

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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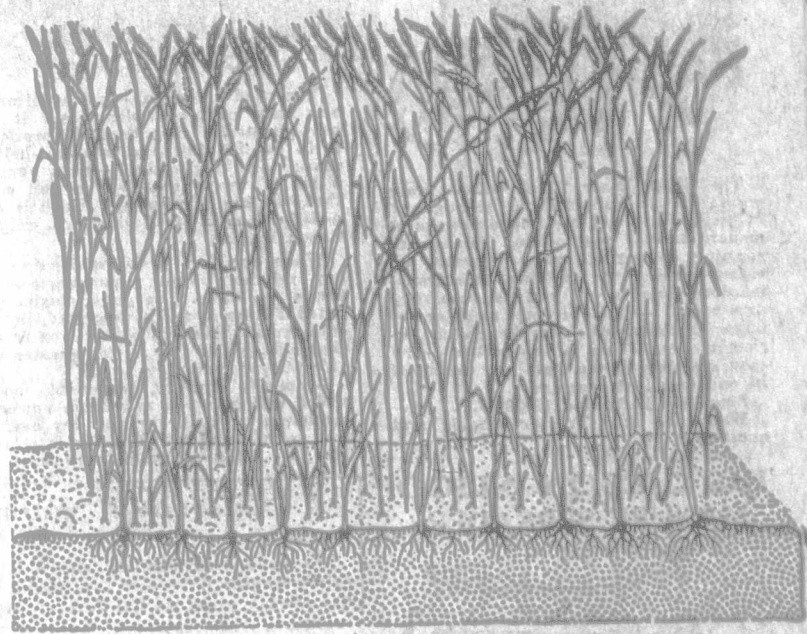
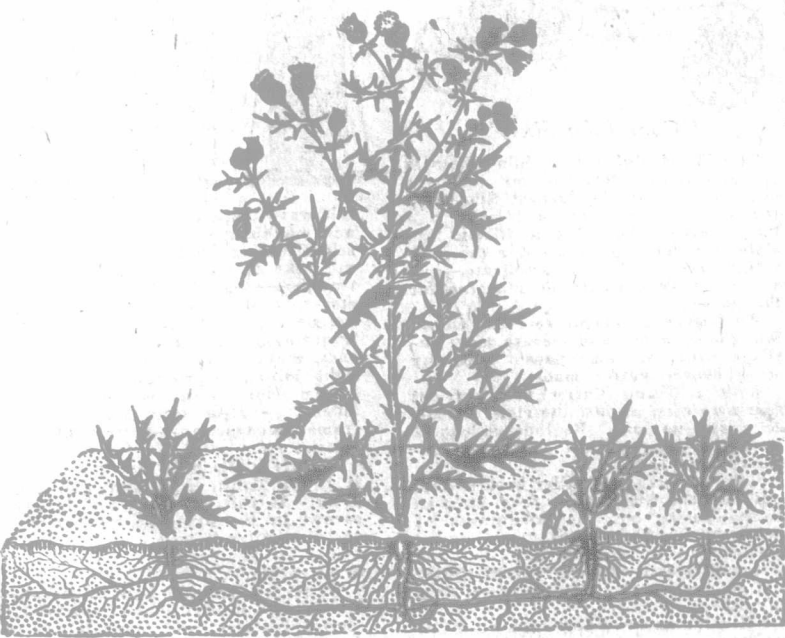
* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME GARDENING

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LONDON, ONTARIO, FEBRUARY 26, 1920.

No. 1431

LV.



One Thistle Crowds Out 70 Stalks of Grain

How many thistles, mustard, ragweed, burdock, or other weeds grew in your fields last summer?

How much loss did those weeds cause you?

In the space occupied by an average thistle—about one square foot—seventy stalks of grain could grow.

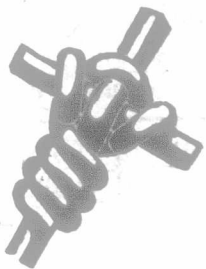
Some other weeds occupy less space than the thistle, and some spread over more.

How much grain could you have grown in the space occupied by these crop robbers?

Will weeds rob you again this year?

Get right at the root of the weed evil. Pull down and haul away all the old snake, stump or board fences, in the shelter of which weeds breed in profusion, to scatter their seeds all over the fields.

Replace your old weed-breeding fences with



Frost Fence



Frost Wire Fences afford no shelter for weeds of any kind. You can plow to the very edge of the fence. A year after the erection of a Frost Fence the absence of the weed in your crop will be very noticeable. Frost Wire Fences certainly do much to eliminate weeds.
Strongly built, of the very best carefully gal-

vanized wire (it is made completely in our own mills), and with the laterals and stays locked securely together by the famous FROST TIGHT LOCK (illustrated at the side of advertisement), this fence will stand the test of the severest extremes of Canadian weather and all manner of rough treatment from frisky stock.

Frost Steel and Wire Co., Limited, Hamilton, Canada

Manufacturers of Galvanized and Bright Wire, Hay Wire and Bale Ties, Woven Wire, Farm and Ornamental Fences, Galvanized Gates, Manufacturers' Wire Supplies. Write for Catalogue.

NESS

Detroit, with more than 180 auto factories, is indeed the automobile industry. Advantages to the student, Truck and Tractor automobiles manufactured of that!—and these and furnish us with

School

ment are well known. Enroll our Course. In the, and they give our on us for graduates industry, M. S. A. S.

Monthly

nce. Your success ing—what you are ighly instructed in every part of the

Say of the M. S. A. S.

ks to the "Old Reliable" (excellence), with every job is to say that I am kept haven't opened a garage nearly every day, starting electrical troubles, at I am busy. I have never regretted I spent in the M. S. A. S., who wanted a thorough ry by all means to go to S., and there they will in this town, Vineland, a nice large building, 36 it up this winter when I your satisfied graduates. Ont., Canada.

Working in a Chandler an I can do, not just on I have charge of the er month at the least, n average between \$350 ood, but will do better. rather hear a motor hit tern M. S. A. S. (friend F. Alva, Okla.

quired at the school stand not struck a difficulty knowledge acquired at the olve successfully. Yours N, Tulsa, Okla.:

anic at Chappels' Garage, three times what I could e than pleased with the ur school. Yours truly, een, Mo.

stuck on any kind of a ical repair of an auto. TT, Waelder, Texas.



COOL Industry U.S.A.

GILSON PRODUCTS

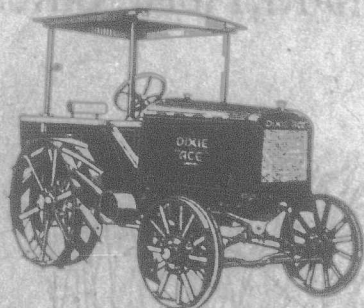
"Goes Like Sixty" 100% Service

DON'T WASTE MONEY ON EXPERIMENTS!

