snow-fall. There are certain "baby" varieties, also, which are very odoriferous, survive sharp touches of frost, and are often in full bloom when the first snow comes.

Before closing this division of our "story," mention must be made of the famous rose city, Portland, Oregon, in which the Rose Festival has become an annual event. When it is produced practically all the gardens in the city are ablaze with roses, for, in Portland, it has become an act of civic loyalty to plant roses. The pageant, of course, varies from year to year. Usually there is a king of the festival, masked, who arrives on a flower-decked boat; he is, as a rule, some well-known citizen, and his identity is concealed until a certain climax, when he unmasks. . . . One of the features—perhaps the most spectacular—is a long parade of rose-decked carriages and motor-cars, the horses as gayly bedecked as the carriages and cars. There is also, at times, a human-rosebud parade, made up of school children in costume. They are carefully drilled, and sometimes sing as they march carrying their wreaths and garlands of roses. . . . Finally there may be a genuine battle of roses. A sight-seer has so described it: "The crowds lining the streets are bombarded with roses by pretty girls on board trolley cars that pass along the principal thoroughfares. The flowers are caught

by the bystanders and thrown to and fro, occasioning a great deal of merriment."

"All work and no play makes Jack a dull boy." People—old as well as young—must have a little diversion from time to time, and surely this Portland idea of a Festival of the Roses, affords one of the purest, sweetest amusements that could be devised; It's a pretty idea, too—this specializing in a flower in a city or rural community,—one flower which everybody grows in addition to others they may fancy. St. Thomas, Ont., for instance, is known as the "Tulip City" Why not a "Tulip Community," a "Peony Community," a "Rose Community," and so on? Flowers are not confined to cities.



"Killarney" Rose.

**Planting the Rose-Bushes.**

Rose bushes may be planted at any time from the first of May to the first of June—depending on the latitude. Order them so they will arrive just when you want to plant them, and when they come, if you are not ready to set them out at once, dig a little trench and cover the roots with moist earth. It is better, however, to plant them in half an hour or an hour's time, during which the roots should be kept soaking in warm water.

The site chosen should have just as much sunshine as it is possible to get, and for this reason, while a protecting wall is very helpful, it is well not to set the bushes too close to a building or close fence. For another reason it is better to keep them several feet away—it is easier to cultivate and spray. . . . Another

necessity is to select a site that is very well drained. Roses do not like wet feet.

The bushes grow best in very rich, not too heavy clay loam. Well-rotted cow manure (plenty of it, as the roses are heavy feeders) should always be mixed in and a little sand if the soil is heavy. To very sandy soil add some clay, if possible. The right kind of soil is absolutely necessary, as with strong growth the bushes are much more resistant to both insect pests and fungous diseases.

When the bushes have arrived dig out a hole at least a foot deep and broad enough to spread out the roots sidewise, as it is easier for water to reach them if set this way. Examine the bushes. Probably no pruning will be necessary, but to ascertain that pay attention to the following points: (1) If there is any dead wood cut it out; also cut off bruised or broken roots, if any. (2) If the bush is strong and sturdy and there are any long shoots cut them off leaving 2½ or 3 feet. If you cut off more the strength of the plant will go into growing wood instead of flowers.

If, on the other hand, the bush seems weak, cut it off rather severely to encourage it to throw up strong shoots. (3) A Rule to remember is that the roots and top should just about balance. Trim to this effect.

When the bush is ready pour some water into the hole, set the bush, spread out the roots carefully, then fill in with the very fine earth which has been dug out. You need not tramp it down; pour water upon it and the soil will settle closely enough about the roots. Finally put a dust mulch, 2 inches deep, all over the moist earth. It is best to plant in the evening, but some sort of shade which will permit ventilation, should be afforded for several days until the roots have taken hold.

**Cultivation.**

Frequently during the summer the soil about the rose bushes should be cultivated, once a week or more will not be too often. This will keep up a dust mulch that will keep the moisture down about the roots, where it ought to be. But be careful that the cultivation is only slightly below the surface, not deep enough to injure the small rootlets. Some people mulch with grass clippings. After the plants are well established frequent watering will not be needed, but in a period of drouth will be necessary, and then plenty should be given, enough to reach the lowest rootlet.

Occasionally during the growing and flowering season a meal of liquid manure

will be relished by the roses. Sheep manure is extra good for this, although any kind can be used. Put some in a barrel, fill up with water, stir well, cover and leave for a day or so. Apply it only after a rain or after a watering. The soil should not be too wet. Afterwards, before the surface is dry, work it up so it will dry out and form a dust mulch, or put on a mulch of grass clippings or dust. This feeding of the roots will help to prevent disease by inducing a strong growth.

Another fertilizer for roses that has been very highly recommended is acid phosphate. Dr. F. W. Muncie, of the University of Illinois, after a series of experiments, last year reached the conclusion that this phosphate increases the production of bloom to a remarkable extent.

**Insect Pests.**

Insects that infest roses are of two types: (1) Those which eat the foliage, as rose slugs and the rose chaffer. (2) Those which suck the sap, as aphids, scale insects and thrips.

If the leaf-eaters appear some of the leaves will be partly eaten, or some may be skeletonized. If a garden hose is available a strong stream of water directed on the slugs will knock them off. Hand-picking and arsenate of lead spray are also resorted to. For the rose chaffer, hand-picking the beetles and dropping them into a vessel containing water covered with a film of kerosene is effective. Or the bushes may be covered with mosquito netting. Arsenate of lead is a deadly poison that should be handled with great care. About one-eighth of a pound of the paste, or one-sixteenth of a pound of the powder to 10 quarts of water makes a solution of the right strength.

Sucking insects are chiefly: aphids, or lice, which appear most on the youngest growth on the stems and under sides of the leaves, which sometimes curl up; thrips, which injure the flowers; and scale insects which are found on the wood and sometimes kill the bushes. All of these insects have to be killed by the insecticide coming in contact with them. Many "bug-killers" are on the market,—40 per cent. nicotine preparation, fish-oil soap, etc. Apply in a fine spray with considerable force. The mixtures kill by closing the breathing pores and suffocating the insect, or by penetrating to its vital parts. Directions go with all of these preparations, which can be bought from any dealer in plants.

**Rose Diseases.**

**Mildew.**—This is a fungous disease that appears, sometimes very early, like a white mildew. Remedies are: Spraying with lime-sulphur solution or potassium sulphide. (Apply also after cutting back in fall). A dust spray of flower of sulphur is sometimes used, and will help to keep off small flies as well as mildew.

**Rose Rust.**—This causes orange-colored swellings, which later become powdery. Also spots may occur on the leaves. To banish, spray with ammoniacal copper carbonate, and, in fall, with Bordeaux mixture.

**Anthracnose.**—Attacks principally the leaves, causing blotches which later discharge a pinkish mass of spores. The leaves are dwarfed and fall off. This disease is treated same as for rose rust.

**Leaf-spot.**—Leaves become covered with brownish spots with purplish border. Treat same as rose rust.

**Leaf-blotch.**—Most frequent disease next to mildew. Leaves become covered with blackish spots that may spread and grow together. Spray as for rose rust.

If any of these diseases appear in your garden spray carefully, as needed, during the growing season. The first spraying should be early in spring with any good insecticide, say nicotine preparation; also, if fungous disease is feared, spray with a fungicide. Also check disease by cutting, out diseased parts and burning them. In fall cut off diseased parts and burn



A Rose-Decorated Car.

One of the decorated cars at the Rose Festival, Portland, Oregon, the "Rose City" of North America. "Caroline Testout," the official rose of the city, is the principal variety used.

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them, then spray the shortened bushes with Bordeaux. . . . Always remember that if rains are taken to produce and maintain rapid and strong growth, disease is not so likely to occur.

#### Pruning.

Err on the side of too little pruning rather than too much. A butcher armed with a pruning knife, unless he knows his business thoroughly, is a dangerous animal in a rose garden, as, indeed, among shrubs or trees of any kind. If he happens not to do actual damage to the bearing of fruit or flowers, he is almost sure to spoil the shape of the flowering bushes, which usually look more graceful if left to grow pretty much according to their own sweet will. The amateur in gardening is safer to content himself with cutting out dead wood and long or in-growing shoots that are ungainly. When cutting flowers for the house (they should be cut when partly open) long stems should be taken, close enough to the parent stock to leave one leaf. This in itself is a sort of pruning. All withered blooms, by the way, should be taken off at once.

W. C. Egan, in an article in Bailey's *Cyclopaedia of Horticulture*, gives the following directions for pruning the dwarf-growing hybrid perpetuals: The pruning may be commenced late in March and can be regulated by the quantity or quality of the blooms desired. If the effect of large masses be wanted, 4 or 5 canes may be left 3 ft. in height, and all old or weak growth entirely removed. This will give a large number of flowers, effective in the mass but small and with short, weak foot-stalks scarcely able to support the heads and not effective as cut flowers, as this sort of blooming is entirely for outside show. After the bloom is entirely over, the long shoots should be shortened back, that the plant may make good and vigorous wood for the next season of bloom. . . . But if quality be desired, all weak growth should be removed, every remaining healthy cane retained and cut back to 6 or 8 inches. Always cut just above an *outside* bud, to make an open head that will admit light and air freely. After the first season's growth, there may be about 3 canes retained, but with good care and cultivation the number will increase yearly until after 15 or 20 years there will be at least as many canes to be utilized. The writer has a bed over 20 years from planting, in which each plant, after close pruning, will measure from 15-18 inches in diameter, each cane throwing up from 4 to 6 shoots 1 or 2 ft. in length, and sufficiently vigorous in most varieties to hold up the largest flowers and to give magnificent specimen flowers for cutting. . . . Late in autumn; before the high gales of November arrive, they should be cut back to about 2 ft. to prevent their being whipped by the winds.

#### Summary.

Good drainage; good soil; sunshine; frequent cultivation; watering when necessary; liquid manure applied when ground is damp, at intervals; forcible spraying of foliage with water, in the evening, to help to check insect pests; removal of affected leaves or other parts at very first sign of disease; spraying at the proper season to prevent disease and insect depredations; cutting back in late fall to force growth of new wood to bear flowers;—all this is the price to pay for good roses. But it is worth while to the true flower lover, who is likely to prize the roses more than any other flower in the garden.

#### Rose Beads.

Rose beads, unlike these made of salt or paper, are always in fashion. An expert gives the following way to make them. Collect the petals (this may be done when the roses are almost ready to drop) and run through the chopper, using the finest cutter. Over each cup of pulp scatter 2 grains of copperas, mix well and put through the chopper 15 times. The pulp now should be nearly black, and any juice that runs out should be poured back over, to lose none of the perfume. Form into beads of uniform size, twice the size you want them to be when completed, and lay on a platter. Let dry all day, then roll again and string on copper wire as thick as a hatpin. If a bead cracks it must be done over again. Let dry in the sun until very hard. Next put the beads in a cloth bag and gently shake and rub to polish off inequalities. Have ready 1 teaspoonful of rose oil mixed with just enough alcohol to cut. Pour a few drops on the palm, take one or two beads and rub gently until the oil is

absorbed. Place again on the platter, and when thoroughly dry drop into pure olive oil. Leave several days, then wipe dry and string.

The beads may be made round or oblong, but should be made uniform in size by measuring the pulp in a thimble, a child's thimble, etc., according to the size wanted. They are pretty when strung with tiny gold or steel beads between; or the rose beads alone may be used, a large carved one being put on at intervals. You make the carved one by tracing the pattern on with a sharp pen while the bead is still in the putty stage. Tiny circles, spirals, etc., look well. As so many rose petals are needed, people often make the beads from the petals of the rose peony.

#### Rose Jars.

Rose jars filled with "potpourri," are very nice to keep on hand, the cover being removed whenever one wishes to make a guest-room or living-room smell sweet. As the jar must remain in the room a pretty one is advisable, and very pretty ones are made for the purpose.

To make the potpourri gather the petals before the dew is off and dry quickly in the sun, or, still better, on brown paper in a hot attic. In the meantime mix together 1 lb. orris root, 1/4 lb. cloves, 4 sticks cinnamon, 4 oz. allspice, 2 oz. bergamot, 2 drs. musk. Pound and bruise all until in tiny bits. As soon as the rose petals are perfectly dry fill in

early part of 1914. It was greatly to Miss Cunningham's credit that Stevenson, when he was 23 years of age, should write to her: "Do not suppose, Cummy, that I shall ever forget those long bitter nights, when I coughed and coughed, and was so unhappy, and you were so patient and loving with a poor sick child. Indeed, Cummy, I wish I might become a man worth talking of, if it were only that you should not have thrown away your pains." . . . A second mother, indeed, was this excellent person to the young author, and a friend throughout his life, to whom he wrote perhaps the most delightful of his always delightful letters.

Mr. Clayton Hamilton, who wrote the interesting volume "On the Trail of Stevenson," (Hodder and Stoughton) met "Cummy" in the summer of 1910 and here is his description of her:

She was already at a great age, and the beauty of her face seemed to have been chiselled in eternal granite. She had become almost completely deaf, and her eyesight was fading rapidly; but the dimming of these senses seemed only to accentuate the expressiveness of her voice and of her gestures. She had a grand, hymn-singing voice, with a sort of sturdy gentleness of intonations. Her hands were the most eloquent I have ever known. She had a way of suddenly seizing both your hands in hers; and by that touch she knew you, and had no need of hearing or of sight. Louis has

less than anyone else who applied."—*And the Board of Trustees engaged her!*

In those days schools went, as a rule, to the lowest bidder. It was taken for granted that anyone who had a certificate could teach "well enough." Personal characteristics, aptitude for teaching, interest in community welfare, went for naught. A teacher for so many dollars a year was the only consideration.

Things have improved, for the teacher, so far as salary goes, during the past few years. But has the public to be thanked for it? Did teachers' salaries advance beyond, as one teacher put it, "enough to pay one's board and buy a postage stamp" until, between scarcity of teachers upon the one hand, and action of the teachers themselves, the public found nothing else left to do but to push them up? A few years ago the teachers took matters into their own hands, decided that the years of hard work and expense incurred in getting a certificate merited at least a little more than a bare living wage, and formed an association of their own to claim their rights.

Then the Farmers' Government came in in Ontario. It was almost amusing to read the evident surprise expressed in some of the newspapers recently (when commenting on the work of the session) that the highest grant of all was appropriated for education—not agriculture. Worthy as agriculture is of all assistance that can be given to it, our law-makers have recognized the fact—true, although some may not see it—that education is the foundation of all advancement, agricultural and otherwise. The teachers' salaries must still depend, to a great extent, on the sections in which they may chance to teach, but the very fact that the largest appropriation in Ontario this year has been made for education augurs well for everything connected with progress in this way—establishment and equipment of schools, scientific research, and the payment of teachers according to their value to the community. As yet few "good" teachers receive all they really earn; the salary of the most highly paid may look large in figures, but the buying power of the dollar to-day is low.

So much for the teacher's side. Now to the other:

It is a question whether the "section" always realizes to-day, much more keenly than it did twenty years ago, the real importance of the teacher outside of the actual work done in school. It takes real vision to see what she may mean, to the community, to the whole lives of the children, and, perhaps, the lives of the generations succeeding them. If the sections did realize that, one would not hear, even yet, of trustees engaging a girl from heaven-knows-where simply because her "handwriting is 'good'!"

"Handwriting good"! Save the mark! The girl may be "age seventeen," the merest little whippet of a butterfly, without common sense, without teaching ability, without any realization of her responsibility in dealing with human lives. Her "handwriting is good."—That settles the matter.

One hears, however, once in a blue moon, of a really efficient Board of Trustees, whose members feel their responsibility. These trustees insist upon talking with a girl before they engage her for the school. Or they send inquiries far and near and choose a real educator whose fame has gone abroad. Money is a secondary consideration. They recognize the fact that a "laborer is worthy of his hire," are willing to pay a good salary, but insist upon good work in return for it. *The children are the first consideration.* Nothing can be too good for them,—the best teacher, the best available equipment is the natural right of these little ones who will be men and women tomorrow, carrying on the work of the world for better or worse.

And the sort of teacher these trustees choose? Perhaps they choose a "him"—a young man of life and ideals and vigor, suited to being a real leader for the boys. If a young girl is selected she is sure to be one mature for her years (some girls are as old at twenty as some women at fifty), alert, filled with ideals of what she owes to her work. But preference is usually given to a woman past the "flapper" age; she isn't so likely to go off the trolley over a love-affair.

The School Board keeps critical watch—not, perhaps, upon the teacher, but



"Cummy."

"Cummy," Miss Alison Cunningham, Stevenson's childhood nurse, with Lord Guthrie, in Swanston Rock Garden, August, 1907.

the jars with alternate layers of petals and spice mixture. Keep tightly closed except when wanted for "state occasions." Another recipe calls for sprinklings of salt between the layers of petals, and the spice mixture is made as follows: Mix in a bowl 1/2 oz. coarsely ground cloves and allspice, 1/2 oz. cinnamon, 4 oz. powdered orris root, 1/2 nutmeg grated, 1/4 oz. dried lavender flowers, all mixed with oils of orange flower, geranium, bitter almond, rose, or any other one likes. Leave the fresh petals and salt for 10 days, stirring every morning, then mix with the spice mixture and finally pour 1 oz. cologne water over the whole. The amount given will fill 2 quart jars, so may be reduced in proportion if one wants less.

#### "Cummy."

It is interesting to read the story of people who, while having made no outstanding "mark" in the world themselves, have yet influenced the lives of others who have become famous.

Among those whose light has burned—and very brightly—in this way, is "Cummy," Robert Louis Stevenson's childhood nurse, Miss Alison Cunningham, who died at an advanced age in the

sung of her "most comfortable hand," and there is no other adjective so fitting to describe a feeling that afforded you a sense of strong shelter and insuperable peace. There were times, too, when Cummy would grasp you by both shoulders and draw you eagerly to her bosom, and it was as if you were being taken to the heart of all womankind.

#### Is She Worth Her Keep?

BY "PUBLICUS."

NO; the school-teacher has not been of much account. In the rural districts she has, perhaps, been a leader, socially, but she has not been of very much account. If she had been, or, rather, if her office had been considered so, trustees would have "tumbled over themselves" trying, first to get the best woman available for the place, and then to give her a salary commensurate with the importance of the work she was expected to do.

Twenty years ago teachers in Ontario taught for \$300 or less a year, and the story is still handed down about one School Board who received an application from a young woman stating that she would teach for "five dollars a year

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upon the children. That is partly what the Board is for. And when, one day, the members come together for a meeting, some such conversation as this takes place:

*Trustee Jones.*—"I think, somehow, we've got the right teacher this time. I know my boy is downright interested in his lessons, and he seems to want to go to school! That's something new for Ted."

*Trustee Smith.*—"See the garden the kids had back of the schoolyard this year? I dropped in one day and I'll be beggared if some of 'em weren't out there measuring the length of their oats! All by themselves, too! They had beets and carrots and parsnips that beat any in my garden."

*Trustee Brown.*—"I've noticed a big improvement in their manners. That girl's making little ladies and gentlemen of them, that's what she is!"

effort plus a grasping of external help! When the people themselves, in every province, join with the various Departments of Education in a determined pull for progress, then shall we be in a fair way to bring about an educated Canada. —And not the least factor thereto will be the teachers in the schools.

**Your Health**  
BY "MEDICUS,"  
Burns.

ONE of the main things to remember in the treatment of burns is to prevent evaporation of water from the burned area, or, to put it another way, the raw or blistered surface should be protected from the air. As the water evaporates from the burned area, the con-

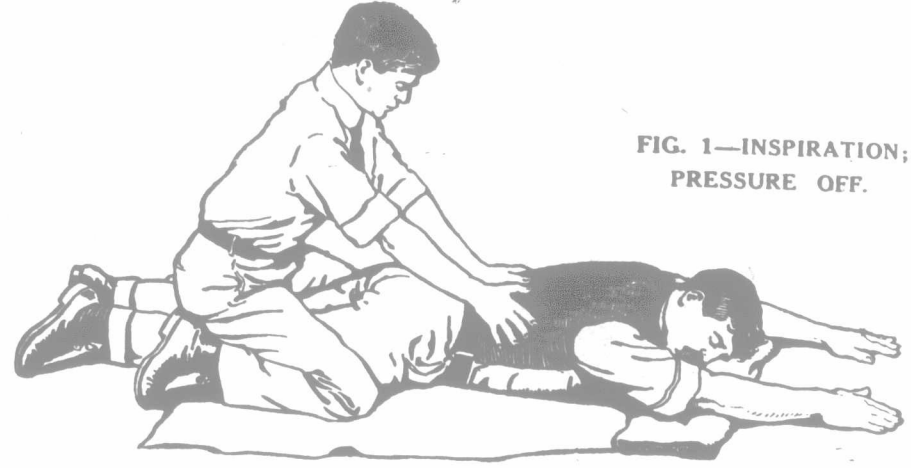


FIG. 1—INSPIRATION;  
PRESSURE OFF.

*Secretary Green.*—"Talks to them on health, too,—makes 'em keep their rubbers on when it's wet, and advises 'em what to eat and why. She's cutting up a dido because some of the desks are too low compared with the seats—says it'll give the youngsters round shoulders or curvature of the spine or something. . . . And say, that school-house hasn't been kept as tidy in ten years! . . . But listen to the inspector's report." (Upon which is read a glowing account of the scholastic attainments of the school.

*Trustee Smith.*—"Yes, I guess we've got the right schoolma'am this time. It's the youngsters themselves she seems to be thinking about. She 'wants to make them first-rate men and women,' so she told Mrs. Lawton, an' Mrs. Lawton came out of her way to tell me. I move a raise of \$100 to her next year's salary. It'll make her feel we're appreciating her work, and 'll help out a bit on clothes. When a girl has to pay \$60 for a cloth coat, as my missus had to the other day, \$100 is no great shakes of a raise. But I guess it's all the section can stand for just now."

So the new teacher stays on, pleased with the mark of favor, enabled to get the new coat that she really needs, and

centration of salt from the blood gradually increases, and you all well know how it would hurt if you were to place some salt on a raw surface. It is for this reason, then, that carron oil is so often used in the treatment of scalds and burns. Any heavy oil would do as well, e. g., cylinder oil, that you use for your "Lizzie," or ordinary machine oil, olive oil, castor oil, or vaseline. Apply a liberal coating of any of these and cover with cotton, gauze, a clean handkerchief or other soft cloth, held lightly in place by a bandage. Flour made in a thick paste with water also will prevent evaporation and thus stop the pain. If clothing sticks, do not pull it off; cut around it. A blister is Nature's protection, and for that reason should never be interfered with. Never open a blister. The doctors are now using a preparation made of paraffin and wax, which is made fluid by placing in a kettle of warm water; the surface is then sprayed with the liquid paraffin. As this cools a thin layer is formed over the raw surface, which prevents the evaporation of water. The paraffin readily peels off and does not cause any pain or bleeding when removed.

If the burn is very extensive and the person is "shocked" or is in a state of

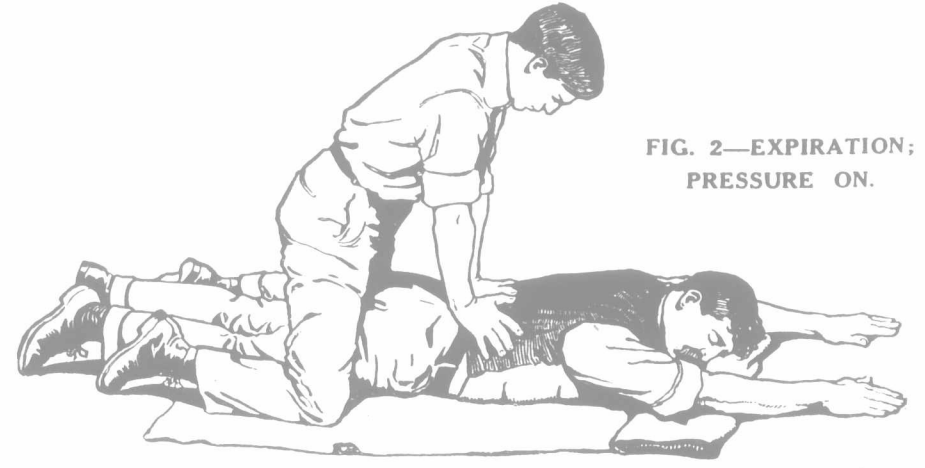


FIG. 2—EXPIRATION;  
PRESSURE ON.

more anxious than ever, if possible, to make the very best of the lives of the boys and girls entrusted to her care.

In conclusion may it be said that the people of Canada, notwithstanding all their actual disregard of the matter, have not really undervalued education itself. They have been too busy making a living, or have felt that they could do nothing personally. The remark of Premier Drury (a keen observer) in his address to the inspectors at the Ontario Educational Association last spring, "Give the people credit of having a zeal for education," presupposes that the interest is there, and the energy too, latent though it may be. Perhaps the time has come when they, "the people" shall realize that all real development comes from inward

collapse, the best treatment is to put the patient in a bath of "normal salt solution" (a teaspoonful of salt to a pint of water). I remember one of my patients who was so frightened that the salt solution would smart and burn. But it doesn't. Why? Because blood contains one teaspoonful of salt to a pint along with some red coloring matter, etc., and your "normal salt solution" contains the normal or similar amount of salt as blood does. So when you use this solution you are using one of the least irritating fluids you could apply to a raw surface. It is for that reason the surgeon injects into his patient's blood after a severe or prolonged operation "normal salt solution,"—not plain water, because that is too irritating.

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Electricity is becoming more and more



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Let Cuticura be your beauty doctor, one that really does something to purify and beautify your hair and skin. Bathe with Cuticura Soap and hot water to cleanse the pores. If signs of redness, roughness or eruptions are present, or dandruff on scalp, touch gently with Cuticura Ointment before bathing or shampooing. For every purpose of the toilet, bath and nursery Cuticura Soap and Ointment are ideal. Absolutely nothing better.

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Magic! Just drop a little Freezone on that touchy corn, instantly it stops aching, then you lift the corn off with the fingers! Truly! No humbug!

Try Freezone! Your druggist sells a tiny bottle for a few cents, sufficient to rid your feet of every hard corn, soft corn, or corn between the toes, and calluses, without one particle of pain, soreness or irritation. Freezone is the discovery of a noted Cincinnati genius.

Please mention The Advocate when writing

a friend of mankind. More and more hydro towers dot the country; hence the need for more knowledge about the danger to life when one is brought in contact with "a live wire" (I am not referring to Junia, although such a title is quite apropos).

Lightning, or an electric shock, kills by stopping respiration, so even though the victim appears dead, start artificial respiration and keep it up for hours. Of course, you should break the circuit immediately. With a single quick motion separate the victim from the live conductor, but be careful not to receive a shock yourself. Remember metals and water or moisture are good conductors of electricity, while anything dry, a dry coat, or rope, or stick, or board, will not readily conduct a current to your body. Rubber is also a non-conductor. Do not touch the soles or heels of his shoes, because the nails are dangerous. The victim's loose clothing, if dry, may be used to pull him away. If the body must be touched by your hands, be sure to cover them with rubber gloves, rubber sheeting, or dry cloth, or stand on a dry board. Then send for the nearest doctor, and in the meantime start artificial respiration.

1. First feel in the patient's mouth for anything that might interfere with breathing, false teeth, tobacco, etc. Begin artificial respiration at once, do not stop to loosen the clothing, every moment of delay is dangerous.

2. Lay the patient on his stomach with arms extended as straight forward as possible, with the face to one side, so that the nose and mouth are free for breathing (see Fig. 1). Do not permit bystanders to crowd about and shut off air.

3. Kneel straddling the patient's thighs and facing his head, rest the palms of your hands on the small of the back with thumbs nearly touching each other, and with fingers spread over the lowest ribs.

4. With arms held straight, swing forward slowly so that the weight of your body is gradually brought to bear upon the subject (see Fig. 2). This should take 2 or 3 seconds, and must not be violent. The lower part of the chest and abdomen are thus compressed and air is forced out of the lungs.

5. Now immediately swing backward so as to remove the pressure but leave your hands in place, thus returning to the position shown in Fig. 1. Through their elasticity the chest walls expand and air is thus drawn into the lungs.

6. After 2 seconds swing forward again. Thus repeat slowly, deliberately 12 to 15 times a minute. Don't hurry. The great temptation is to go too fast. If a watch or clock is not visible, follow the natural rate of your own breathing—swinging forward with each expiration and backward with each inspiration.

7. Continue artificial respiration if necessary 2 hours or longer without interruption until natural breathing is restored or until a doctor arrives. Even after natural breathing begins, carefully watch that it continues. If it stops start artificial respiration again. While you are doing all this, have an assistant keep the patient warm by placing beside his body warm (not hot) water bottles.

8. Do not give any liquids whatever by mouth until the patient is fully conscious.

This is well worth trying out on some of your friends, because you never know what minute you will be called upon to practice artificial respiration, e.g., for drowning, lightning.

**Hope's Quiet Hour.**

**Servants of Christ.**

Whatever ye do, do it heartily, as to the Lord, and not unto men; knowing that of the Lord ye shall receive the reward of the inheritance; for ye serve the Lord Christ. Col. 3: 23, 24.

The time is great! "What times are little? To the sentinel That hour is regal when he mounts on guard." —GEORGE ELIOT.

Yesterday I was reading a book published last year, called "Christ and Woman's Power." It is both disheartening and inspiring; for it boldly lifts the veil of secrecy which covers out of sight

loathsome sins, which are doing deadly mischief in every nation; and it also shows that many have enlisted in the the great army of Christ, following Him in the power of His Spirit to wage war to the death against evil.

I read the book through, feeling more sad and discouraged than usual. Spiritual wickedness in high places reared its ugly head and glared at me triumphantly hissing out its insolent challenge to the men and women who ventured to attack it in its strongholds. But I took heart as I remembered that our King and Master is invincible. He sent out His little band of disciples to win "all nations," inspiring them with courage by the declaration: "All power is given unto me in heaven and in earth. Go ye, therefore, and teach all nations."

Day after day we say confidently: "Thine is the power!" knowing that the issue is certain, "for He must reign, till He hath put all enemies under His feet."

Christ is the Great Conqueror, and those who fight loyally in the ranks of His army know that Right is Might and that light is stronger than darkness, as God is invincible and the powers of evil are weak and doomed to defeat.

"Is the light for ever failing?"

God's in His heaven!

Is the faint heart ever quailing?"

God's in His heaven!

God's strong arms are all around you, In the dark He sought and found you, All's well! All's well!

All's . . . well!"

So wrote John Oxenham in 1915, while the Great War was raging and the issue—except to the eye of faith—seemed terribly uncertain. We can lean, in sure and certain hope, on Him Whose mighty power has created and sustained this marvellous universe, and Whose love for sinners brought Him into our midst as our Comrade and Saviour.

But what of ourselves? Are we doing our bit in the great crusade against evil?

As I read of the great things accomplished by other women, my own life seemed in comparison to be scarcely worth while. "The trivial round, the common task suddenly looked very trivial and common. I thought of you, my unseen friends, and hesitated to tell you what I had just been reading—though it was very interesting—for I might take the heart out of your every-day ordinary work.

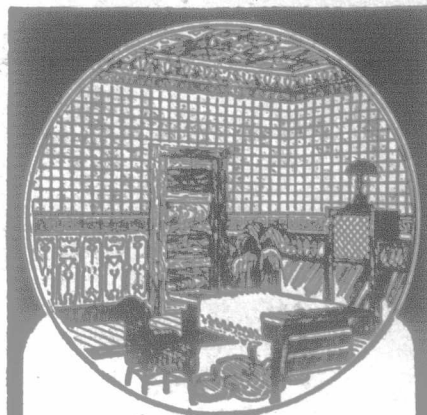
Then I opened my Bible and read 1 Chron. 9:31—the quiet statement that Mattithiah "had the set office over the things that were made in the pans," and I suddenly felt happier. That Levite may have felt that his work in the house of God was not important. He did not know, you see, that his daily accomplishment of his "set office" would be an inspiration to me 3,000 years later. He did not know that on some lonely prairie in the Canadian West, or in some busy kitchen in Ontario, the remembrance of his "set office" would cheer the heart of another worker among things made in the pans.

St. Paul has flooded many kitchens with glory by reminding workers that they are appointed by the Great Leader—who was Himself a manual Laborer—to their special set office. It is worth while to polish the pans to-day (though they may be blackened again to-morrow) for "of the Lord ye shall receive the reward of the inheritance; for ye serve the Lord Christ." The time is great!—and the work is splendid, too, if you are doing the work appointed by the Master. If you study 1 Chron. 9: 24-34 you will see that each of the servants of the house of God had his "set office." Some were porters, others "had the charge of the ministering vessels"—I expect they had dishes to wash—others were working with flour and spices, others made the bread, which was offered fresh to God every Sabbath. Then there were the singers, who "were employed in that work day and night."