For sixty years, we have steadily worked at raising the performance and efficiency of Gilson Products to their present standard recognized by men of discrimination, sound judgment and experience—successful men—as representing the highest standard of value to-day. Gilson Products are Dominant in Quality and Service.

WE HAVE PAID FOR YOUR EXPERIENCE! When you purchase a Gilson outfit, you are assured of getting the maximum of SAFETY, SERVICE and SATISFACTION.

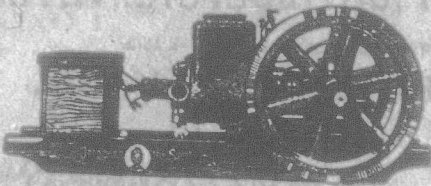
THE DIXIE "ACE" "The Ace Among Tractors"



The Gilson Dixie "Ace" will do your work. It is standardized throughout. It incorporates all the improvements of modern tractor engineering. The smooth running, powerful motor operates on either kerosene or gasoline—the transmission runs in oil and is absolutely just-proof,—the perfect radiator of large capacity,—the simple clutch arrangements,—ease of operation,—the easy starting device—all are combined in one excellent machine.

Sizes are 11-24 and 15-30 H.P.
Write for free Tractor catalog and quotations.

THIS ENGINE WILL COST YOU NOTHING



"Goes Like Sixty"

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

When you buy a Gilson Engine you buy reliable power, plus service,—the utmost economy. You get exclusive patented features, fully described in our catalogue, which will be sent you free,—that will enable you to get greater service at less cost.

A smooth running, dependable motor, which will give you maximum power at minimum cost, day in and day out, all the year round. Write for catalogue No. 25. All sizes for all purposes.

"OVER THE TOP" OF THE HIGHEST SILO

The Wonderful GILSON



"Goes Like Sixty"

The Wonderful Gilson Silo Filler is the one blower that will put the corn over the top of the highest silo,—and the smallest size will do it with a 4 H.P. engine. There is a Gilson Silo Filler for every purpose,—for the individual farmer,—for the syndicate,—and a very large capacity of machine for the jobber.

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

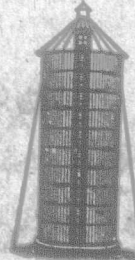
With a Gilson Cutter you can cut your own corn at just the right time,—no waste—no loss. Be independent of the cutter gang. Refill your silo without expense.

Write for free Silo Filler book to-day. It tells the Gilson story from start to finish,—points out the advantages of the design, and describes the all metal construction in such a way that you will understand why the Gilson Cutter will do more work with less power than any other.

Fill out coupon below and send immediately.

HYLO SILO

Sweet, Fresh Ensilage Down to the Last Forkful



The Hylo Silo sets new and higher standards in silo construction and silo service.

The Hylo Silo insures perfect ensilage down to the last forkful,—sweet, fresh and nutritious. The Hylo Silo is purchased by the modern farmer,—the man who buys on a business basis,—buys for the money it will make him. Some of the advantages of the Hylo Silo are as follows:—

infinitely superior material and machinery,—exclusive and patented self-adjusting hoops, which automatically take up all the expansion and contraction,—single-length and two-piece staves used exclusively,—all staves tongue-and-grooved and bevelled with extraordinary accuracy, both sides and ends, making perfect self-bracing, airtight joints,—interchangeable perfect fitting doors with patent lock,—steel ladder,—rigid interchangeable door-frame construction,—perfect anchoring system, etc.

The Hylo Silo will last indefinitely.—It is airtight, leak-proof and storm-proof. It will pay for itself in profits earned in the first six months of use and thereafter it will continue to make money for you at no additional expense or attention.

Write for free silo book to-day showing detailed illustrations of special Hylo service-features, and many letters and farm scenes of users.

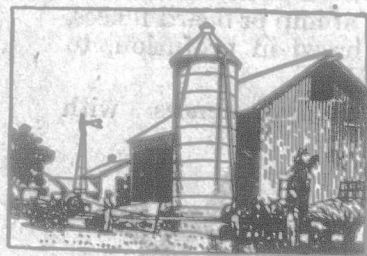
THE GILSON NISCO MANURE SPREADER



WIDE SPREAD LOW DOWN TROUBLE PROOF

No Clutches Easy to Adjust
No Gears Full Capacity
No Complicated Parts Perfect Work
No Expensive Repairs Light Draft

THE-VERY-BEST



A "Gilsonized" Farm

Gentlemen—We have been running our 8 H. P. Gilson Engine for nearly four years. It has always given us the best of satisfaction.

We use it to run our N-12 in. Gilson Ensilage Cutter, and this fall we put thirty feet of corn in our "Gilson" Hylo Silo in seven hours. We run our 10 1/2 in. plate grinder, grinding at the rate of twenty-four bags of mixed grain per hour. The other day we ran the engine sawing wood, using four gallons of fuel in a ten-hours' run, wood being maple and beech.

Our little "Johnny-on-the-Spot" after all his years of service, is still on the job, as willing and useful as ever. Mother thinks the world of "Johnny," as he saves an inestimable amount of hard work, and we consider he has paid for himself over and over again.

I have operated and repaired different makes of engines, but I have not seen an engine yet that stands up with the Gilson for power and fuel economy per rated h.p.

Yours respectfully,
JOHN WILSON,
Nashville,

Singular Satisfaction

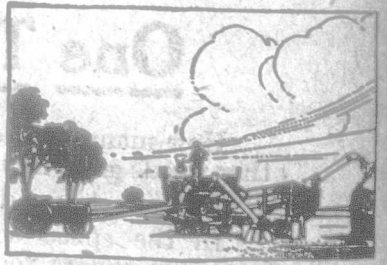
Gentlemen—I am sending you photograph of my Gilson Tractor and Gilson Thresher.

My tractor has been a source of singular satisfaction to me. When I bought it I was not positive that it would be a paying investment. I took the chance and am delighted with the results.

The tractor is invaluable for work at the draw-bar, such as plowing, harrowing, etc., and it is exceedingly valuable with the belt, where I do my own grinding and threshing, and I help out the neighbors quite a bit. The tractor is so simple, so easy to handle, so thoroughly reliable and willing, that we find lots of jobs for it and it does them all with the greatest economy and satisfaction.

The Gilson Thresher, which I purchased later, has more than met my expectations. It is the cleanest thresher I have ever seen, and has far more capacity than I expected or you represented.

Yours truly,
D. MCKENZIE, Glenora.



Mark X opposite the books you wish.

Each of our products is described and illustrated in a plain way so that you may easily understand the mechanical features that make Gilson Products yield supreme service. Send in the coupon for one or for all of the booklets. Your enquiry will be welcome.

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949 York Street, Guelph, Ontario

- Thresher
- Engine
- Tractor
- Silo
- Wood Saw
- Silo Filler

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None - Such Seed Corn

We guarantee that if not satisfied, return at our expense within ten days from receipt of corn, and money will be refunded. Price, \$3.00 per bus., delivered and a bag furnished. Write for prices and particulars to

Cottam Farmers Limited, Cottam, Ontario

WANTED Horse Radish Root

Wanted to buy 2 acres of horse radish root or smaller quantity. State price per hundred lbs. Will pay high price. Write at once.