I think we are all appointed to sing unto the Lord (in our hearts) day and night.

Now, having reminded you that your everyday work is not commonplace, if it is done loyally and heartily, for the love of the Lord Christ; I will pass on to you some of the things I read yesterday in "Christ and Woman's Power."

The writer asks: "Is not the liberation of woman's power a continuation of the work which Christ began two thousand years ago?" The astounding fact is noted that, "if there were no other books

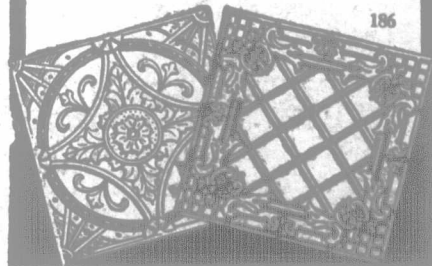


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200 Acres—Close to City of Toronto

The property contains two hundred acres, more or less. It is about five miles from the limits of the City of Toronto, lying about one and one-half miles east of the Village of Newtonbrook, which is on Yonge Street. Nearly all the land is cleared, and about one hundred and fifty acres are available for cultivation, the balance being river bottom land, suitable for pasture. A branch of the River Don runs through the property. A good house, barn and other outhouses are on the premises. This would make an excellent stock farm, or would be ideal for a city man desiring a farm near town. Apply to

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in the world, with the exception of the four Gospels, the reader of them would have no idea that women were ever considered inferior to men in any way whatsoever." Our Lord seems to have deliberately spoken of men and women in the same way, in His illustrations. Two men in a field, and two women at the mill—one is taken and one left. A man seeks for his lost sheep, and a woman for her lost piece of silver. A man sowed seed in his field, and a woman hid leaven in her meal. There were many lepers in Israel but only one leper (a heathen) was cleansed. There were many widows in Israel, but Elijah was sent to a widow of Zarephath (a heathen place.)

Nearly a hundred years ago an American woman felt herself called to the medical profession. In those days a "woman doctor" was unheard of. The idea filled people with horror. Elizabeth Blackwell tried the larger medical colleges and was refused admittance. Then she tried twelve smaller medical schools and was at last accepted, winning her M. D. degree in 1849. Twenty years later Sophia Jex Blake, calling God to go with her, made a determined attempt to study medicine in Edinburgh. She was fired with the desire to give effectual help the poor and suffering women. After a hard battle against tremendous opposition Miss Blake gave up the struggle—in Edinburgh—and undauntedly set to work in London to found the London School of Medicine for Women.

As a result of that woman's courage, faith and persistence, other women have been able to carry help and healing where trained workers among women are urgently needed. Twenty-five years ago two women doctors from Edinburgh settled in a long, white bungalow in India, having come a long way to help their suffering sisters and helpless little children.

Were they needed there? Listen!

"One day, hearing that a wee child of three lay unconscious after convulsions, one of the young doctors went to see what could be done; and arrived just in time to see a Mohammedan doctor lift a red-hot piece of iron and press it on the child's head. When a cry of horror escaped her, the child's own father replied: 'Oh, Miss, for many days that door was open, and an evil spirit entered there and must be destroyed, or our child will die.'"

One of the women doctors was called up at midnight to see a dying woman. She found in another room a tiny baby which had not been fed for four days. She was told: "Oh, never mind the baby it's not worth while to do anything to it, it's nothing but a girl."

That village 'was once a village of despair, it is now a village of hope. The fame of the two women doctors has spread far and wide." The courage of another woman has "enabled them to bring comfort, love, and a message of hope to the suffering women of India."

I have just given you a peep into "Christ and Woman's Power," and the book itself only touches the edge of the wonderful story of the great work opening out before women of this century. The subject is a fascinating one, but we must not forget that we are servants of Christ. Each woman has her "set office"—and each man also—and those who are set over the things that are made in the sauce-pans and frying-pans shall receive the great reward of the Master's "Well done!" as certainly as the women who have been called to serve in the high places of the world's field—if they are faithful.

The high title claimed by St. Paul, St. Peter and other leaders of the Church was "a servant of Jesus Christ." What higher service can we aspire to?

"Yea, thro' life, death, thro' sorrow and thro' sinning, He shall suffice me, for He hath sufficed." DORA FARNCOMB.

**For the Sick.**

A reader of the "Advocate," London, Ont., sent a box of lilies of the valley—nearly sixty bunches—which gave much pleasure to patients in the hospital. I also acknowledge gratefully the copies of "Onward," "Northern Messenger," etc., which are read and passed on by many patients.

DORA FARNCOMB,  
6 West Ave., Toronto.

**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.

**Making a Fireless Cooker.**

A fortnight or so ago "Medicus" put me in for telling you how to make a fireless cooker, so here goes. In the first place if you want one, and can well afford it, buy a cooker; the commercial ones have been brought to a high state of efficiency.

If you can't afford to buy one you can make a very helpful substitute at home—one that will cook very nicely any dish that requires, or will bear, long, slow cooking.

First of all you must secure the receptacle. This may be: a stout wooden box, closely jointed and with a close lid; an old trunk; a wooden candy bucket; a galvanized iron ash or garbage can; or any similar contrivance. The next requirement is one or more inner "containers," according to the size of the outer receptacle; and the third is plenty of insulating material, which may be excelsior, paper torn in bits and crumpled, clean straw or hay, wool, etc. Some sheets of asbestos about one-eighth of an inch thick.

Process: (1) First line the outer box or bucket, lid and all, with the sheet asbestos.

(2) Next make receptacles of the asbestos of just the right size to contain the inner receptacles or containers. These may be tin or galvanized pails with close covers. An asbestos top should be provided to cover each over, and, of course, there must be an asbestos bottom.

(3) Pack into the bottom of the large outer receptacle at least 3 inches of the excelsior, hay or whatever is used, packing it very firmly. Place the asbestos cylinders with the buckets inside on this, and pack the non-conducting material all about as solidly as you can, to within half an inch of the top of the asbestos cylinder. Now if you have a zinc top to fit your box, with a hole, or holes cut the size of the top of the asbestos cylinders, your cooker will look neat, and you will not be bothered with the excelsior or hay coming up in the way.

Cooking in the Fireless.—A cooker of the kind described above is, of course, useful only for foods that will cook slowly, as it cooks solely on the principle of retention of heat. It is, however, excellent for porridge, scalloped potatoes, stews of all kinds, custards, small beets etc., and the only trick is to select meals that it can manage. In time the housewife becomes quite an expert at this, and finds she can provide a great variety of foods in the cooker, saving both fuel and time, and sparing the kitchen unnecessary heat. Two things necessary to remember are: 1. That one must never peep in to see how things are coming on, as that would let out the heat. 2. That one must allow plenty of time for the foods to cook. The fireless of this description takes considerably longer than the range, as a rule; but as it does not let the foods cool off quickly it does not matter if they are left considerably over-time—provided, of course, that they are not the sorts of dishes that require to be removed the very minute they are done.

When using the cooker it is necessary to let the article boil rapidly for 5 to 15 minutes, according to the kind, on the oil stove or range; then put it at once into the container, put on the lid, cover with the asbestos top, then with a cushion kept for the purpose; finally close down the lid of the box or can and leave until required.

Some of the commercial cookers are provided with radiators that will permit roasting and baking, but it is hard to make one of this kind at home that will be absolutely satisfactory and run no risk of setting the cooker, and perhaps the house, on fire. Anyhow a fire in the range for one day a week will do a good deal of baking and roasting.

It is unnecessary to say, perhaps, that the interior of the cooker must be kept very sweet, the utensils being well washed, dried and sunned, after each using, and the lid of the box left

open, exposed to full sunshine whenever possible, until every odor has disappeared.

Are you taking time to teach your children, or any children with whom you have to do, to be kind to the birds? The other day a friend of mine came home from a walk along a quiet road quite furious. She had met two little boys carrying a hat half full of tiny, still naked birdlings; nor had her questioning induced the lads to tell what they were going to do with them. At all events, the fate of those baby song-birds, even if they escaped a worse one, could be nothing but slow starvation.

Perhaps the lads did not realize the harm they were doing by destroying the birdlings—and with them all the future generations of birds of which they might have been the progenitors. If so someone had neglected to teach. Mothers, and sisters, and teachers can do much toward saving the birdlife of this continent if they will but take a little time to teach the children to love the birds so much that they simply cannot destroy one or even its eggs.—Besides think of the character effect on the child!

It's up to us to take care of the birds. The agricultural interests of the world demand that we do so in every possible way.—Besides what would summer be without the song-birds? How can anyone miss loving them?

JUNIA.

**Worth Thinking Over.**

**"All food, no matter how simple, should be well cooked and placed on the table with taste and daintiness. A dish, even if well cooked, which is badly dished, offends the eye and has a tendency to mar the pleasure of and benefit to the consumer."**

—Food and Cookery.

**"The killing of our insect-eating birds must be stopped if we are to save our forests, our shade trees and our fruit trees.—Our Dumb Animals.**

**Cleaning Silver.**

For "An Inquirer," Waterloo Co., Ont. A friend of mine cleans her silver knives and spoons by putting them in an aluminum kettle (must be aluminum) with a quart of water to which has been added 1 teaspoon salt and 1 teaspoon soda. The cutlery is given a good boiling in this, then polished off with a soft cloth. *Scientific American* gives the following methods: (1) "If only slightly tarnished the following is the most suitable method: Prepare a mixture consisting of 3 parts of best purified chalk and 1 part white soap; add water to form a thin paste. Rub with this until the articles are quite bright. (2) Mix whitening with spirit of sal ammoniac to form a paste. Very effective but 'makes one weep' as the ammonia bothers the eyes. (3) Liquid polish:—Prepared chalk or whitening, 2 oz.; water of ammonia, 2 oz.; water enough to make 8 oz. (4) Good Polish. Mix together 4 oz. spirits of turpentine, 2 oz. of 90% alcohol, 1 oz. spirits of camphor, and 1/2 oz. spirits of ammonia. To this add 1 lb. of whitening and stir until the whole is like thick cream. Cover the silver with the mixture, applying with a clean sponge. Let dry, then brush off and then polish with chamois.

**Re Window Shades.**

For "Subscriber." Try dry cleaning your window shades by rubbing them well with a mixture of borax and starch, or one of the wall-paper cleansers that can be bought at a hardware store. If these fail you can paint the blinds the same color, taking care to put the paint on very thinly and evenly with a rather soft brush.

**Window Curtains.**

For "Mary," Wellington Co., Ont. Whether you shall use two sets of curtains for each window (except the hall, of course) must depend on the size and character of your room. Two sets of curtains are not always necessary. Some rooms look best with just one set, made of scrim, net, voile, marquissette, or muslin, sash length, with a connecting valance between at the top. Other rooms seem to need a broader effect; then in addition to the net curtains next the glass, side curtains and top valance are added. These may be of chintz,

Pongee, Japanese any of the plain curtain fabrics. a room in which draped with plain chintz (very little no side curtain very good. It room. You see upon the character you will have a tion and judge the invariable paper and rugs used, while with or figured curtain always needs head

As a rule a b house, for that n than when given downstairs wall done with plain chamois or honey liked), or light or painted wood rugs; side curt cushions of chint to give space (one-color spaces) of the chintz.

But if one a rugs that mus scheme must b count, now, m it should happ "made for the r do very well if t rug is oriental, o not go well wi curtains must b scrim, with side desired) of plain plain sunfast lin If one remember always bad, an must be offset b cannot go very l Of course, s coloring. Soft ones, should b should prevail t

**Season**

**Pea-Pod Soup.** pea pods. Th cream soup. T shell them and u and the pods for pods put them an onion and bone, leg of lar Cover the pods water and let s half, or until it salt and pepper spoonful of flo butter and stir one pint of mill in the broth wi and cook for ab it thickens sli

**Berry Custard.** (or a large fruit bits of sponge e Make a rich cus yolks of 2 eggs an of sugar. F almond or vanilla chopped nuts ( berries over th custard over a Finally put berri sugar, cover w serve at once. with a pint of r starch and sug prefers.

**Wild Raspberri** well, heat and b three-fourths as boil again for small jars or gla with sugar to t inch, then with with a lid. The **Raspberry Jam** not too rich, or be short enough, tough. Roll ou with jam, then r together. Bru Serve hot, for p sugar.

**Banis**

*Scientific Ame* methods of getti 1. To drive keep them out, insect powder, g camphor, tobacc persistence.



Pongee, Japanese printed towelling, or any of the printed or plain "sunfast" curtain fabrics. The other day I saw a room in which the windows were draped with plain net, with a valance of chintz (very little fulling) across the top—no side curtains—and the effect was very good. It happened to suit the room. You see the whole thing depends upon the character of your room, so you will have to exercise your imagination and judge for yourself, remembering the invariable rule that with figured paper and rugs plain curtains *must* be used, while with plain paper either plain or figured curtains may be used. A hall always needs heavy net.

As a rule a bungalow, or any smallish house, for that matter, never looks better than when given unity by having all the downstairs wall plain and the same, all done with plain paper in sand color, chamois or honey shades (if much light is liked), or light gray; floor bare, stained or painted wood brown, with a few small rugs; side curtains and upholstery or cushions of chintz. Such a scheme seems to give space (on account of the plain, one-color spaces), and cosiness on account of the chintz.

But if one already has large figured rugs that must be used, a different scheme must be adopted. On no account, now, must chintz be used, unless it should happen to look as though "made for the rug," in which case it will do very well if the walls are plain. If the rug is oriental, or any other kind that will not go well with chintz, then all the curtains must be plain, e. g., net, voile or scrim, with side curtains and valance (if desired) of plain pongee or one of the plain sunfast linen curtain fabrics. . . . If one remembers that too much figure is always bad, and that any figure at all must be offset by broad plain spaces, one cannot go very far wrong. Of course, something depends upon coloring. Soft effects, rather than gaudy ones, should be aimed at, and harmony should prevail throughout the room.

**Seasonable Recipes.**

**Pea-Pod Soup.**—Don't throw away the pea pods. They make an excellent cream soup. Take two quarts of peas, shell them and use the peas for a vegetable and the pods for soup. After washing the pods put them in the soup kettle, chop an onion and add left over roast beef bone, leg of lamb bone or other bones. Cover the pods and bones with plenty of water and let simmer for an hour and a half, or until it reduces; then strain and salt and pepper to taste. Take one tablespoonful of flour and tablespoonful of butter and stir to a smooth paste. Add one pint of milk to this and then put it in the broth with some chopped parsley and cook for about ten minutes, or until it thickens slightly.

**Berry Custard.**—Half fill custard cups (or a large fruit-dish, if you choose) with bits of sponge cake or stale layer cake. Make a rich custard with a pint of milk, yolks of 2 eggs and a heaping tablespoonful of sugar. Flavor very slightly with almond or vanilla and add 1/2 cup finely-chopped nuts (if you like). Put some berries over the cake, pour the warm custard over and let all become cold. Finally put berries on top, sprinkle with sugar, cover with whipped cream and serve at once. A boiled custard made with a pint of milk, 1 egg, a little corn-starch and sugar may be used if one prefers.

**Wild Raspberry Jam.**—Clean the berries well, heat and boil for 15 minutes. Add three-fourths as much sugar as fruit and boil again for 15 minutes. Pour into small jars or glasses. When cold, cover with sugar to the depth of one-quarter inch, then with a layer of paper. Cover with a lid. These need not be sealed.

**Raspberry Jam Roll.**—Make pastry, not too rich, or it will not roll; it should be short enough, however, to escape being tough. Roll out into a sheet, spread with jam, then roll up and pinch the ends together. Brush with milk and bake. Serve hot, for pudding, with cream and sugar.

**Banishing Ants.**

*Scientific American* gives the following methods of getting rid of ants:  
1. To drive ants out of a room and keep them out, use where they frequent insect powder, ground mustard, sulphur, camphor, tobacco, cloves, oil of cedar, persistence.

2. Peru balsam smeared on table or cupboard legs in pantry keeps ants down.
3. To poison ants feed them on borax and sugar, or yeast and sugar.
4. To kill the insects by wholesale drop some quicklime on the mouth of their nests and wash it in with boiling water.
5. Pour into their retreats water in which camphor or tobacco has been steeped.
6. Grease a plate with lard and set where ants can get at it. When the plate is filled with ants drop it in a kettle of boiling water. Repeat often as necessary. Or a sponge saturated with sweetened water may be used the same way.
7. For ants on lawns: Pour a little carbon bisulphide into the openings of the hill, stepping on each as it is treated to close it up.
8. To prevent ants from injuring trees make a line of gas tar round the stem of the tree, also near the ground along any wall the tree chances to be near.

As carbon bisulphide is highly inflammable and the vapor dangerously explosive, never use it in the presence of a naked light of any kind, even a lighted match, nor in the neighborhood of a fire.

**The Scrap Bag.**

**White Shoes.**

Clean your white canvas or renskin shoes with bon ami. Keep a cleaning powder bag on hand for quick rubs if the shoes are only a little soiled.

**Brush for Cleaning.**

Use a small, stiff scrubbing brush to clean corsets and white parasols. Scrub with soap and water, rinse well and dry very quickly in the hot sun.

**Soap Economy.**

Don't waste the little bits of soap. Either wet them and press on to the side of a new cake, also wet, where they will stick and can be used up, or keep them in a jar and when enough are collected melt them down with a little water into soap jelly, which can be used for either toilet or laundry, depending on the kind of soap.

**Glove Ends.**

To keep your glove tips from wearing out, do not press the fingers to the very end except when you want to look extra trim. This means a great saving in gloves, no small item at present prices.

**Don'ts for Thunderstorms.**

During a thunderstorm don't stand in the doorway of house or barn. Don't stand under a tree. Don't stay on the porch or verandah, nor near the walls of a room. Don't stay near the stove, nor near a screen door or window. Don't dip up water from a rain-barrel—a bolt may follow the waterpipe. An electricity expert says one is safer lying down in an iron bed than anywhere else, but one must be careful not to touch the iron. If one is caught in a bad storm out of doors one should sit down in an open field.

**Water From Ham.**

Always save the water used in boiling a ham for pea or bean soup, or to use instead of water for baked beans. The fat should be taken off the top and used for shortening.

**Current Events**

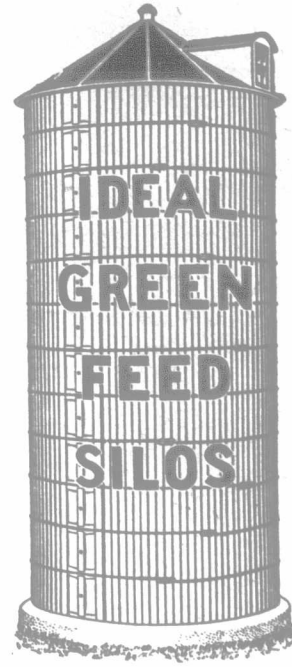
Dr. A. H. Abbott has become head of the Canadian Red Cross in succession to Mr. Noel Marshall and Mrs. Plumtre. His official title is General Secretary.

The Canadian navy is to be increased by two submarines in addition to the two torpedo boats and the cruiser which will be accepted as a gift from the Imperial Parliament.

A strike was called on the hydro canal at Niagara Falls on June 16.

Mr. Samuel Gompers was re-elected as head of the American Federation of Labor by the convention sitting in Montreal.

Henceforth the Canadian luxury tax



**THE IDEAL GREEN FEED SILO**  
is the ideal investment for 1920

It provides succulent feed during the entire year, enabling the cows to give 25% more milk than if they were fed on a dry feed ration.

The silage ration is considerably cheaper than a dry ration with hay and other feed at the present high prices.

Every farmer who decided last season to get along another year without a silo is now saying: "I wish I had a silo." At the present high prices of milk, the Ideal Green Feed Silo pays for itself in a short time. It makes better silage, is better built, made of better material, and will last much longer than inferior silos. Thousands of Canadian cow owners have proved this to their own satisfaction.

Write to nearest office for catalogue, which describes the Ideal Green Feed Silo and gives valuable information about silage

**THE DE LAVAL COMPANY, Ltd.**  
MONTREAL PETERBORO WINNIPEG VANCOUVER  
50,000 Branches and Local Agencies the World Over

Cruickston Park Farm  
Metal Shingle & Siding  
Co., Limited.

Gentlemen,—We used your Acorn Quality Corrugated Iron on the walls of our new horse barn and your Safe Lock Shingles on the roof. These goods have given us entire satisfaction, and we recommend them to farmers who want a thoroughly storm and rain proof barn.  
J. WETHERELL, Manager.

**"We Recommend Them To Farmers Who Want a Storm and Rain Proof Barn"**

WE have received hundreds of letters like the one reproduced above from the Cruickston Park Farm (owned by Miss Wilks). Thousands of farmers in all parts of Canada are getting complete satisfaction from their roofs of

**PRESTON SAFE SHINGLES**

Such a roof is absolutely fire-Proof—for Preston Shingles simply cannot burn. And properly grounded, they form complete protection against lightning. The unique design of Preston Shingles ensures a "Lock" so secure that the roof is practically one great sheet of solid metal. Roof your barn with Preston Safe-Lock Shingles and be satisfied.

Send me your Folder describing Preston Safe Lock Shingles.

**THE MS AND SG LIMITED**  
METAL SHINGLE AND SIDING COMPANY  
ASSOCIATED WITH THE A. B. ORMSBY CO. LTD.  
PRESTON - MONTREAL - TORONTO  
WINNIPEG - SASKATOON - CALGARY

Name.....  
Address.....

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CASH in the pocket encourages careless spending.

You will find it a much easier task to save if you keep your "Spending" money in a Savings Account with The Bank of Toronto. There it is safe and can be drawn upon when really needed.

A reluctance to draw from that account will grow upon you, and protect you from many needless expenditures.

Once the saving habit is acquired, the account, with its earnings of interest, will steadily grow to a substantial amount.

Many young men and women are working out this scheme with us to advantage.

It is a plan worthy of a trial.

Thomas F. How  
General Manager

# THE BANK OF TORONTO

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36



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

**FOR SALE—BELGIAN HARES, HIMALAYANS Rabbits, White Angora Rabbits, English Spotted Rabbits, Black Siberians.** Robert W. Nicholson, Strathroy, Ontario.

**FORTUNES IN FUR RABBITS—WE FURNISH** best quality breeding stock and pay \$6.00 to \$10.00 a pair for young. Turn your back yard and spare time into \$\$\$\$. Our big book, "Successful Rabbit Keeping," contract and valuable particulars—10c. Rabbit skins bought. Guinea Pigs—Supplies—Breeders' Books. Meek & Court, 5173 W. Madison St., Chicago.

**SCOTCH COLLIE PUPS, GUARANTEED** workers or money refunded; males \$10.00, females \$6.00. C. Walker, R.R. 2, Wilton Grove, Ont.

**FARM FOR SALE—100 ACRES FIRST-CLASS** land, one mile west of Glanworth, splendidly situated, 10 acres wheat, 25 acres of oats, 20 acres hay, all to go with the farm if sold by the first of July. Winding up an estate. Reduced to eight thousand for quick sale. Mrs. J. McDonald, 45 Stanley Street, St. Thomas, Ont.

**FIRST-CLASS GRAIN AND DAIRY FARM,** 150 acres, 10 acres bush, balance under cultivation, situated on County road, three miles from C.P.R. station, three miles from City Dairy, two miles from Cheese Factory, three miles from Canadian Milk Powder Co., Public School on the farm, telephone and rural mail, two miles from Church. Buildings consist of good story and half frame house, with hard and soft water and furnace, large frame barn on stone foundation with good stabling, underneath water supplied to stables, with windmill, silo, large new driving barn, new hen house, farm well fenced with woven wire. This is counted one of the best farms in the township of West Zorra. Apply to Box 24, Embro, Ont.

**PURE-BRED SCOTCH COLLIE PUPPIES** intelligent and good companion. Eight dollars each, females only. Apply: Urias Creesman, New Hamburg, Ont.

**WANTED—FURNISHED FARM TO WORK** on shares by experienced Canadian farmer, married. For further particulars write Box 33, Farmer's Advocate, London, Ontario.

**WANTED—PROBATIONERS FOR TRAINING** School, Niagara Falls General Hospital. Three years course. Apply to Superintendent.

### FOR SALE

Case 9-18 Tractor with two-bottom plow, used very little and in perfect order.  
M. Swelton Farm, - Baie d'Urfe' Que.

The Polish forces last week evacuated Kiev and took up a new position, where they are now reported to be surrounded by Bolshevik troops. Recent despatches state that Brusiloff has been arrested in Moscow through fear of his attempting to overthrow the Government. The Soviet Government is making conditions for withdrawing its troops from Persia.

Twenty-two women will sit in the new Reichstag at Berlin.

## FARMERS' BUSINESS



15

For the past 54 years, this Bank has given particular attention to the business of Farmers.

We have helped many over the rough places, and have aided many more to the highest plane of success.

We are prepared to extend you every aid within legitimate banking practice.

Come in at any time and talk over your affairs with us. You are always welcome.

## THE MERCHANTS BANK

Head Office: Montreal, OF CANADA Established 1864.

With its 138 Branches in Ontario, 44 Branches in Quebec, 1 Branch in New Brunswick, 2 Branches in Nova Scotia, 36 Branches in Manitoba, 46 Branches in Saskatchewan, 86 Branches in Alberta, and 12 Branches in British Columbia, serves rural Canada most effectively.

WRITE OR CALL AT NEAREST BRANCH.

## Don't Be Misled

During the last fortnight the writer has met several farmers throughout Ontario who claim to have been canvassed by certain Fertilizer ("Salesmen"?). These chaps did their utmost to dissuade these farmers from making a trial of

### Sydney Basic Slag Fertilizer

Even went so far as to tell them that BASIC SLAG, while possibly of some use on grass lands, would practically destroy their wheat. Now, just stop and consider the calibre of a man who would try to make you swallow such bunkum. It might amuse you to hear him explain how it could be that a fertilizer which would help grass would be injurious to wheat. Possibly he could give you a very amusing explanation for farmers purchasing over 35,000 tons during the past season. It's hardly likely they got it to destroy their wheat. **Think this over for yourselves.** We would be pleased to mail you some very interesting literature and give you the names of prominent farmers in Ontario who have had some years' experience with BASIC SLAG, as well as other goods. You are anxious to invest your money where it will give the best returns. Then get all the facts.

### The Cross Fertilizer Co., Ltd., Sydney, N.S.

Address all enquiries to our General Sales Agent:

A. L. SMITH, 220 Alfred Street, KINGSTON, ONT.

(Please mention this paper when writing)

Write to The Farmer's Advocate and Home Magazine for Instructions on how to make money by securing NEW SUBSCRIPTIONS.

is to be collected by a system of revenue stamps.

Marked increases of pensions, state insurance for returned soldiers, and the grant of a war service gratuity based on 3 years service to the dependents of those who died during the War, and who were receiving separation allowance, are recommended by the Special Committee on Pensions and Re-establishment.

The Welland Co. (Ont.) Women's Institute, in Convention at Chippawa, adopted a resolution declaring the necessity that the censorship of moving pictures be placed in the hands of the Minister of Education, and that the censors be chosen from the ranks of the teachers of the Province.

Mr. McAdoo has withdrawn from the contest for the Presidency of the United States.

One death from bubonic plague is said to have occurred in Galveston, Texas. The plague has also reached Tampico, Mexico and Pensacola, Florida, and steps are being taken in New York to prevent its entrance there. Rats are believed to be responsible for much spreading of the disease.

The British Labor Delegation, which returned recently from Russia, strongly disapproves of the Soviet Government and its interference with individual liberty.

Three hundred and thirty Italian prisoners have been massacred by the Albanians.

The new International Court of Justice was opened at the Hague Peace Palace on June 16th.

## Markets

Continued from page 1182.

### Toronto Produce.

#### Breadstuffs.

Manitoba Wheat.—No. 1 northern, \$3.15; No. 2 northern, \$3.12; No. 3, northern, \$3.08.

Manitoba Oats.—No. 2 C. W., \$1.38½; No. 3 C. W., \$1.38½; extra No. 1 feed, \$1.38½; No. 1 feed, \$1.37½; No. 2 feed, \$1.36½.

Manitoba Barley.—No. 3 C. W., \$1.99; No. 4 C. W., \$1.69; rejected, \$1.66; feed, \$1.66.

Ontario Wheat.—F. o. b. shipping points, according to freight; No. 1 winter, \$2 to \$2.01; No. 2 winter, \$1.98 to \$2; 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.

Barley.—Malting, \$1.87 to \$1.89.

Buckwheat.—No. 2, nominal.

Peas.—No. 2, \$3.

Rye.—No. 3, \$2.20 to \$2.25.

American Corn.—Prompt shipment, No. 3 yellow, \$2.40, nominal.

Ontario Oats.—No. 3 white, nominal; according to freights.

Manitoba Flour.—Toronto, Government standard, \$14.85, in cotton bags.

Ontario Flour.—In jute bags, prompt shipment, Government standard, \$13.25, nominal, Montreal and Toronto.

Hay.—Track, Toronto, No. 1, \$30; mixed, \$25. Straw—Car lots, \$16 to \$17.

Millfeed.—Car lots, delivered Montreal freights, bags included: Bran—per ton, \$54; shorts \$61; good feed flour, per bag, \$3.75 to \$4.

#### Hides and Skins.

Hides, f. o. b., country points.—Beef hides, flat cure, 10c. to 12c.; green hides, 9c. to 11c.; deacon or bob calf, 75c. to \$1.25; horse hides, country take-off, \$5 to \$6; No. 1 sheep skins, \$1.50 to \$2.25; yearling lambs, 75c. to \$1; horse hair, farmer's stock, 38c.

City Hides.—City butcher hides, green, flats, 15c.; calf skins, green flats, 20c.; veal kip, 15c.; horse hides, city take-off, \$5 to \$6.

Tallow.—City rendered, solids in barrels, 11c. to 12c.; country solids in barrels, No. 1, 10c. to 11c.; cakes No. 1, 13c. to 14c.

Wool—Unwashed, coarse, 18c.; medium, 20c.; fine, 25c.

#### Farm Produce.

Butter.—Was slightly firmer on the wholesales this past week. Fresh-made creamery, pound prints being quoted at 56c. to 58c. per lb. for choice, and 55c. to 56c. per lb. for medium; best dairy

at 49c. to 50c. per lb.; to 48c. per lb.; 38c. per lb. O. 37c. per lb.

Eggs.—Eggs w. at prices on a No. 1's selling a and selects at wholesale.

Cheese.—The at 35c. per lb. for the new, w

Poultry.—The slow and weak J exception of br kept stationary v

Poultry prices b Spring chickens, dressed, 60c. per

20c. per lb.; du lb.; dressed, 40c. lbs. alive, 28c.

per lb.; from 4 a and dressed, 30c

lbs., per lb., alive lb. Turkeys, per 45c. Guinea hen dressed, \$1.50.

#### Wholesale Fr

Home-grown st to come in quite fr

are gradually inc quality; prices b

Strawberries ha according to qual

quite a number b boxes which wer

They sold all the with a small qu

bringing 42c., 45 per lb.

Beets.—New q quality, so contin

namely 90c. to \$

Cauliflower an both made their s

season, the first s per 11-qt. bask

\$8 per crate. I bringing from \$6.

Potatoes—Imp in quite freely a

in price, No. 1's s bbl.; No. 2's at

bbl; ungraded No bbl, and No. 3's

There are still a at \$6.50 to \$6.75

#### Mo

Dressed Hogs market for dressed

easier tone and pri at 29c. to 29½c.

abattoir-dressed h ly unchanged in p

for light hams, 4 10 to 15 lbs., and

is in good deman at 45c. to 47c.

bacon and 55c. Lard is steady at

pure leaf lard, and package.

Poultry.—The entirely neglected repeated at 53c.

storage turkeys at

Potatoes.—The in the market for

ency of prices Carloads of Que

quoted at \$5.50 to at \$5 to \$5.25 per

In a jobbing way more than quoted

Maple Products syrup is quite lip

changing hands, p \$2.75 per gal. tin.

at 28c. to 30c. per

Eggs.—The qu not extra good

though the quanti Consumption is

steady, being 57c 53c. for No. 1 fres

No. 2 fresh.

Butter.—Althou greatly benefited

of creamery are n mand dominating

erized creamery 57c. per lb., fines

to 56¼c., and fine

Cheese.—The change. Quebec

133¼c. to a fractio

Grain.—The ma strong and prices

to \$1.49 per bush Western, \$1.47 to

at 49c. to 50c. per lb. and medium at 46c. to 48c. per lb.; bakers' dairy at 36c. to 38c. per lb. Oleomargarine at 33c. to 37c. per lb.