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For insulation and bedding.

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Send for free illustrated catalogue,
H. L. McCONNELL & SON,
Port Burwell, Ontario

Winner of Canadian Government Spraying contest and over 100 Gold Medals and First Awards.

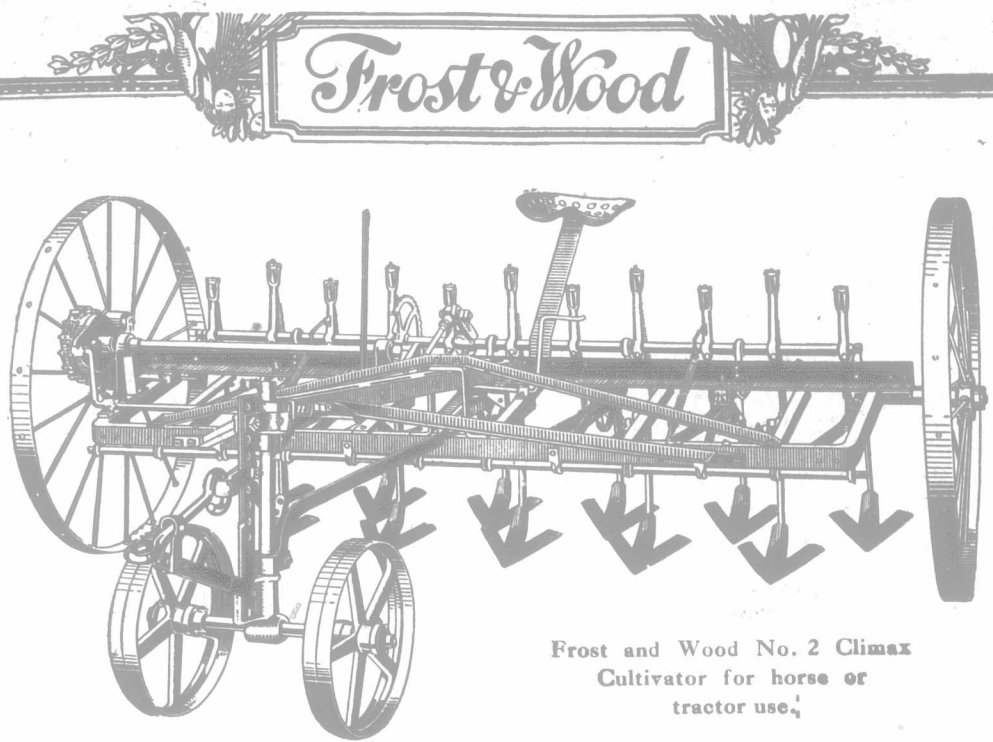
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Spray to beat Disease and Pests

A Spramotor will double and triple the yield from orchard and row crops. Write for free illustrated book on crop diseases.

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Frost and Wood No. 2 Climax Cultivator for horse or tractor use.

Kill the weeds and let the dollars grow—use a Climax!

The farmer who realizes the big benefits of soil cultivation is quick to see the advantages of the special design, the rugged strength, and the one-hundred-per-cent effectiveness of Frost and Wood Climax Cultivators.

The narrow points dig deep into the soil and bring up weeds—roots and all. The wide points, working at varying depths as desired, bring sure death to thistles, mustard, and everything that robs your land of fertility and moisture.

Automatic power lift works by a pull of a cord

—raises and lowers the points as desired. Handy adjustments vary depth of cut. Strength—no end to it! Strong safety springs save breakage of teeth.

Used with a tractor it cleans up your fields in short order—that's the way to get bumper crops. We have a very interesting folder—"Better Cultivation, Less Weeds" explaining these popular implements. Write us for a copy today.

See our nearest Dealer, too, and our complete line of Farm Implements.

The Frost & Wood Co. Limited
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Montreal St. John, N.B.

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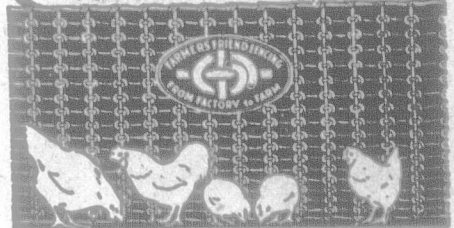
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The Canadian farmers and ourselves have been friends for more than eight years. Our business relations have been very intimate and profitable both ways—to the farmer and to us. We have given full measure of service—real fence value. That means repeat orders. Once a Sarnia fence customer, always a Sarnia fence customer. That is especially true of Sarnia poultry fence. You get real fence value, durable and strong, with all extra profits eliminated, when you deal direct with us on our Factory to Farm one profit plan.

We Save You Money

Buy no Poultry fence any part of which is made of light wire. The life of the fence will only be the life of the lightest wire. A chain is no stronger than its weakest link. The Sarnia fence—in fact all parts of our fence are made of the same size wire. We guarantee the Sarnia fence to be made from Government gauge, high grade wire that stands the acid test, and to be the most perfectly woven Poultry fence on the market. Western Canada supplied from Winnipeg. Get our low price list and descriptive literature before you buy Poultry Fence. Address nearest office.

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Winnipeg, Manitoba Sarnia, Ontario



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We are in the market to buy Alsike, Red Clover, Timothy, White Blossom Sweet Clover. If any to offer send samples and we will quote you our best prices F. O. B. your station.

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Seed Merchants

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We are in the market for Alsike, Red and Sweet Clover, Timothy, also all grain of good sample. Send samples, and we will quote our best price f.o.b. your station.

GEO. KEITH & SONS
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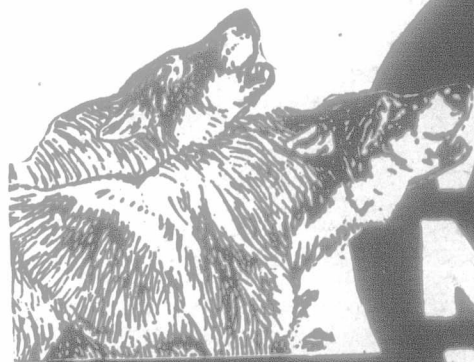
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Funsten handles more Wolf, Muskrat, Mink, Opossum, Skunk, Raccoon, Civet Cat, Fox, etc., than any other house in the world! As season nears close, fur prices and qualities will decline. Grading is all important now. Funsten grades highest. We need all your furs—not only this season, but next season too. Ship today!

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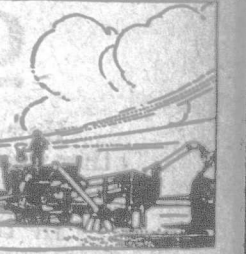
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the Last Forkful

The Hyle Silo sets new
and higher standards in
silo construction and silo
service.