Eggs.—Eggs were only a steady trade at prices on a level with a week ago; No. 1's selling at 52c. to 53c. per doz., and selects at 55c. to 56c. per doz., wholesale.

Cheese.—The market kept stationary at 35c. per lb. for the old; and 33c. per lb. for the new, wholesale.

Poultry.—The market for poultry is slow and weak for all classes, with the exception of broiling chickens, which kept stationary with very light receipts. Poultry prices being paid to producer: Spring chickens, alive, 55c. per lb.; dressed, 60c. per lb. Ducks, old, alive, 20c. per lb.; ducklings, alive, 35c. per lb.; dressed, 40c. per lb. Hens, under 4 lbs. alive, 28c. per lb.; dressed, 28c. per lb.; from 4 and 5 lbs., per lb., alive, and dressed, 30c. per lb. Hens, over 5 lbs., per lb., alive and dressed, 32c. per lb. Turkeys, per lb., alive, 40c.; dressed, 45c. Guinea hens, per pair, alive, \$1.25; dressed, \$1.50.

**Wholesale Fruits and Vegetables.**

Home-grown strawberries are beginning to come in quite freely, and new vegetables are gradually increasing in variety and quality; prices being exceptionally high.

Strawberries had a wide range of prices according to quality as well as quantity; quite a number of the shipments having boxes which were only two-thirds full. They sold all the way from 20c. to 40c., with a small quantity of really choice bringing 42c., 45c. and an odd lot 50c. per lb.

Beets.—New beets were of better quality, so continued to bring high prices namely 90c. to \$1 per dozen bunches.

Cauliflower and cabbage, home-grown, both made their first appearance for this season, the first selling at \$2.25 to \$2.50 per 11-qt. basket, and the cabbage at \$8 per crate. Imported cabbage only bringing from \$6.50 to \$7 per crate.

Potatoes—Imported new potatoes came in quite freely and declined materially in price, No. 1's selling at \$14 to \$15 per bbl.; No. 2's at \$11.50 to \$12.50 per bbl; ungraded No. 2's at \$10 to \$11 per bbl, and No. 3's at \$7.50 to \$9 per bbl. There are still a few old ones being sold at \$6.50 to \$6.75 per bag.

**Montreal.**

Dressed Hogs and Provisions.—The market for dressed hogs showed a slightly easier tone and prices are about 1/8c. down, at 29c. to 29 1/2c. per lb. for fresh-killed, abattoir-dressed hogs. Hams are practically unchanged in price, being 45c. per lb. for light hams, 42c. for hams weighing 10 to 15 lbs., and 40c. for heavier. Bacon is in good demand, being steady in price at 45c. to 47c. per lb. for breakfast bacon and 55c. for Windsor selected. Lard is steady at 26c. to 30c. per lb. for pure leaf lard, according to quantity and package.

Poultry.—The market for poultry is entirely neglected and quotations are repeated at 53c. to 54c. per lb. for cold storage turkeys at 38c. to 40c. for chickens.

Potatoes.—There is not much activity in the market for potatoes and the tendency of prices is rather downward. Carloads of Quebec white potatoes are quoted at \$5.50 to \$5.75 per bag and reds at \$5 to \$5.25 per bag 90 lbs., ex-track. In a jobbing way, prices are about 75 more than quoted above.

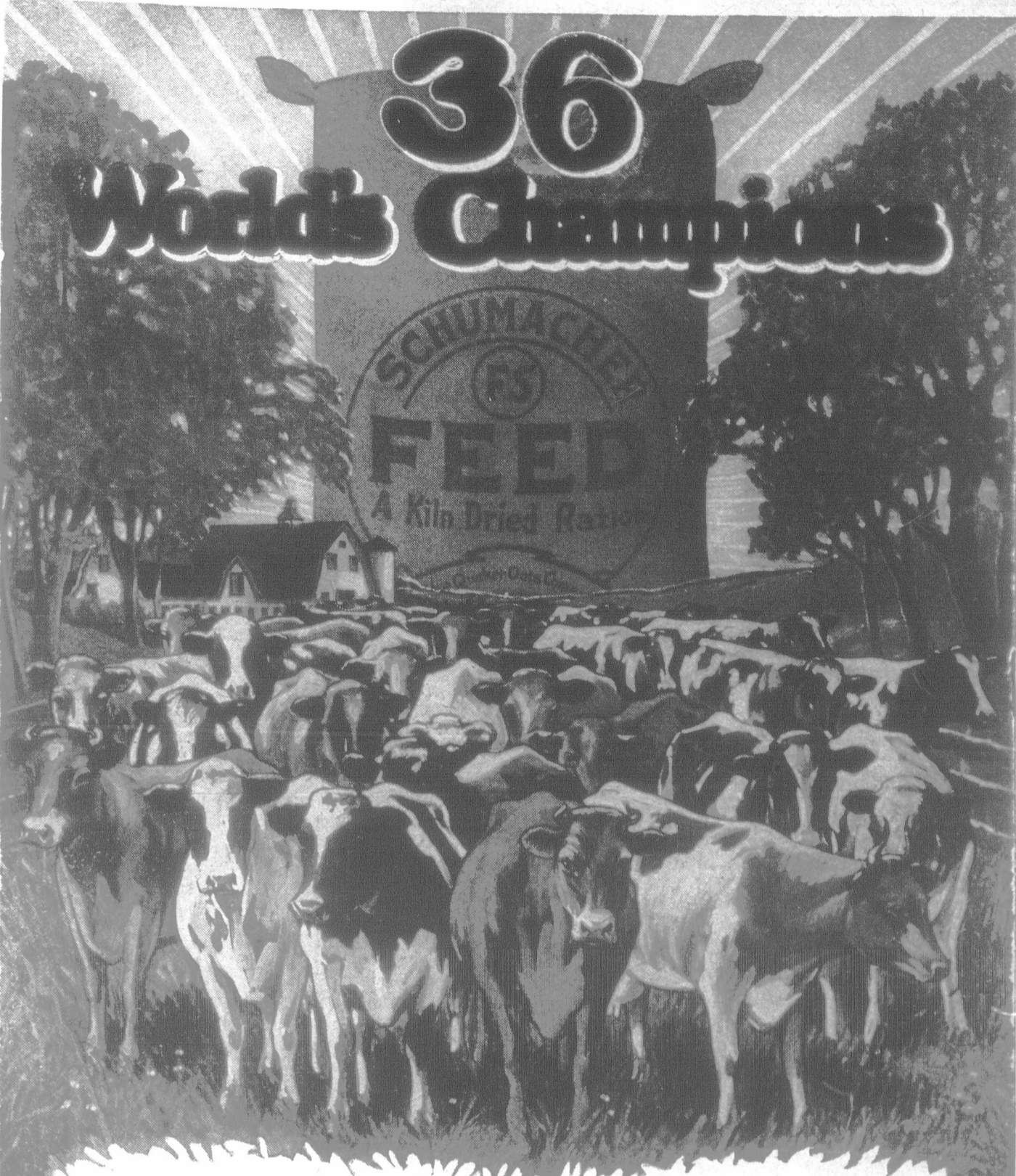
Maple Products.—Demand for maple syrup is quite light and very little is changing hands, prices are unchanged at \$2.75 per gal. tin. Maple sugar is steady at 28c. to 30c. per lb.

Eggs.—The quality of receipts is not extra good and is deteriorating, though the quantity keeps up fairly well. Consumption is large and prices are steady, being 57c. per doz. for selects; 53c. for No. 1 fresh, and 48c. to 49c. for No. 2 fresh.

Butter.—Although the make has been greatly benefited by recent rains, prices of creamery are no lower, the export demand dominating the situation. Pasturized creamery is selling at 56 3/4c. to 57c. per lb., finest creamery being 56c. to 56 1/4c., and fine 55c. to 55 1/4c.

Cheese.—The market shows little change. Quebec boards are clearing at 13 3/4c. to a fraction more.

Grain.—The market for oats is quite strong and prices are higher, being \$1.48 to \$1.49 per bushel for No. 2 Canadian Western, \$1.47 to \$1.48 for No. 3, and



THINK of it—36 World's Champion Records and new ones being added almost every month! Holsteins—Jerseys—Guernseys—Ayrshires—every breed of dairy cows have made World's Records on SCHUMACHER FEED, the World's Greatest Carbohydrate and Maintenance Ration.

SCHUMACHER FEED has to its credit more World's Champion records than all other feeds combined. No wonder it is the most popular, most widely used carbohydrate dairy feed.

For almost half a century SCHUMACHER FEED has been giving the most satisfactory results as the maintenance or condition sustaining part of the dairy ration, as well as a complete feed for dry cows, young stock, horses and hogs. The fact that it has had a very important part in the making of the records of 36 World's Champion cows is proof that it is actually giving dairymen the results desired—also that it is the profitable and result producing feed for you to feed your cows. Ask your dealer for SCHUMACHER FEED—if he can't supply you, write us.

**The Quaker Oats Company** Address **Peterborough & Saskatoon, Canada**

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**POST-GRADUATE COURSE IN OBSTETRICAL NURSING**

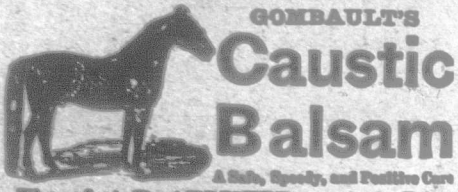
Maternity Hospital and Out-Patient Department of Western Reserve University, Cleveland, Ohio.

Sixty beds. Four months. Nurses admitted as vacancies occur. Requirements: Graduate of training school in good standing. Training: Experience in Hospital and Out-patient Department. Lectures, classes and demonstrations: 90 hours. Allowance of \$12 per month and maintenance. Affiliated courses of three and four months in obstetrical nursing will be arranged with recognized training schools regardless of State limitations. A course of fifteen months in Maternity Nursing is offered young women having at least one year high school. Uniforms and maintenance supplied. For particulars concerning this special course, apply to

**SUPERINTENDENT OF HOSPITAL**

Fifteen thousand tons of wheat intended for Britain, have been diverted, by order of the British, to starving Germany. Also large stocks of frozen mutton are being sent.

Horse Owners! Use



COMBAULT'S Caustic Balsam. The safest, best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Hemorrhoids from Horses and Cattle. SUFFICES ALL CAUTERY OR FIRING. Impossible to produce cure of Manish.

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Are prevalent in cold weather brought on by wind and overfed in-digestion both. A system tonic and blood purifier, such as FLEMING'S TONIC HEAVE REMEDY will prevent these troubles and when developed, with Fleming's Veterinary Healing Oil will quickly cure them. For best results, Fuller information in Fleming's Vest Pocket Veterinary Adviser. Write us for a Free Copy.

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HERE IS THE PROOF. "I want a box of your Capital Heaves Remedy, my horse has not got the heaves but a cough and I never saw anything work as speedy as your remedy I got from you two years ago." J. A. PYNE. TRY IT FREE. Test it before you buy it. We will send you a full week's treatment free for 5c. to cover cost of postage and packing.

HEAVES. ASTHMA, COUGHS, ETC. International Heave Remedy gives remarkable results, a sure remedy for heaves, asthma, coughs, etc. Buy a package and follow simple directions on the label; surprising results will follow. At your local dealer, \$1.00 per package, for guaranteed results. Refuse substitutes.

Blatchford's The Original Calf Meal

Thoroughly Steam Cooked. ASK YOUR DEALER. Messrs. A. J. Hickman & Co. Halse Grange, Brackley, England.

Exporters of all Breeds of Pedigree Live Stock. Send for an illustrated catalogue and see what we can do for you. Whether you want show or breeding stock, buy direct from England and save money.

FOR SALE REGISTERED PERCHERON STALLION out of first prize, imported from France stock, two years old. Black with white markings, price most reasonable. MAXWELTON FARM, Baie d'Urfe, Quebec.

SUNNY SIDE HEREFORDS 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.

Aberdeen-Angus "Middlebrook Abbot 2nd," a prize winner at Toronto and Ottawa, for sale, as have had 5 years—price \$500. Young bulls and heifers \$175 and up. Get a pure-bred sire even if herd grade. It pays A. Dinsmore, Mgr., "Grape Grange" Farm, Clarksburg, Ont.

\$1.46 to \$1.47 for No. 2 feed oats, per bushel, ex-store.

Buffalo.

Cattle.—Cattle market continued its upward tendency in values at Buffalo last week, shipping steers generally and the better grades of handy steers and heifers showing as much as a dollar to a dollar and half advance, while a good strong half dollar better prices than the previous week was had on a medium kind of handy butchering cattle and fat cows generally. Around thirty-five cars of Canadians for the week were among the offerings. Best native shipping steers ranged up to \$17 to \$17.25, with the best Canadians offered selling up to \$15.50, this price being paid for some handy steers and heifers mixed. Bulls brought about steady prices. Stocker and feeder trade showed some improvement towards the latter part of the week, demand being weak at the week's start. Seven hundred pound stockers on the fair order sold at ten cents. Milk cow and springer trade was unchanged. Prices towards the last part of the week broke on grassy cattle, these selling a full quarter lower than for the week's opening. Offerings for the week totaled 4,350 head, as against 2,575 for the previous week, and as compared with 3,975 head for the corresponding week last year. Quotations: Steers, Canadians.—Best, \$15 to \$15.50; fair to plain, \$14.25 to \$14.75; common and plain, \$12 to \$12.50.

Butchering Steers.—Yearlings, good to prime, \$15 to \$17; choice heavy, \$16.50 to \$16.75; best handy, \$15 to \$15.50; fair to good, \$14.50 to \$15; light and common, \$12 to \$13.

Cows and Heifers.—Heavy heifers, \$13.50 to \$14.50; best butchering heifers, \$14.25 to \$14.75; good butcher heifers, \$13.50 to \$14; fair butchering heifers, \$12 to \$12.50; light, common, \$9 to \$10; very fancy fat cows, \$11 to \$11.50; best heavy fat cows, \$10.50 to \$11; medium to good, \$9 to \$10; cutters, \$6.50 to \$7.50; canners, good, \$5 to \$6; old rims, \$4 to \$4.50.

Bulls.—Best heavy, \$10.50 to \$11; good butchering, \$8.50 to \$9; sausage, \$8 to \$8.50; light bulls, \$7 to \$8; oxen, \$9 to \$11.50.

Stockers and Feeders.—Best feeders, \$10.50 to \$11; common to fair, \$9 to \$10; best stockers, \$9 to \$10; fair to good, \$7.75 to \$8.25; common, \$6 to \$7; grazing cows, \$7.50 to \$8.

Milkers and Springers.—Best, \$90 to \$125; medium to good, \$60 to \$85.

Hogs.—Prices worked their way to a little higher level again last week. Monday the extreme top was \$16.45, with great bulk of the packer's kinds and good Yorkers selling at \$16.35, and pigs landed mostly at \$14.50. Tuesday's trade was stronger, top being \$16.50; Wednesday's range was from \$16.10 to \$16.25; Thursday bulk sold at \$16.25, with one deck \$16.35, and Friday the bulk again moved at \$16.25, though several decks made \$16.30 and \$16.35, with two or three decks \$16.40. Latter part of the week pigs sold from \$14 to \$14.50, general price for good roughs was \$12.50, and stags ranged mostly from \$8 to \$9. Receipts for the week were 21,800 head, being against 21,590 head for the week before, and 19,300 head for the same week a year ago.

Sheep and Lambs.—Last week opened with best spring lambs selling up to \$20, with best yearling lambs ranging from \$17 to \$17.50. Demand after Monday was light and despite the short supply, prices were lower. The end of the week showed best springers selling from \$18 to \$19, and best clipped lambs ranged down to \$15 and \$15.50. The week's opening showed best ewes selling up to \$9, but after Monday it was hard to get above \$8.50 for a desirable kind, while heavy fat ewes were hard to sell above \$8. The week's receipts totaled only 5,400 head, as compared with 6,715 head for the week previous, and 4,900 head for the same week a year ago.

Calves.—The first two days of the week showed best veals selling at \$17, with culls ranging from \$15 down; Wednesday only a few brought above \$16; Thursday not many sold above \$15.50, and while some sold Friday up to \$16, bulk again had to take \$15.50. Receipts included around 1,200 head of Canadians and, as a rule, these sold around 50 cents under the natives. Cull grades the latter part of the week sold downward from \$13. The week's receipts were 7,300 head, the week before there were 7,821 head, and for the same week a year ago the run totaled 5,800 head.

Monday's Live Stock Markets.

(Dominion Market Service.)

Toronto, June 21. Cattle.—Receipts, 2,789. The market opened active with prices steady to strong in all classes of butcher cattle, and weaker in unfinished and grass cattle. The top sales were at 17 cents, with two baby beefs, weighing 770 lbs., going at \$17.50. The top loads, averaging around 1,000 lbs., went at \$15.75; 22, averaging 1,015 lbs., went at \$15.60. The bulk of butcher steers went at \$14.75 to \$15.75. Bulls and butcher cows were steady. Quotations: Heavy beef steers, \$15 to \$16; butcher steers, choice, \$14.50 to \$15.75; good, \$12.75 to \$14.25; medium, \$11.50 to \$12.50; common, \$9 to \$10.20. Butcher heifers, choice, \$14.25 to \$15.50; medium, \$11.50 to \$13.25; common, \$9 to \$11.50. Butcher cows, choice, \$11.50 to \$13; medium, \$9 to \$11; canners and cutters, \$5 to \$7. Butcher bulls, good, \$10 to \$12.50; common, \$8 to \$10. Feeding steers, good, \$12.50 to \$13; fair, \$11.50 to \$13.50; stockers, good, \$11.50 to \$12; fair, \$10 to \$11. Calf receipts, 1,036. The calf market was easier by from 50 to 75 cents, tops selling at \$17, and the bulk moving at from \$15.50 to \$16.50. Quotations: Choice, \$16 to \$17; medium, \$13 to \$15.50; common, \$9.50 to \$12. Milch cows, choice, \$130 to \$165; springers, choice, \$90 to \$130.

Sheep.—Receipts, 799. The sheep market was steady, ewes selling generally at from 7 to 9 cents; yearlings at 10 to 13 cents. Lambs had a weaker undertone. Quotations: Ewes, \$8 to \$13; lambs, \$17.50 to \$19.50.

Hogs.—Receipts, 2,205. Prices remained the same as Saturday's close. Prices for the balance of the week not yet settled. Quotations: Fed and watered basis, selected, \$19.50; lights, \$17.50; heavies, \$18.50; sows, \$14.25 to \$16.50.

Montreal, June 21. Cattle.—Receipts, 1,645. There was a considerable increase in the number of common cattle offered, and a corresponding decrease in receipts of good cattle. The prices for good cattle remained strong. Quotations on common grades of grass cattle were lower, due to lack of quality. Top steers, averaging 1,200 lbs., brought \$16.50, and top cows, \$12. The majority of good car lots of cows were weighed up at around \$11; a number of lots of cows of dairy breeding, off grass, of hardly medium quality brought around \$9. Common, light heifers were weighed up at \$8, and thin, light bulls as low as \$7. Quotations: Butcher steers, choice, \$15.50 to \$16.50; good, \$14 to \$15.50; medium, \$12 to \$13.50; common, \$11 to \$12. Butcher heifers, choice, \$13.50 to \$15; medium, \$11 to \$13; common, \$7.50 to \$10. Butcher cows, choice, \$10.50 to \$12; medium, \$7 to \$10; canners, \$5 to \$5.50; cutters, \$6 to \$7. Butcher bulls, good, \$10.50 to \$12; common, \$7 to \$10. Calf receipts, 2,328. There was not much quality to the calves offered. Poorer calves and lower prices combined are causing a difference of about \$2 per hundred in prices offered as compared with those paid last week. Grass calves are being weighed up at \$8. Quotations: Good veal, \$13 to \$14; medium, \$9 to \$12; grass, \$8 to \$9.

Sheep.—Receipts, 1,684. Sheep prices were lower, general being \$8 to \$10, with an odd small lot of young ewes up to \$11. Lambs were steady. Quotations: Ewes, \$8 to \$10. Lambs, good, \$18 to \$20; common, nil.

Hogs.—Receipts, 1,609. Selected lots of medium weight have been sold to the local butchers for \$20, off cars; mixed lots, \$18 to \$20. Quotations: Off car weights, selects, \$20 to nil; lights, nil; heavies, nil; sows, \$16 to nil.

Cheese Markets.

Montreal, finest easterns, 27 15-16c. to 28 1/4c.; St. Hyacinthe, 27 1/4c.; Belleville, 28 1-16c.; New York, State, whole milk, flats, current make, white and colored, specials, 25 1/2c. to 26 1/2c.; average run, 24 1/2c. to 25c.; State, whole milk, twins, held, white and colored, specials, 27 1/2c. to 28 1/2c.; current make, 25 1/2c. to 26 1/2c.; average run, 24 1/2c. to 25c.

Sale Dates.

June 25, 1920.—W. H. Shaw, Newmarket, Ont.—Holsteins. Sale starts at 10.30 a.m.  
July 21, 1920.—Dryden-Miller Sale of Imported Shorthorns, Toronto.

Better Bull Bulletin No. 4 Ontario Cattle Breeders' Association Toronto, Ontario

Advantages of A Pure Bred Bull of good breeding and good individuality

- 1. Economical and Rapid Improvement: One pure bred bull will improve the herd as rapidly as 50 pure bred cows.
2. Lasting Influence: The influence of a good bull is seen in all following generations.
3. Advertising Value: Well bred stock attracts the attention of buyers.
4. Co-operation Possible: Several good pure bred bulls in a community offer excellent opportunity to co-operate by exchanging bulls, pooling cattle, etc.
5. Prepotency Important: A pure bred bull will sire calves more like himself than like the dam.
6. Offspring Worth More: A calf is worth \$5 to \$10 more, a yearling \$15 to \$20 more, and a two-year old \$25 to \$30 more if sired by a pure bred bull.
7. Keeps Young People on the Farm: The pure bred bull means more money, which in turn makes possible better homes, better schools, better churches, better roads and a better, more satisfying country life.
8. Good Influence on Owner: When a man has pure bred live stock on his farm he naturally takes more interest in it and cares for it better than he otherwise would.
9. The Farmer's Gain is not Somebody's Loss: A farmer can raise a better calf and no one is the poorer. He thus creates wealth.

Use Better Bulls



Condensed advertisements will be inserted under this heading at four cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order for any advertisement under this heading. Parties having good pure-bred poultry and eggs for sale will find plenty of customers by using our advertising columns. No advertisement inserted for less than 60 cents.

BARRED ROCKS, MAMMOTH SIZE, AND extra good laying strain. Eggs—\$2 for 15; \$3.50 for 30. Mrs. W. B. Annesser, Tilbury, Ont. EGGS—WHITE AFRICAN GUINEA—MUSCOVEY duck, and Barred Rock. Mrs. John Annesser, Tilbury, Ont.

BABY CHICKS, HATCHING EGGS—BARRED Rocks, White Rocks, White Wyandottes, Silver Wyandottes, White Leghorns, Rhode Island Reds. Incubator capacity 9,000. Satisfaction guaranteed. Write for price-list. Tay Poultry Farm, Perth, Ont., Box 244.

SUPERIOR BARRED PLYMOUTH ROCK EGGS FOR SALE From Five Best Bred-to-Lay Families in Both Countries.

Pen No. 1.—Thompson's Imperial Ringlet hens, imported in the eggs, headed by Mr. Coldham's (Kingston, Ont.), Pedigreed Ringlet Cockerels, sired by Parks' prize bird, U. S. A., first dam—hen No. 71 laid 70 eggs in 72 days in midwinter, 260 brown eggs of standard weight in one year. Price, \$5.00.

Pen No. 2.—Parks' Superior Ringlet strain, imported in the eggs. Of all bred-to-lays, Ringlets are supreme. Price, \$5.00.

Pen No. 3.—The large, dark bred-to-lay strain of Rileys, imported in the eggs. As show birds, they have won the highest awards in U. S. A. Price, \$4.00.

Pen No. 4.—Thompson's large bred-to-lay strain, imported in the eggs, medium light in color, with quality and utility. Price, \$3.00.

Pen No. 5.—The O.A.C. bred-to-lay strain of Guelph; a hardy, handsome fowl, extra good winter layers. Price, \$2.00.

Fifteen per setting. Infertile eggs replaced at half price. Pullets or cockerel-bred eggs, as desired. Express prepaid.

A. H. CROZIER, Box 16, Meadowvale, Ont.

Eggs and Poultry Wanted—We have a big demand for eggs and require large quantities, and pay the top market price every day in the week. We also have a big demand for live poultry, especially heavy live hens. We are paying special prices for May and June. It will pay you to sell to

C. A. MANN & CO., 78 King St., London, Ont. Phone 1577

Aberdeen A few typey you offer, of choice bu

Shrop Southd Yearling Rams purposes or fitted Inspection invi

Larkin Farms

SUNN Aberdeen Present offering ready

G. C. CHANNON Telephone—Oak G. T. I

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ALLOW STOCK Angus—Sout Recent addition of In junior herd sire, all of superior No Coll

ROBT. McEWEN,

Mapl SHOR A dozen imported breeding prices.

W. A. Brooklin

English D Shor Begin the pastur chase of a sire wh your calves. For imported stock, of have a fine choic

Also English thrifty breed. Wr

LYNNORE F. W. Cockshut

Mardella SHORT Eight choice young b heifers. All of good siz headed by The Duke; 474 lbs. butter-fat. He combinations of beef, i ter. All priced to sell. THOMAS GRAHAM, F

SHORT Present offering: Six Roans, also a number size, quality and bre dams. Prices moderat

CHAS. GRAHAM SPRUCE LOD Shorthorns and Two choice young bull one and two-year-old Chief Imp. = 60865 = Caledonia

Scotch Shorthorns Gainford Marquis. St Also Oxford Down ewe GEO. D. FLETCH

I have THREE-YEA with heifer ca VALMER BARTLET

**Aberdeen - Angus**

A few typey young bulls and females to offer, of choice breeding and individuality.

**Shropshire and Southdown Sheep**

Yearling Rams and Ewes for breeding purposes or fitted for the show ring.

Inspection invited, satisfaction assured.

Larkin Farms - Queenston, Ont.

**SUNNY ACRES**

**Aberdeen - Angus**

Present offering—A few young bulls ready for service.

G. C. CHANNON, - Oakwood, Ont.  
Telephone—Oakwood. Railway—Lindsay.  
G. T. R. and C. P. R.

**Aberdeen - Angus**

Meadowdale Farm  
Forest, Ontario

Alonzo Mathews Manager H. Fraleigh Proprietor

**ALLOWAY LODGE STOCK FARM**

Angus—Southdowns—Collies  
Recent addition of Imp. Idealist of Maisemore as junior herd sire. Yearling rams and ewes, all of superior merit, priced to sell.  
No Collies at present.

ROBT. McEWEN, R. R. 4, London, Ont.

**Maple Shade**

**SHORTHORNS**

A dozen young bulls imported and my own breeding at moderate prices.

W. A. DRYDEN

Brooklin - - Ontario

**English Dual Purpose**

**Shorthorns**

Begin the pasture season by the purchase of a sire which will add value to your calves. For milk and beef. From imported stock of choice breeding. We have a fine choice of bull calves and bulls.  
Also English Large Black Pigs. A thrifty breed. Write or call.

LYNNORE STOCK FARM

F. W. Cockshutt, - Brantford, Ont.

**Mardella Dual-Purpose SHORTHORNS**

Eight choice young bulls, 30 females, cows and heifers. All of good size, type and breeding. Herd headed by The Duke; dam gave 13,599 lbs. 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, Ontario

**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

**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

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.

I have a pair of

**THREE-YEAR-OLD COWS**

with heifer calves by their side.  
VALMER BARTLETT, - CANFIELD, ONT.

**Questions and Answers. Miscellaneous.**

**Registering a Clydesdale Mare.**

How many crosses must a mare have on the sire's side in order to register her? To whom should I apply for registration?  
J. D.

Ans.—Clydesdale mares sired by stallions recorded in the Clydesdale Stud Book of Canada, provided their dams, grandams and great-grandams are by sires recorded in the Clydesdale Stud Book of Canada, are eligible for registration. Write the Canadian National Live Stock Record Office, Ottawa, for application forms.

**Alfalfa.**

I have eleven acres of alfalfa which has been cut once a year for the past three years. I would like to save some of it for seed this year. Should I cut it early and take the second crop for seed?  
N. M.

Ans.—The second crop is frequently the one saved for seed. The first crop must, however, be cut early so as to give the plants a good chance. The main danger in saving the second crop for seed is that of frost before the seed is ripe. However, throughout Western Ontario there should not be much trouble from this in the average season. If saving the field for seed, it is well to go through it carefully and spud out any noxious weeds found growing. The first crop should be cut when the blossoms are appearing; the time varies in the different districts.

**Veterinary.**

**Rheumatism—Crippled Pigs.**

1. Do cows have rheumatism? I have a Jersey cow that is stiff in hind quarters and cannot use her legs properly.  
2. What causes pigs to become crippled at 3 months of age?

MRS. A. W.

Ans.—1. Cows occasionally have rheumatism. Give her a laxative of 2 pints raw linseed oil and follow up with 1 dram salicylic acid 3 times daily. Keep in dry, comfortable quarters. Bathe the joints of the affected limbs well 3 times daily with hot water, and after bathing rub well with hot camphorated oil.

2. Generally caused by high feeding and lack of exercise. Purge each with 2 tablespoonfuls of raw linseed oil or Epsom salts, and follow up with 3 grains of nuxvomica 3 times daily, allow daily exercise on grass so soon as they can walk around. Feed on milk, shorts and chopped oats with the hulls sifted out and grass. V.

**Fatality in Heifer.**

Heifer showed severe labor pains. The uterus was hanging out 6 inches. I returned it and she was easy for a time, but again showed severe pains and forced the uterus out 15 inches. I returned it again, and could feel the calf's head, but could not get my hand into the womb. She suffered terribly for a few hours and then died. What was wrong and what should I have done?  
A. S.

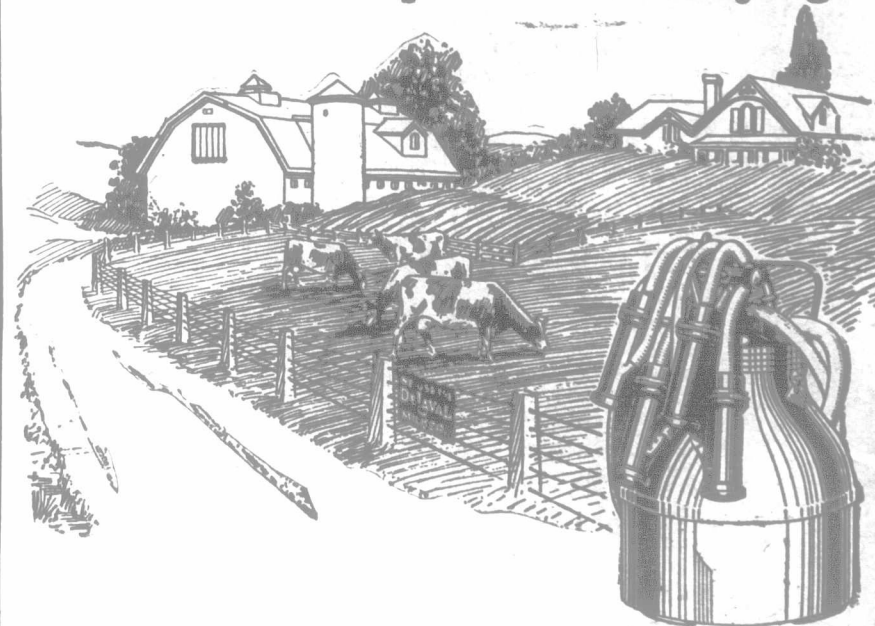
Ans.—There was mal-presentation of the foetus. The mass that you returned was not the uterus. The uterus cannot become everted so long as it contains the foetus. It was the water-bag that you returned. This should have been ruptured, the hand forced into the womb and the feet of the foetus brought into proper position, and then sufficient steady traction applied to deliver. A veterinarian, in all probability, (if called soon enough) could have saved the heifer and probably also the foetus. Unless a man has a good knowledge of the anatomy of both dam and foetus and also the phenomena of parturition he cannot successfully handle such cases. It is well to send for the service of an expert early in all such cases. V.

A farmer sent half-a-crown for a lightening caterpillar-killer which he had seen advertised in a paper, and received by return two blocks of wood with directions printed on them as follows:—

"Take this block, which is No. 1, in the right hand; place the caterpillar on No. 2, and press together. Remove the caterpillar, and proceed as before."