The Hyle Silo insures
perfect ensilage down to
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fresh and nutritious. The
Hyle Silo is purchased by
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man who buys on a busi-
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Some of the advantages
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— and bevelled with ex-
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perfect self-draining, air-
interchangeable perfect
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interchangeable door-
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will last indefinitely, —
leak-proof and storm-
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at no additional expense

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ing illustrations of special Hyle
and many letters and
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understand the mechanical
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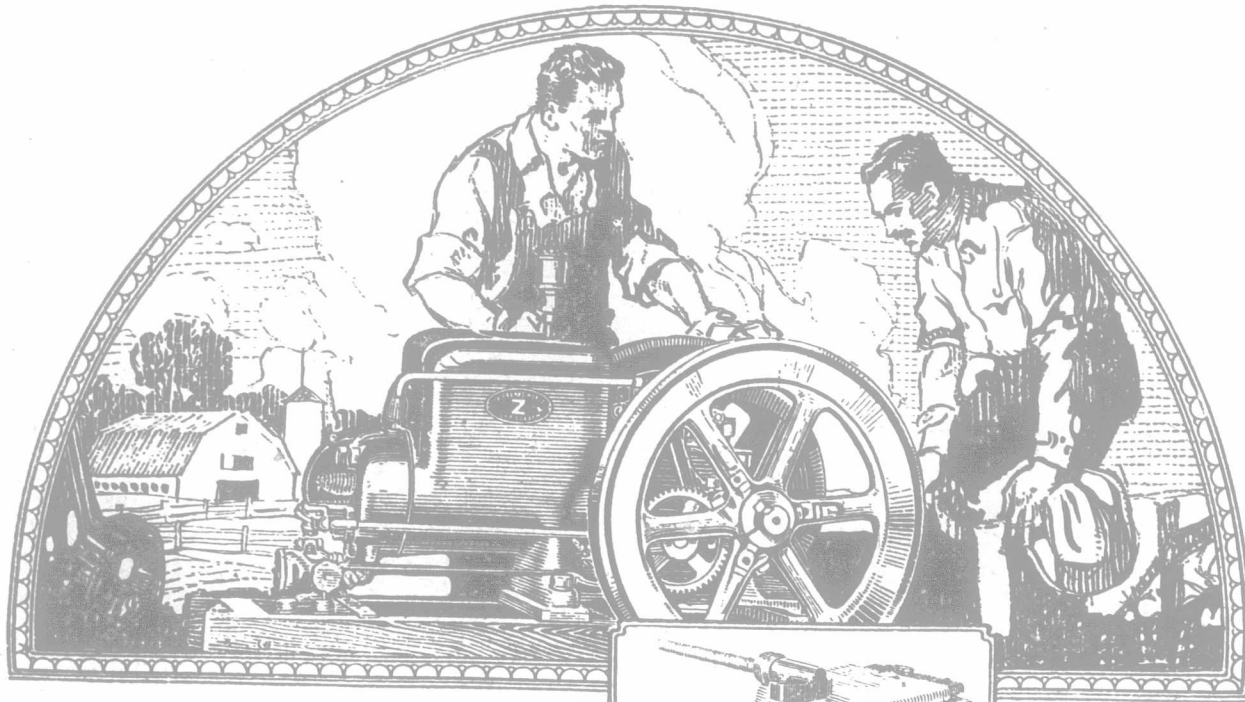
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Canadian Government
Spraying contest and over 100
Gold Medals and First Awards.

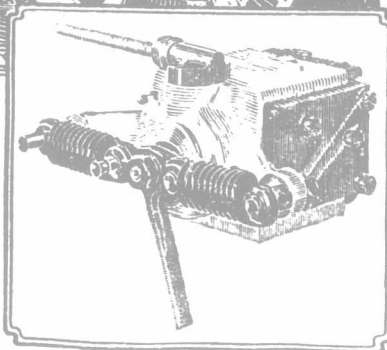
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eat Disease and Pests
will double and triple the
orchard and row crops.
Illustrated book on crop diseases.
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Fairbanks-Morse
"Z" Engine with
Bosch Magneto



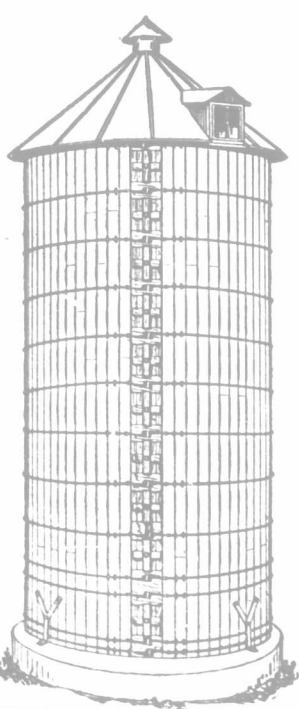
Farm Engine Supremacy

THE famous "Z" Engine and the Bosch high-tension, oscillating magneto combine to make the one SUPREME farm engine. The dependability of the Bosch in delivering a steady succession of hot, intensive sparks is well known, and adds the one possible betterment to the "Z"—always recognized as the foremost of farm engines. Call on your "Z" Engine dealer and see the result of this newest combination—FAIRBANKS-MORSE "Z" WITH BOSCH MAGNETO. All Bosch Service Stations throughout Canada will assist our dealers in delivering maximum engine service.

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Fairbanks-Morse
Co., Limited.

Hallifax St. John Quebec Montreal Ottawa Toronto
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TWO SILOS EACH A LEADER IN ITS CLASS

We are now manufacturing two silos to meet the demands and means of every Canadian farmer. Both are wood silos. Experiments prove that cement and tile silos do not preserve silage perfectly—that nothing but wood will do this.

1. BURLINGTON CABLE BAND SILOS are the strongest-hooped silos on the market. The hoop, instead of being a solid iron rod, is a seven-stranded galvanized cable. This cable is protected by patent No. 168358. We use No. 1 Norway Pine Staves, side and end matched and treated with red preservative. THE SILO THAT GOES UP WITHOUT TROUBLE. No scaffold needed. See inside front cover, Christmas number, Farmer's Advocate, London, Ontario.

2. We also make CRAINE THREE WALL SILOS. They are absolutely the best equipment that can be purchased by you today. They are permanent buildings. They preserve silage perfectly, and the cost is moderate.

In the CRAINE THREE WALL SILOS there are three distinct walls. An inner wall of 2"x6" side and end matched staves (same as in Burlington Cable Band Silos). The centre wall is weather and acid-proof felt, similar to Roofing felt. The outer wall is clear B.C. Fir wound spirally from top to bottom of silo, ship-locked and metal protected. No bands required; an absolutely permanent building.

Both of these silos have Continuous Refrigerator Door System and Interchangeable Doors. We want you to know all about them. Let us send you free complete information. Sold direct from Factory to Farm. Write to-day. Fill in the coupon now.

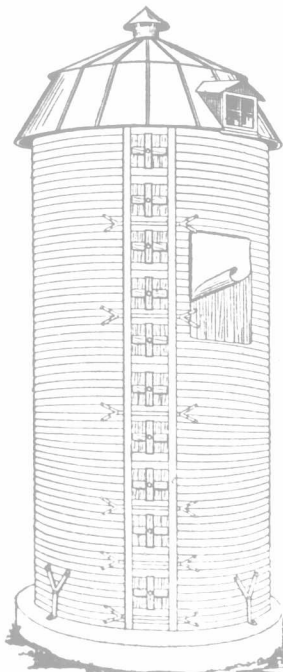
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The NICHOLSON LUMBER COMPANY, Ltd., Burlington, Ont.

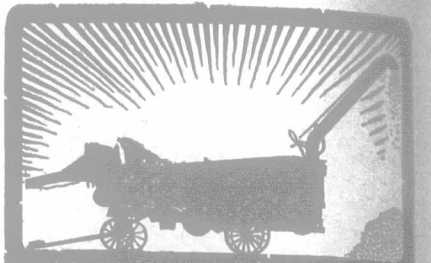
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GOODISON Threshers are money makers whether you use them for your own threshing or for custom work. They are easy to operate—handle the grain fast and thresh it all. They run steadily—no stops for repairs—no stops for adjustments.

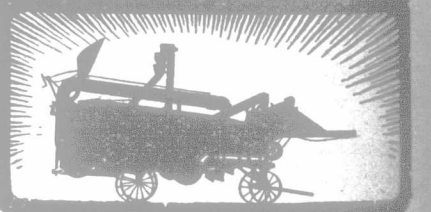
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Carefully selected materials and unhurried honest building makes the Goodison Thresher unsurpassable.

We can give you no stronger evidence of Goodison satisfaction than the letters we have received from Goodison owners all over the continent. They are included in our new folder, "Goodison Features and Feathers." Ask for it.

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THRESHER COMPANY LTD.
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that gives you profitable advice without a cent of cost

JUST one of the many things it explains is the remedying of sanitary conditions. It shows you the disadvantages under which your stock labor when they drink out of the unsanitary trough. It shows you how you may easily have a Concrete one such as shown below.

From that first step in the use of Concrete you will progress to the use of Concrete for all wells, water tanks, septic tanks, floors and foundations. You will ultimately have a farm so completely fortified against disease germs that your stock will thrive as only animals can thrive when living under such completely sanitary conditions as Concrete makes possible; and all your Concrete work will be done with the aid of this free Book, "What the Farmer Can Do with Concrete."

It has helped more than 100,000 farmers. It will help you—by showing you how easy it is to construct improvements that are permanent, fireproof, weather-proof, vermin-proof, repair-proof. Contains 100 pages of practical suggestions, with plans and full directions for building barns, foundations, floors—the things that are best made of Concrete.

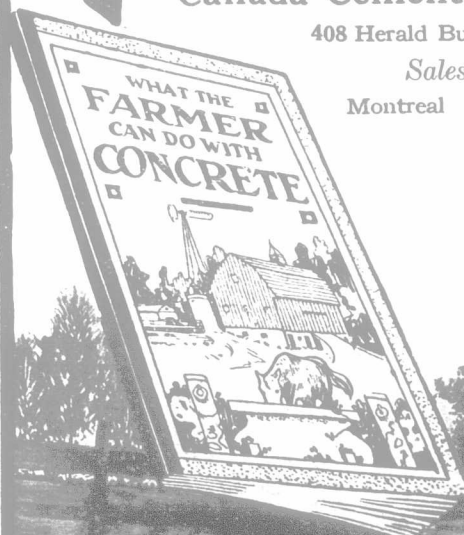
Ask for Canada Portland Cement, the uniformly reliable brand. It can be secured from more than 2,000 dealers throughout Canada. If your dealer cannot supply you, write our nearest Sales Office

Canada Cement Company Limited

408 Herald Building Montreal

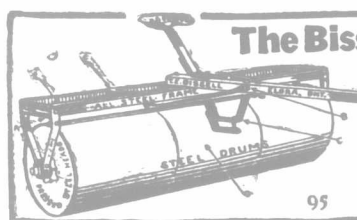
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The Bissell Steel Roller has a rigid steel frame—no wood whatever. Large roller bearings and strong 2" axles insure durability and great strength. The Bissell is a 3-drum Roller of good weight, built to stand hard usage and give great service. Write Dept. W 1 for free catalogue. T. E. BISSELL CO., LTD., Elora, Ont.

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These Machines
Will Certainly
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John Deere-Van Brunt Drill

Single and Double Disc—they plant accurately any kind or size of seed from flax to corn. They plant at uniform depth in any kind of ground that can be seeded. They do not choke or become clogged. Equipped with the famous Van Brunt adjustable gate force feed—the most perfect seeding mechanism ever devised—and the Van Brunt Patent Disc Bearings that retain oil and are dust proof. Guaranteed to last the life of the drill or replaced free of charge.

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This machine will handle any fertilizer, 150 to 8,000 pounds to the acre. It has a direct wheel drive—double feeding mechanism. Large ground wheels. It assures uniform distribution of fertilizer—every bit of the soil is improved. This machine is a big paying investment. If you are a user of Commercial Fertilizer you cannot afford to be without this machine. Just talk it over with your John Deere dealer. Convince yourself.

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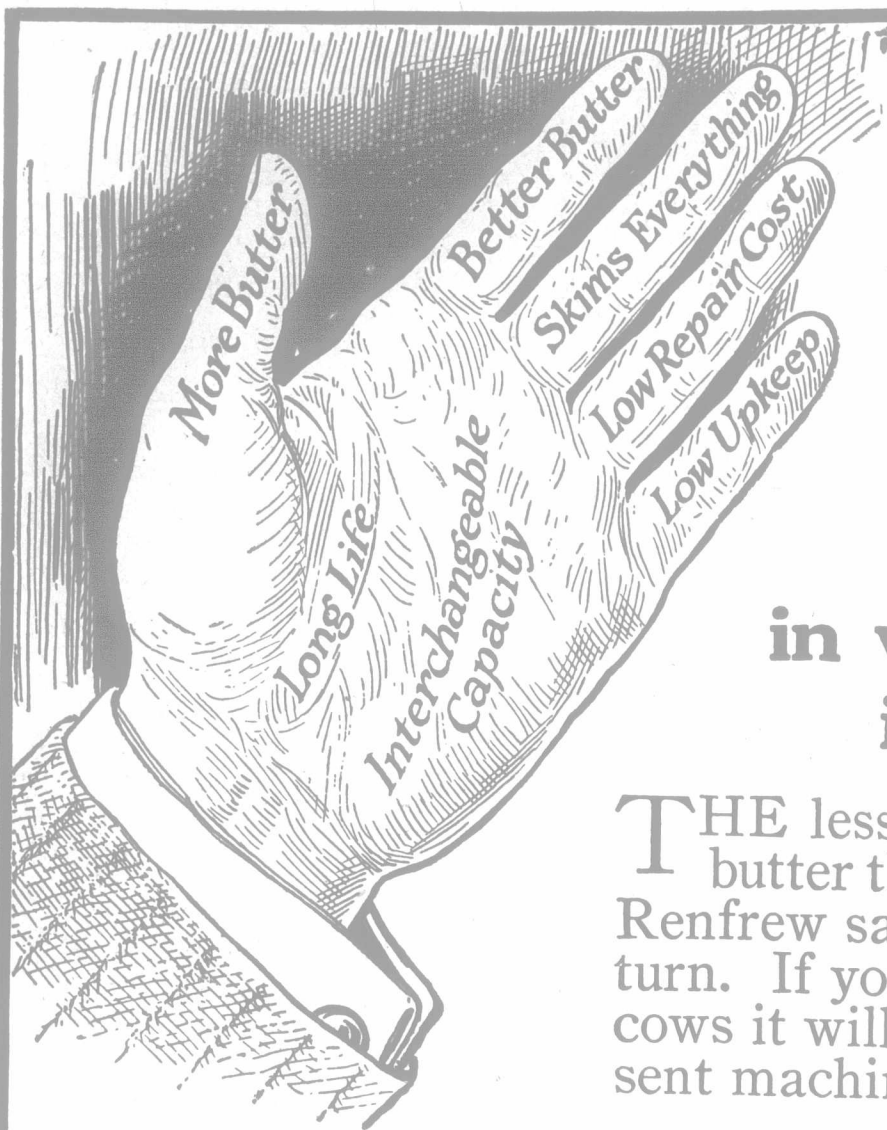
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Please send me information regarding the use of fertilizers.
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THE less it costs you to produce your butter the more profit you make. The Renfrew saves production costs at every turn. If you want more profit from your cows it will pay you to discard your present machine and get the