"Pa, why do you always insist on my singing when Mr. Bimley comes here?"  
"Well, I don't like to come right out and tell him to go."

**THE DE LAVAL MILKER**  
—the road to profitable dairying



A De Laval Milker is a short cut to profitable dairying, because it makes possible the production of more milk at less cost.

One man with the De Laval Milker can do the work of three hand milkers, and the work is easy and pleasant. The gentle and regular process of De Laval milking causes the cows to give down their milk quickly and freely.

The De Laval Milker is simple and sanitary in construction, and easy to wash and keep clean. It is a distinctly different type of machine. Its simplicity and durability are insurance against annoying and expensive delays and repair costs.

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

**THE DE LAVAL COMPANY, Ltd.**  
Montreal Peterboro Winnipeg Edmonton Vancouver

**Ontario Veterinary College**

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UNDER THE DEPARTMENT OF AGRICULTURE OF ONTARIO AND AFFILIATED WITH THE UNIVERSITY OF TORONTO

It offers a complete course of instruction and training in Veterinary Science. Calendar containing full information as to entrance, tuition fees and courses of study mailed on application. Session begins Friday, October 1st, 1920. Write for Bulletin and Calendar.

C. D. MCGILVRAY, M.D.V.,

Dept. D Principal

**BROOKDALE HEREFORD FARM**

Young stuff for sale at all times. Visitors always welcome and met any time.  
Telephone. W. READHEAD, Milton, Ontario

**Reyburn Milking Shorthorns**

Herd headed by Victor 3rd, Imp., Grand Champion at Erie Show and Congress. Herd average over 9,500 lbs. milk per cow. Choice cows, heifers and herd-heading sires for sale.

R. R. WHEATON :: THORNDALE, ONTARIO  
Long-distance phone and telegraph.

**DUAL-PURPOSE SHORTHORNS**

Herd headed by Dominator 106224, whose two nearest dams average 12,112 pounds of milk in a year. Bulls from 1 to 6 months old for sale, also a cow or two. Inspection of herd solicited.

WELDWOOD FARM - Farmer's Advocate - LONDON, ONT.

**MILKING SHORTHORNS** Young stock from R. O. P. cows by imported sires.  
**BERKSHIRE PIGS** Choice bred sows and boars, all ages. Can supply pairs, not akin.

J. B. PEARSON, Manager - Credit Grange Farm - Meadowvale, Ont.



# Purina Calf Chow

## Is Different

Yes, it's unlike any calf meal on the market.

- 1st. It's different because it's better.
- 2nd. Every ingredient is a pure feed of recognized value, no "phony" products of unknown worth. It does not contain anise, or any appetizer. Calves eat it as greedily as they do whole milk.
- 3rd. It does not scour; blood flour is one of the important ingredients, which insures freedom from scours.
- 4th. Easy to feed, no boiling, just mix with warm water.
- 5th. It is balanced just like whole milk. Calves thrive from the first on Purina Calf Chow and it keeps them making gains without sickly periods. It is used by many of the best dairy farms in the country to raise the finest calves.
- 6th. But it is cheap enough to use on any calf, costs less than half as much as milk feeding. So easy to feed that boys or girls are assured of success.



Stop in and talk it over  
**The Chisholm Milling Company, Limited, Toronto**  
 "There's a Purina Feed for every need"

## 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 with the best in either sex that can be found. High-class young bulls for the breeder and the farmer. Cows and heifers of the finest breeding to start you right, and you cannot afford to start wrong. 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 or express to your station. Augusta Sultan = 93092 =, one of the greatest living sires at the head of my herd. Write and if possible come and see, it is worth while. Post Office, Telegraph, Telephone and Station is Stouffville, Ont. 30 miles from Toronto.

**ROBERT MILLER** :: **Stouffville, Ont.**

### SPRUCE GLEN SHORTHORNS

We have a few choice, well bred, thick, deep level, mellow young bulls of breeding age for sale; also heifers in calf to a right good sire. Write for particulars.

**JAMES McPHERSON & SONS** DUNDALK, ONTARIO

### Roan Bull—Calved April 23rd, 1919

Sire, Chief Orator = 122385 = (Imp.). Dam, Spring Beauty = 138815 = (Imp.). Good enough individually and in breeding to head a good herd. Could spare a few females.

**J. T. GIBSON, Denfield, Ont.**

### Pure Scotch Shorthorns

Special offering in bull calves and a few choice females. Our herd includes some of the best Scotch breeding in Ontario today—Brawirth Bud's, Mina's, Roan Lady's, Cecilia's and Castilla's. Herd headed by the Miss Ramsden sire, Royal Ramsden by Golden Edward. Dam by Royalist. Write or call.

**JOSEPH BREWSTER** :: **SEAFORTH, ONT.**

### Imported Scotch Shorthorns

For Sale—Three imported bulls, one yearling, one two-year-old and our three-year-old herd sire; also a choice two-year-old Orange Blossom of our own breeding, and three well-bred bull calves about a year old. Would consider exchanging an imported bull for Scotch females.

**R. M. MITCHELL, R.R. No. 1, Freeman, Ont.**

### PUSLINCH PLAINS SHORTHORNS

Five bulls for sale by Burnbrae Sultan = 80325 =.

**A. G. AULD,** - - - **R. R. 2,** - - - **GUELPH, ONT.**

### 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** - - - **ASHBURN, ONT.**

### Pear Lawn Shorthorns,

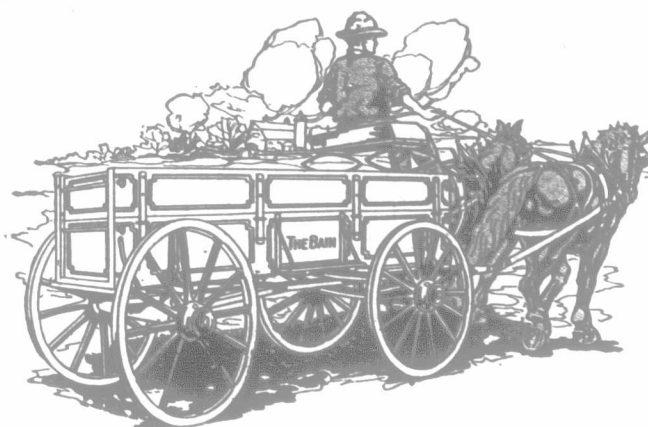
Hackneys and Yorkshires—One imported in dam Miss Ramsden one Golden Rose bull, 6 months, imp. sire and dam; one bull, a Flattery, 12 months, imp. sire; few young cows with calves at foot. One imported Hackney stallion, A 1; two Hackney stallions rising one year; one registered Clyde mare; also Yorkshires at weaning time. **HERBERT J. MILLER, Keene P.O., Ont.** Stations—Keene G.T.R., Indian River C.P.R., Peterborough County.

### Newcastle Herd of Shorthorns and Tamworths for Sale

Three nice bulls, 11 to 13 months old, and several yearling heifers and cows with calves at foot, both sexes, all splendid milking strain. Several Tamworth sows due to farrow in May, June, July. Young stock, both sexes, at weaning up to six months old. All from prize-winning stock. Long-distance Phone.

**A. A. COLWILL, R.R. No. 2, Newcastle.**

## Massey-Harris



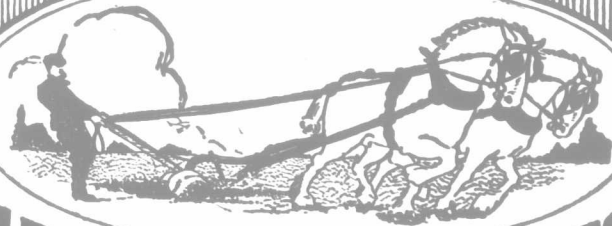
### Rolling Along in a Bain

UP hill and down; along level country roads; across the prairie; over rocks and into ruts; on the smooth city pavements; thousands of Bain Wagons are rolling along under their burdens and demonstrating by their service that they do what they are built to do, and what we say they will do.

The best of materials, unsurpassed facilities, and careful workmanship combine to make the Bain Wagon the best on the market to-day.

A Bain Wagon for every purpose. Sold by Massey-Harris Agents everywhere

**MASSEY-HARRIS CO. Limited**  
 Head Office: Toronto, Ont.  
**AGENCIES EVERYWHERE**



## IMPERIAL BRAND HARNESS

Fifty-four years in the Harness business is assurance that our goods are right. We manufacture the strongest and best looking harness it is possible to make and we figure our prices as low as they can be sold for. Ask your dealer for Imperial Brand Harness, made by Samuel Trees & Co. He will recommend it. If your dealer does not handle Imperial Brand, write us direct for prices on any style of our guaranteed Harness.

**SPECIAL** We have made an extra good Team Harness, No. 640, at a special price. **\$57**  
**NO. 640** Ask your dealer or write to us about it.

**SAMUEL TREES & CO., LTD. (Established 1866)**  
 Manufacturers of Harness and Wholesalers of Auto Supplies  
 42 WELLINGTON ST. EAST TORONTO, ONT.

### A NEW IMPORTATION OF

## 40 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.

### 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.**

### 20 Bulls—SPRUCE LAWN—100 Females

Clydesdales, Shorthorns, Yorkshires. Herd headed by Imported Golden Challenger 122384, a Rubyhill, bred by Earl of Northbrook, by Ascott 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.; Millbrook, G.T.R. and P.O., Ont.**

### 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**



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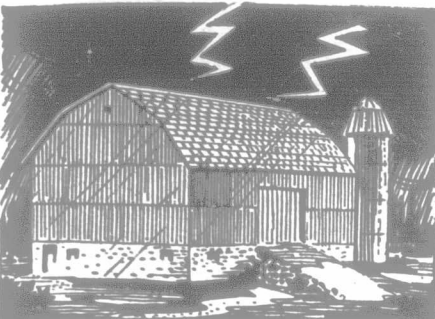


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**THE CANAD**  
**FOR SAL**  
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 in 7 days at 2 years  
 Favorit Johanna, 30.  
 over 100 lbs. milk in  
 His Sire, King Ko  
 of Lulu Keyes, 36.05  
 for quick sale, \$350.  
 apply to  
**H. F. LONEY**

"Advocate



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Give your buildings the most effective protection against lightning. They lock together on all four sides and form a continuous sheet of steel. When properly grounded they deflect lightning harmlessly into the ground. A Pedlar steel roof will never catch fire from any cause. It is stormproof, windproof, rainproof, and will outlast the rafters on which it is placed. The lifetime of service it gives makes a Pedlar Steel Roof the cheapest roof you can buy.

"Roof with metal for Safety and Permanence"

Write for Roofing Booklet F. A.

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The main ingredient ready for good butter making



**FOR SALE SIR AAGGIE PONTIAC KEYES**  
Born February 21st, 1918  
Dam, Aaggie Pontiac Walker, 20.77 lbs. butter in 7 days at 2 years 3 months, and her dam, Aaggie Favorit Johanna, 30.68 lbs. butter in 7 days and over 100 lbs. milk in a day.  
His sire, King Korndyke Sadie Keyes, is a son of Lulu Keyes, 36.05 lbs. butter in 7 days. Price for quick sale, \$350.00. For further particulars apply to  
**H. F. LONEY** - Warton, Ont

"Advocate" Advts. Pay.

### Questions and Answers. Miscellaneous.

#### Squabs.

Can you give me information on the raising and selling of young pigeons?  
N. B.

Ans.—There is a book entitled "Squabs for Profit," which may be secured through this office for 75 cents. It deals fully with the questions of raising squabs, including the feeding, housing, management, etc. It would be impossible in a short article to go fully into this question.

#### Bull Trespassing.

I keep Ayrshire cattle and my neighbor keeps Holsteins. If my herd sire trespasses, what damage can my neighbor make me pay?  
E. A. S.

Ans.—The damages will depend upon the value of the stock. A man should have to pay the difference in price between cross-bred cattle and what the man would have received for a calf from his own herd sire.

#### Hens Become Bald.

What is the cause of hens losing the feathers from the tops of their heads? For the past two months I have been using vaseline, olive oil, coal oil and lard.  
E. E. M.

Ans.—It is possible that lice are working in the heads, but the grease which you applied would get rid of these. If the hens poke their heads through a narrow-mesh wire they frequently break off the feathers, and again, some hens contract the habit of feather pulling. There may be some other cause which would be revealed were we to examine the birds.

#### Raising Baby-Beef.

What kind of a sire is it best to use to breed baby-beef calves? The cows are Shorthorn grades.

2. What is a good prescription for a condition powder to fit up a team?  
A. S.

Ans.—As you have Shorthorn grades, we would favor using a good Shorthorn sire. The Angus and Hereford breeds also produce excellent calves for baby beef.

2. Give a teaspoonful of the following three times daily: Equal parts sulphate of iron, gentian, ginger and nuxvomica. Feed well and give daily exercise.

#### Hoisting Drum.

I have a five-h.-p. gasoline engine and would like to use it for hauling up bundles of hay and grain. Would appreciate it very much if you, or any of your subscribers, would explain what attachments would be required and how arranged to accomplish this.  
J. B. W.

Ans.—The machinery would consist of a hoisting drum and reversible gear, power for operating the same, and pulleys and ropes similar to ordinary hay-fork or sling outfit. The drum could be placed on the barn floor, but wherever located it would need to be made very secure. An outfit of this kind should work satisfactorily and save much time. Some of the machinery firms handle this line of machinery, and they would be pleased to quote you prices. It might be possible that you could secure a second-hand outfit at reasonable prices from some firm. The five-h.-p. gasoline engine would be large enough to operate it.  
R. R. G.

#### Line Fencing.

1. Is there any way in which I may compel a man to build his share of the line fence? I having built mine.

2. How long and what course would one have to take to do so?

3. If sheep went through his share of the fence and got on the road would he be responsible?  
C. C.

Ontario. AN ENQUIRER.

Ans.—1. Yes.

2. We assume that your neighbor's land is occupied, and would say that your proper course would be to call in three fence-viewers of the locality to arbitrate in the matter. You would have to give your neighbor at least one week's notice in writing of your intention to do so, and stating the date; and you would also have to notify the fence-viewers not less than a week before their services are required. You will find directions and forms of notices and award in the The Line Fences Act (Revised Statutes of Ontario, 1914, Chapter 259.)

3. Not necessarily. It would depend upon the circumstances.

There is nothing

## THE GIFT OF THRIFT

you can give your children, in a material way, which will do them more lifelong good than a savings account in an institution like the Bank of Montreal. By encouraging them to save, you teach them the habit of thrift and provide a foundation for their future.

A savings account may be opened with \$1.00. Interest is paid at the highest current rates.

# BANK OF MONTREAL

Established over 100 years.  
Total Assets in Excess of \$500,000,000.  
Head Office: MONTREAL

Branches in all Important Centres in Canada—Savings Departments at all Branches.

## Hamilton House Holstein Sires

Our young bulls of serviceable age have all been sold but we have a number of the best young calves we have ever bred. All are from dams with good combination records for both milk and butter. Several are up to 700 lbs. of milk and 31 lbs. of butter for 7 days. If you are interested in a good calf, write or see them now—they can be purchased at considerably less than we will be pricing them next winter.

**D. B. TRACY** - (All Railways Bell Phone) - **COBOURG, ONT.**

## 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.

## Raymondale Holstein-Friesians

A herd sire of our breeding will improve your herd. We have sons of our present sire, Pontiac Korndyke of Het Loo (sire of \$12,750 Het Loo Pieterje), and also sons of our former sire, Avondale Pontiac Echo. Several of these are of serviceable age, and all are from good record dams. Quality considered, our prices are lower than anywhere else on the continent. Their youngsters should not remain long. Write to-day.

**RAYMONDALE FARM, Vaudreuil, Que. D. RAYMOND, Owner, Queen's Hotel, Montreal**

**Cloverlea Dairy Farms** Herd headed by King Pontiac Rauwerd who combines the blood of Canada's greatest sires and dams. His offspring are a choice lot. We have stock for sale, both male and female, 75 head to choose from. Consult us before buying elsewhere. Could book a few more cows for service to "King."  
**GRIESBACH BROS.,** - L.-D. 'phone - **Collingwood, 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. HOLBY, Manchester G.T.R.; Myrtle C.P.R.; PORT PERRY, 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.**

**Holsteins, Cotswolds and Yorkshires for service.** **SOVEREIGN ALCARTRA JOSEPH**  
His dam one of three famous Cherry Grove full sisters. Her latest record is 24.687 lbs. milk and 1,016 lbs. butter one year. His sire's dam (Baroness Madoline) Canada's only 4 times 20,000-lb. cow. Fee \$25.00 for approved cows. For sale bull calves whose two nearest dams average over 20,000 lbs. milk in R.O.P. Also Yorkshires of both sex.  
**R. Honey & Sons, Dartford, Ontario.**

### 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.**

**Cedar Brook Farm Holsteins**—(Farm one-half mile from Inglewood Station, C. P. R., G. T. R.)—We are offering two young sons of Highland Pontiac Sylvia (his two nearest dams average 36.51 lbs. of butter, 786.4 lbs. of milk), a son of Avondale Pontiac Echo—the \$50,000 son of May Echo Sylvia. We guarantee these calves, and we are going to sell them quick. Write, or call and see them—don't delay.  
**CEDAR BROOK FARM (B. Misener, Manager) INGLEWOOD, ONT.**

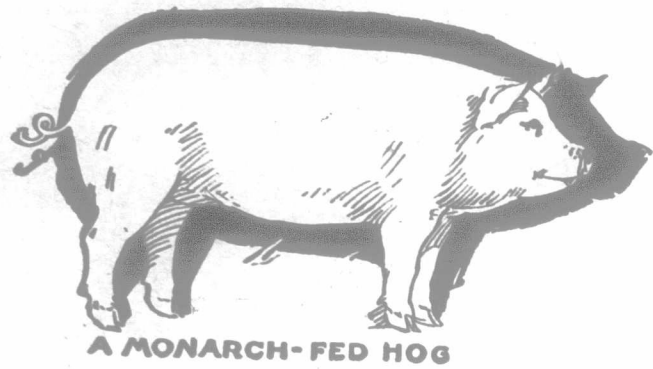
### ELDERSLIE HOLSTEIN-FRIESIANS

Am 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.**

**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.**

### 9 HOLSTEIN BULLS 9

Every one a show calf. Any age up to 14 mos. Dams untested, or with records up to 24-lb. 4-year-old, 22-lb. jr. 3-year-old. All sired by Gipsev Pontiac Cornucopia, that perfect 30-lb. sire, who is a grandson of May Echo Sylvia. Priced for quick sale.  
**JOSEPH PEEL, Port Perry, Ont.**



## Better Bacon at Less Cost

No single feed can equal a properly proportioned mixed feed such as Monarch Hog Feed as a producer of bacon of the finest quality. Better Bacon is the direct result of feeding Monarch Hog Feed.

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.*

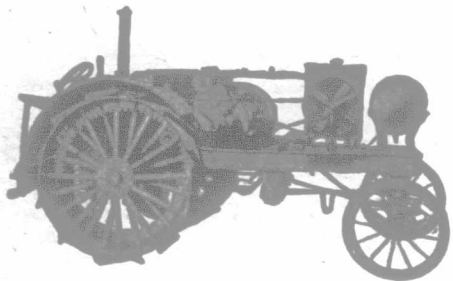
Monarch Hog Feed produces a firm, sound bacon of delicious eating quality. More lean and less fat. Just right to bring the highest price on the discriminating British market.

Order a ton of Monarch Hog Feed from your dealer. Watch results carefully. Note how much earlier the pigs reach maturity and the better quality of the animals.

If your dealer is out of Monarch Hog Feed write us.

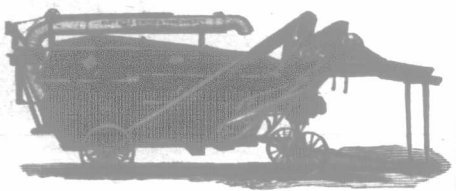
### Monarch Hog Feed

### 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.

### Tudhope-Anderson

#### WIDE TIRE Steel Wheels for Your Truck Wagon

Fields are often cut up and ruined by farm wagons with ordinary wheels—or your necessary work postponed awaiting dry soil.

Save all this waste by getting steel wheels with wide tires. This gives you a low wagon that makes work easier. Write us now for order-blanks and full particulars about wide tire Steel Wheels for work about the farm. Can be made to fit any skain or axle bearing—diameters, 20" to 60"; tire widths, 3" to 10".

We also manufacture Low Down Wide Tire Steel Wheel Trucks.



**Tudhope-Anderson Co., Limited**  
Orillia, Ontario  
Cut out this advertisement and mail to us

### Cream Wanted

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

**ONTARIO CREAMERIES Limited**  
LONDON ONTARIO

### WE WISH TO ANNOUNCE

Our Eleventh Annual Show, to be held at Union Stock Yards, Toronto, December 9th and 10th, 1920.

### Toronto Fat Stock Show

### BRAMPTON JERSEYS

THE LARGEST JERSEY HERD IN THE BRITISH EMPIRE

At Toronto Exhibition, 1919, we won twenty-five of twenty-seven first prizes. We now have for sale first-prize young bulls from R. O. P. dams, as well as females of all ages.

**B. H. BULL & SONS :: Brampton, Ontario**

#### ALL BULLS OF SERVICEABLE AGE SOLD

A few young bulls sired by Financial Raleigh King, son of the \$6,000.00 Financial Beauty King, for sale, from R.O.P. dams. **JAS. BAGG & SONS, (Woodbridge, C.P.R., Concord, G.T.R.) EDGELEY, ONT.**

**Laurentian Producing Jerseys**—The oldest bull we have at present is a year old youngster, sired by our herd sire, Broadview Bright Villa, No. 5630, and from Brampton Astoria, one of the best imported 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.**  
**F. J. WATSON, Manager Farm at Morin Heights**

**CANADA'S MOST BEAUTIFUL JERSEY HERD**  
The Woodview Farm 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-cows and show our work cows.

**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.**

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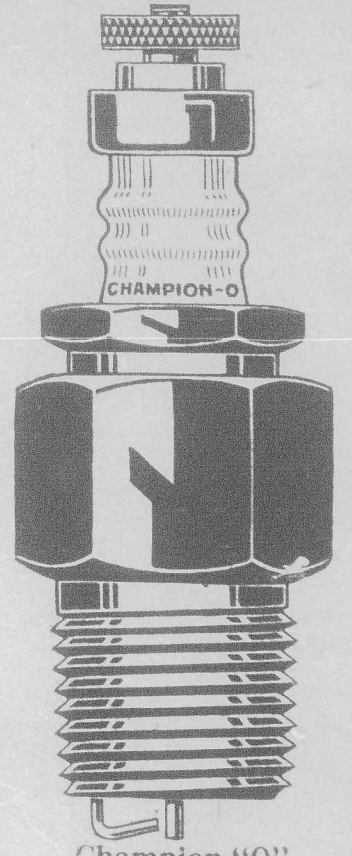
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## Our School Department.

### Do You Know Your Weeds?

As weeds and tares (darnel) have increasingly occupied the attention of agriculturists from early days, so the ground space occupied by weeds has steadily and surely increased. This is not entirely due to the extent of new land cleared and cultivated, nor is it due entirely to neglect, nor to a lack of literature on the subject of their eradication, as every agricultural pamphlet, paper, magazine and text-book has its chapter of advice on weeds.

It is knowledge of the weed itself that is wanting. No man who once recognizes a weed and its injuriousness would allow it to remain on his land undisturbed for a season! When the progressive farmer knows the weed, he will use every means at his disposal to exterminate it.

To know a weed, one must be able to recognize it in every stage of its development, to understand what harm it does and to know at what period of its growth it should be destroyed.

There are two classes of weeds; those which are of definite duration as annuals and biennials, and those of indefinite duration as perennials. Among the annuals growing in the West are green foxtail, wild oats, wild buckwheat, redroot pigweed, tumbleweed, Russian pigweed, Russian thistle, cow cockle, purple cockle, ball mustard, false flax, hare's ear mustard, stinkweed, wild mustard, tumbling mustard, stickseed, dodder, great ragweed and many others. Among the biennials are squirrel-tail grass (erroneously called "foxtail" in the West), gray tansy mustard, green tansy mustard, biennial wormwood, etc. The perennials include sweet grass, couch grass, veined dock, broad-leaved pepper-grass, prairie rose, great willow herb, blue lettuce, skeleton weed, perennial sow thistle, Canada thistle and others.

Annuals have only one means of reproduction, that is by seeds, and, for this reason, they yield an enormous quantity. One single plant of tumbling mustard will produce 1,500,000 seeds. Think what it means to allow one of these plants to mature its seed, to stand still until dry and be blown by the wind until its shallow foothold snaps or gives way altogether, sending the whole plant across the prairie to scatter its 1,500,000 seeds along the way! The second year there will be 1,500,000 new plants, and the third year 1,500,000 times 1,500,000! What a saving to cut one plant off before it seeds itself! What an advantage to know the plant before it flowers! Russian thistle, tumbleweed and stinkweed (French weed) are equally troublesome, and scatter their seeds in a similar manner. Land may be freed from annual weeds by any method which will kill them before they flower. The seeds already in the soil should be made to germinate, and the young seedlings destroyed by repeated cultivation.

Biennials should be treated as annuals when in the first year's growth, that is, they should be destroyed when in the form of a rosette or mat. If of the second year's growth, they should be cut off or spudded below the crown to prevent the formation of flowering shoots and seeds.

All perennials are capable of reproducing themselves by new shoots from the roots as well as by seeds. There are two things then to be remembered in the eradication of perennials. First, they must not be allowed to seed themselves; second, that the roots and root-stocks must be destroyed. Reproduction by means of seeds may be easily prevented by mowing the plants as soon as the flower buds appear; but the destruction of the underground growth is easy only when the weed is scarce or where digging the roots up and burning them is practical, that is, when the first patch is discovered and recognized as a pest. Thorough and persistent cultivation, which will destroy the green part of the plant, will, if repeatedly practiced, starve the rootstocks to death. Shallow or deep plowing, according to the nature of the plant, to

bring the rootstocks to the surface of the soil where they may be gathered and destroyed, is most effective if properly carried out. On no account should any method be used which would result in scattering the rootstocks, and thus stimulating them to new growth.

An examination of the Canada thistle will show the futility of cutting off the tops and leaving the rootstocks in the soil to send up new shoots. The rootstock possesses great vitality, and every inch with a bud on it is capable of producing a new plant; hence to cut the rootstocks up and leave them on the ground is worse than useless. If the plant is known in a young state it may be very easily killed, but if it is allowed to live till it is six or seven weeks old, then the rootstock must be considered. Other deep-rooted perennials with similar rootstocks are sweet grass, prairie rose, broad-leaved peppergrass, veined dock, white evening primrose, poverty weed and perennial sow thistle. With all of these, deep plowing is necessary, but shallow plowing will do for couch grass as its rootstocks are nearer the surface of the soil.

The difficulty of the weed problem would be considerably lessened if native weeds alone were to be combatted, but the list of weed immigrants is continually increasing. These new weeds are indifferently noticed until they have usurped our food-supplying land. How much more simple the weed question would be in the West if couch grass, wild oats, Russian thistle, perennial sow thistle, the (so-called) Canada thistle, and other introduced weeds had not been allowed to establish themselves.—F. FYLES, Botanist, Ottawa.

### Opportunities for Canadian Teachers to Visit England.

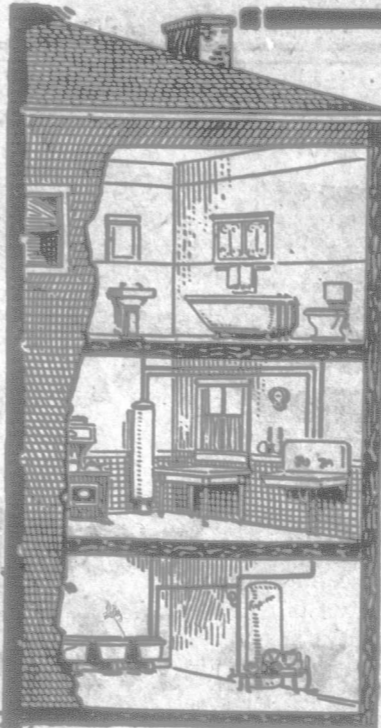
By LILIAN D. MILNER, OTTAWA.

The League of the Empire has made arrangements with the London County Council by which a certain number of teachers from Canada may exchange with teachers from London, England, for one year. The League will do everything in its power to assist these teachers to secure suitable lodgings and to make their stay in England as pleasant and profitable as possible, giving them letters of introduction to people in authority at the historic places of the Realm. Ontario has the reputation, even in England, of having the finest educational system in the world but still there are many things a Canadian teacher may learn during a year's residence in the Old Land.

Teachers will be paid the salaries they would receive if they had entered the London service on qualifying as State teachers, provided that not more than six year's service since qualifying shall be taken into account in determining the salaries. For instance a man teacher who has performed six years or more service as a State teacher if appointed to the London service would receive about \$1,175 per annum, while a woman teacher, who has given six years or more service will receive about \$1,000 per annum.

All travelling expenses are born by the teacher. The cost of living is very much higher than at normal times in England at present and it is possible that a teacher may be out of pocket at least part of her travelling expenses; on the other hand one who takes advantage of this opportunity to become acquainted with another part of the Empire should have gained much as a result of a small investment.

A party is now being formed and, teachers who are interested can obtain further particulars by making application to Miss F. M. Standish, 643 Euclid Ave., Toronto, who is Honorary Secretary of the League for Ontario.



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### What a few Renfrew Truck Scale Users Say:

Mr. D. B. Haskett, R. R. No. 5, London, Ont., writes that "on more occasions than I can keep track of," the Renfrew Truck Scale has saved him money. It will weigh anything "from a cow to a chicken".

In a deal in hay, Mr. Rufus Botting, Godfrey, Ont., reports that his Renfrew Truck Scale saved \$25.00, in a grain deal \$10.00, and in another in pigs, it saved \$15.00. Altogether in the three deals he mentions, it saved him \$50.00. In the 5½ years he has used it, his scale has proved entirely satisfactory.

Mr. T. Hust, R. R. No. 3, Pembroke, Ont., thinks a farmer should not be without one. His scale, on which he weighs all his farm produce, has saved him many market fees.

Mr. W. B. Scobie, R. R. No. 3, Prescott, Ont., has weighed the capacity on his Renfrew Scale, and further says he finds it very handy around his farm. He weighs "everything" on it, pigs, milk, sheep, cattle, etc., and recently saved \$4.50 on a pork deal.

Mr. Wilfrid Quenneville, Desaulniers, District of Nipissing, Ont., reports that his Renfrew Truck Scale saves him money every time he is selling anything. The self-adjusting feature has been of value to him when weighing hay.

"The first fall I had them they saved me the price of the scales in wheat alone", writes Mr. Fred Laderoute, Westmeath, Ont. He thinks every farmer should have a Renfrew Scale, because "then the owner knows what he gets when he buys, and he doesn't lose anything when he sells". They give standard weight, and they are easy to move around.

On one shipment of hogs, John H. Johnson, R. R. No. 2, Croton, Ont., saved \$10.00 and shortly afterwards, also thanks to his Renfrew Scale, he saved \$15.00 on a cattle deal. He also believes every farmer should own a Renfrew Truck Scale.

"They are the handiest scale on the market", writes Mr. Alex. Backus, R. R. No. 1, Simcoe, Ont., who saved 3 bushels of wheat in one load, and 80 pounds on one lot of hogs, thanks to his Renfrew Scale.

Alfred Keller, Monk Road, Ont., reports that his Renfrew Scale has saved him money "in many ways too numerous to mention".

In weighing for market and in selling calves, Mrs. A. Parkinson, R. R. No. 8, London, Ont., tells us her Renfrew has saved her money. It weighs correctly, is easy to operate, and takes up very little room.

Mr. Kirby Newstead, R. R. No. 3, Atwood, Ont., weighed 2,500 pounds on his Renfrew Scale. He finds it absolutely satisfactory and says it has saved money for him many times.

"I think my scales more than paid for themselves in a very few days weighing out hay", writes Mr. Wm. J. Hough, R. R. No. 2, Prescott, Ont.

In selling grain, hogs, beef, hay, and poultry, Mr. W. H. Headley, McLennan, Ont., has saved money because of his Renfrew Scale.

Mr. Hugh Fitzgerald, R. R. No. 2, Jasper, Ont., has owned his Renfrew for ten years and in that time it has always given perfect satisfaction. "It has saved money every time it was used", reports Mr. Fitzgerald. "It saves time, takes up no room, and will last a life time".