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CREAM SEPARATOR

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The Farmer's Advocate and Home Magazine

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LV.

LONDON ONTARIO FEBRUARY 26, 1920.

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EDITORIAL.

"As you sow, so you reap," may have several applications, but none is so evident as in the kind of seed of the various farm crops sown. First-quality seed must be sown if the best quality crop is to be harvested.

There is little hope being held out that grass seeds, especially clovers, will be any cheaper, and there is a danger that the demand may not be satisfied. If there is nothing to be gained by waiting it would appear like good business to purchase now.

"I did not think," is the excuse given for many failures and wrong doings. It is high time that we commenced cultivating the habit of thinking if we would avoid losing the faculty of thinking by the brain cells atrophying through disuse.

Investigation into the high cost of living doesn't add one jot or one tittle to the food supply. Men to cultivate, sow and harvest are wanted if the world's granaries are to be filled. Economic conditions must be so adjusted that the farm home, life and work will be as attractive as that offered by the urban community.

Too many have cultivated extravagant tastes and desires during the past few years of ready cash. We cannot always ride on the crest of the prosperity wave, and it would be in order for every one to lay aside something for a rainy day. Living within our means is a motto that might advisedly be adopted by country youths as well as city folk.

Hydro light and power cannot be taken to the farms any too soon, but it is a stupendous undertaking to supply the farmers of Ontario with current in a short time. The present supply is over-subscribed, and we understand the power which the Chippawa Scheme will provide is already taken up. Rural municipalities have not been as forward in demanding or subscribing for current as they should be, and the urban municipalities are in on the ground floor with equipment and organization. Many farmers are depending on securing Hydro very soon, and when situated near transmission lines or sources of supply their expectations may be realized. Nevertheless, there is a demand for Hydro that will not be satisfied in the next decade, at least. Some statement should be forthcoming from the Hydro Commission that will throw a ray of light on the possibility of getting current to the farms at a reasonable rate.

The Live-Stock Branch has decreed that on and after April 1, 1920, the charge known as "packers' insurance" must not be levied on the live stock sold at the stock yards in Canada. "Packers' insurance" has been the subject of considerable controversy for years with the packers arguing that since Government inspection in the abattoirs became a practice many animals have been condemned, and that the insurance is a practicable way of preventing loss. On the other hand, it is claimed that the insurance provides a fund far in excess of the loss through condemnations, and that the insurance is charged on all animals passing through the yards, whether they go to the abattoirs for slaughter, or somewhere else. The charge, as it has been collected in the past, seems unfair, but a reasonable insurance fee could be charged and placed to the credit of the Health of Animals Branch, which makes the inspection, or to the credit of the Live-Stock Branch. The custodians of this fund could compensate in case an animal is condemned and the balance of the fund could be used to help free Canada's live stock from disease.

Tap the Maples!

It would appear like turning the wheels backward to resort to the old-time practices of carding, spinning, weaving, and the home-spun suit. Many of these old-time practices have been allowed to vacate, and now the necessities, formerly made by the hands of the users themselves, are available only at the price someone else is pleased to set. Things have become centralized, and it is a question whether the results compensate for the lack of command we have over the necessities of life. True, farmers and their families dispensed with considerable toil, but they have been obliged to work just as hard in order to be able to purchase back those things which they previously made themselves.

One good, old-time custom which has not been alienated from the farm is the tapping of maple trees. It is something that does not lend itself to being cornered by big interests, and the owners of maple groves are still in a position to draw the sweet sap from the maple and convert it into syrup or sugar. In fact, the conveniences for this have been improved. Instead of the huge kettle, suspended above an open fire, owners of maple groves are now in a position to own a sugar plant of their own, and compete to a certain degree, with the large manufacturers who supply the nation.

Sunshine and frost will soon combine to start the sap running, and anyone who can command sufficient labor and get possession of ample fuel would do well this year to make a business of tapping the maple trees. The price of sugar is exceedingly high and the demand for maple products is better than ever, at enhanced prices. Maple syrup and sugar are being used much more extensively than ever before in the confectionery trade, and there is a considerable export demand should we desire to supply it. Maple sugar and syrup can be used in the home in lieu of the granulated or brown sugar that is now at such a premium, and anyone in a position at all to spend some time in the bush this spring would be making no mistake in tapping very extensively. It will pay to use good utensils and good equipment. Turn out a good product and there will be no question about a demand for it.

A New Slogan Needed.

Since farming, fishing and hunting ceased to be the chief pursuits of the Canadian population, and towns and cities began to exert an influence, "Back-to-the-land" has been the perpetual slogan that will not down. It was a good slogan in its day, and on account of its age deserves respect, but it is doubtful if any re-adjustment of economic conditions will be brought about by a well-marked movement of people toward the land. In spite of the under-production of foodstuffs and the ever-increasing difficulties incident to living in urban centres, conditions are not favorable for any appreciable increase in the ranks of agriculture through the enlistment of town and city workers. We can alter the slogan to "Stay on the land," and then proceed to being more acres under cultivation by attracting suitable immigrants and settlers from abroad. In this way Canada may do a great deal to rehabilitate agriculture and alleviate the tense situation now existing.

To start farming, even as a tenant, the beginner will require at least between three and four thousand dollars, and if a 100-acre farm is purchased the initial payment on the property must be added to the previously-mentioned sum. Anyone prospering in the town or city will not likely think of farming, and those who are not prospering seldom have three to five thousand dollars in their bank account. Starting farming is not what it used to be; it is now an adventure requiring no small amount of capital.

Should the married man with a family consider engaging as a farm laborer, he will have to forego many conveniences that he enjoyed in town, and more than that farmers, as a rule, are not equipped with sufficient

house room or cottages to properly accommodate married help. The unmarried man will be the last to feel the pinch of hard times, the most susceptible to the lure of the city, and the last to join any exodus countryward. These are the circumstances as they exist in urban communities, and we shall have to shout "Back to the land!" till our throats are sore before we can make much impression on the present state of affairs.

Help on the farm has been getting scarcer throughout the last decade, but the real trouble dates from the beginning of huge profit on war contracts. Wages jumped up to the clouds and remained there, and the cost of living went up to keep them company. Meanwhile, farmers have kept their feet on the ground and will continue to do so, if they are wise. We have not yet reached the peak of high prices for manufactured commodities. Buyers of merchandise are appalled at the ever-increasing valuations placed on commodities by the manufacturers, jobbers and wholesalers. Sometime the shoe will begin to pinch, but not until the public cease to buy unnecessary articles at exorbitant prices.

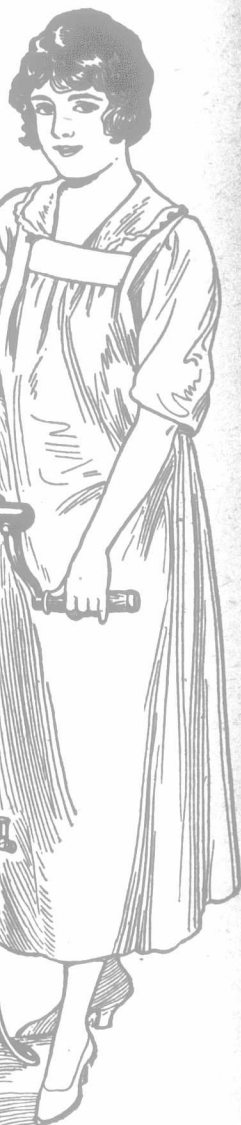
A "stay-on-the-land" campaign has some chances for success, and it should be backed up by the Federal Government and the Provincial Governments by paying every consideration to agriculture. A fair method of taxation, assistance in marketing, good roads, electric power, and numerous other advantages such as these would do a great deal to make farming attractive, and when that is done there will be no need of a slogan at all.

Town and Country Should Co-operate.

If there are two classes of people who do not understand each other and could profit by a closer acquaintance, it is the town and country people of Canada. Frequently, urban folk say unkind things about the farmers, and in many cases rural people do not turn the other cheek, but instead are just as likely to say something not altogether complimentary to townsmen. Ninety per cent. of the people in this country, urban and rural, are plain-living folk busily engaged in making a living, and there is no excuse for any sharply-drawn line of demarcation between town and country. One depends on the other to a very large extent; the inhabitants of both are, in many cases, closely related; they are meeting each other almost daily, and after all are one people. The estranged relationship is due largely to a misunderstanding, and when an effort is made to get town and country closer together the results are often gratifying.

Just as one example of what may be done by closer co-operation between town and country, we may consider the case of Petrolia, a small town in Western Ontario, which, during spring and fall, is almost isolated by impassable roads. Town and country folk got together there and did \$7,000 worth of road work, and only \$500 in actual money was expended. Farmers drew gravel and the town people took off their coats and went to work; both worked together harmoniously, with the result that now farmers from the surrounding country can get in to town at any season of the year.

Steps are being taken at Stratford to organize a farmers' section of the Chamber of Commerce. The committee includes a number of the foremost farmers in the county, the Warden of the county, and an ex-Minister of Agriculture. Surely something can be accomplished by a body of men such as this. It would be in the interests of town and country dwellers for the inhabitants of both to work together harmoniously. There have been misunderstandings in the past, but the younger men coming on are willing to forget little differences and personal grievances for the sake of a community spirit that fosters co-operation, goodwill and progress.



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 Magazine,"
Winnipeg, Man.

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 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.
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Clean Seed Essential.

Farmers are just about unanimous that good crops cannot be produced from poor seed; this much is axiomatic, but the rush of seeding often induces a great many up-to-date farmers to neglect treating their seed for smut, scab and other fungous diseases that exact a heavy toll. We know of individual cases where farmers have become black listed at threshing time because their grain was so dirty that neighbors would not go to their threshing. Such cases are the exception, of course, but there is too much neglect in the spring of the year because farmers have not been prepared, when they had time, for the busy week or two that is sure to come in April or, in a late spring, early in May. The stage should be all prepared, the grain cleaned, treating material purchased and methods decided upon. When a man is determined on a certain line of action and has it well mapped out, the execution of the plan is not such an exacting operation as when nothing is ready. There is little chance of the labor situation improving, and farmers will be obliged to resort to good planning and systematizing their work, in order to win out in these arduous times.

What Farmers Say in U. S. A.

By ALLAN McDIARMID.

A short time ago a good many of our newspapers printed an item coming from the United States, giving the results of a questionnaire sent out to the farmers by the Post Office Department at Washington.

It said that the replies received indicated a good deal of unrest and that it looked as though production on the farms would become less in the future, instead of being increased, as has been hoped for.

About two hundred thousand letters were sent out and over forty thousand replies were received. The item in our papers only gave an extract from one of these but I have been lucky enough to get hold of an America daily that has given considerable space to the subject and has printed a large number of these farmer's letters. The high cost of living, its cause and cure, are viewed from a good many standpoints and as many remedies prescribed. Some of them are worth repeating. And all of them show in what direction the wind is blowing in the rural districts. General dissatisfaction is indicated. In fact, one of the members of the Senate Committee, to whose attention these matters were brought, said it looked as though the letters came "from a bunch of Bolsheviks."

"The time is very near," writes a farmer from New York State, "when we will have to curtail production and raise only what we need for our own use and let

the other fellows look out for themselves. Labor unions are more to blame for the high prices than anyone else. People are trying to get pay for what they don't earn."

Writing from Montana another farmer said: "I almost fear a famine. Farm help is everywhere flocking to the city, lured by short hours, high wages and the promise of a good time. Some one is going to suffer if this condition is not remedied shortly."

A Missouri producer says the blame all rests with the middleman and advocates the establishment of municipal markets to be served by parcel post direct. "I sell butter to the dealer for 45 cents a pound," his letter said, "and the same butter sells to the consumer for 80 cents. In the distribution we lose nearly half. Such conditions are causing men to leave their farms by the thousands. We have reached a crisis. You may ask what we would do with the middleman. I will suggest that it be arranged for him to go on the farm and help produce something. I understand that they might not relish working fourteen hours a day but if we get by the near future there will have to be some useful work done by every one."

Another Montana farmer caps the climax by saying that he works a 240-acre farm without help and that he knows of many others that are doing the same thing. Then he says, "the way to start to lower the cost of living is to cut the wages in the city, which have called our farm help there. We need them on the farm to help increase production and then we can cut the cost of living."

A Western man gives his word that his income last year from the farm netted him just one dollar a day for his work. And he goes on to say that he soon hopes to see the farmer and the consumer getting closer together. "If not, then I am quitting, for one. Work fourteen hours a day for one dollar? Not me."

A farmer from one of the Middle Western States puts it this way: "I attribute the high cost of living to the good times in the cities. The young men can go to the city and get big pay for eight hours work while farmers have to work from fourteen to sixteen hours a day at hard manual labor. All of the young men in this vicinity of any account go to the city and there are only a few old men left to farm."

"The time is coming, if not already here," another letter declared, "when the consumer and the farmer will absolutely have to deal direct with one another. The middlemen want a larger profit than we are getting, while at the same time the farmer does the hard work."

"The price of everything the farmer has to buy is still going up and the quantity we can raise and put on the market is steadily going down," writes a second Missouri farmer. "I am a small farmer and don't know much else. We all are loyal citizens but there is an awful uneasiness."

And finally comes one for the profiteer. "If you would reduce the cost of living curtail the possibilities that are now afforded capital to hoard and profiteer under fake legislation—then efforts will produce results."

The above, as a fair sample of the forty thousand replies received, is looked upon by the U. S. authorities as being an indication of a grave danger that threatens the country. They're getting afraid that their whole economic structure is going to be upset. Perhaps it is and perhaps it isn't. It's just as well to give them a fright, anyway. It may make them put forth some sort of an effort to improve the situation as it exists to-day. For there's no denying that it can be improved.

The one suggestion the Government makes along this line is the extension of the Parcels' Post system. In a circular they are sending out they say, "Production could be greatly increased and the shortage of labor complained of, partially remedied, if farmers would ship their produce by parcel post and not devote their own valuable time and the service of their teams and vehicles to hauling food-stuffs to market."

To my way of thinking very little relief will be found in this expedient. The only produce that it would be profitable to ship to the city by this means would be butter and eggs, and it's a question of even these articles are not handled to better advantage by the old system.

It's a case, I think, of trying to dodge the real remedy. The man in the town will look all over for a cure for the high cost of living before he will admit that it would help matters if he, himself, were to get back on the land and become a producer. But there is certainly where the relief is to come from, if it comes at all. The balance between town and country, between the consumers and the producers, has been upset. A few years ago the great majority of our people lived on the farm. It isn't the case to-day.

And it's pretty hard to say what should be done to restore this balance. Conscripting of any kind is supposed to be workable only in war-time. But what else will drag a man out of the city and back on to the farm? Or keep him from leaving the farm once the idea of life in town has taken root in his mind?

No doubt old Mother Nature has something up her sleeve that will do the trick and straighten things out before they have gone too far. She always has in the past, even if it meant throwing a nation into the scrap-heap and building up another in its place.

But for those of us who are still on the old farm and who are willing and anxious to stay there as long as it may be possible, there is a word of encouragement that can be said. When our soldiers were in France they coined the expression, "carry on." It helped to win the war. Perhaps it won the war. Anyway, those of us who seem to have "been born to till the soil" can't take anything in the way of a watchword, at the present time, that will be surer to guide us in the right direction than just those two words. To "carry on" is to do the

best we can under any and all circumstances, and no man who has done this has ever been counted a failure.

Everything can't be coming our way all the time and what are we going through life for if it's not to take the downs with the ups. We may not be able to work our farms to their full capacity but half a bushel is better than no wheat, they say. In fact, at present prices, it's a whole lot better.

Nature's Diary.

BY A. BROOKER KLUGH, M.A.

THE ORIGIN OF CULTIVATED PLANTS, V.

The Winter Squash, *Cucurbita maxima*, is in all probability a native of Africa, since it has been found wild by Barter on the banks of the Niger. The Pumpkin, *Curcubita pepo*, is a native of Mexico, and before the coming of Europeans to America was grown among the corn, much as we grow it to-day, by the aboriginal tribes.

The Musk Melon, *Cucumis melo*, is a native of an extensive region stretching from the west coast of Africa to India. It has given rise to a large number of varieties. It was introduced into Europe in the first century of our era, and into China in the eighth century.

The Cucumber, *Cucumis sativus*, grows wild in northern India, and has been cultivated there for at least three thousand years. The ancient Greeks cultivated it under the name *sikuos*, the Romans under the name *cucumis*, while it was introduced into China in 200 B.C.

The Water-melon, *Citrullus vulgaris*, is a native of tropical Africa and the wild fruit is eaten by the natives. It was cultivated by the ancient Egyptians, and it was introduced into Europe about the beginning of our era.

Flax has been cultivated since very ancient times, but the history of flax as a cultivated plant is complicated by the fact that there are several varieties which occur in the wild state. Two of these varieties, the Annual Flax and one of the perennial varieties (*angustifolium*) are the most important. The Annual Flax has been cultivated for at least five thousand years in Mesopotamia, Assyria and Egypt, and is still found wild in the districts between the Persian Gulf, the Caspian Sea and the Black Sea. It was introduced into the more westerly parts of Europe by the Phoenicians about 2,000 B.C. This is the form from which the ancient Egyptians wove the linen in which they wrapped their mummies, the casements of which have often been erroneously described as being of cotton. The variety *angustifolium*, which is found wild from the Canary Islands to Palestine and the Caucasus, was cultivated at an even earlier date, as it was used by the ancient lake-dwellers of Switzerland and northern Italy, who antedated the Aryan migration into Europe. Our name, flax, is derived from the old Teutonic word "*flax*," while our term linen comes from the ancient Aryan word "*lin*," from which is also derived the Latin word "*linum*," which is used as the scientific name of the genus.

Tobacco, *Nicotiana tabacum*, is a native of Equador, Central America, and Mexico. It was cultivated and used for smoking by the Aztecs of Mexico and other aboriginal tribes, long before the discovery of America by the Europeans, as is shown by the large numbers of pipes of beautiful workmanship which have been found in the tombs of the Aztecs and the "mounds" of the United States. The Europeans were quick to take up this particular phase of New World civilization, and the cultivation of this plant spread rapidly to various countries.

Tea, *Thea sinensis*, is a native of the mountainous region which separates the plains of China from those of India. It has been cultivated by the Chinese since at least 2700 B.C. There are now several varieties recognized, but the different kinds of tea, as found on the market, depend on the age of the leaves, their position on the plant, and their subsequent treatment rather than on the variety. Young leaves dried quickly produce the green teas, while the older leaves dried slowly yield the black teas.

The Coffee shrub is a native of Abyssinia, the Soudan and Mozambique, and the berry has been used since very ancient times by the Abyssinians. It was first introduced into America by the Dutch in Surinam in 1718.

Theobroma cacao, from which cocoa is obtained, is a small tree of the Amazon and Orinoco basins. It was cultivated by the tribes of Central America and Mexico prior to the discovery of America by Europeans.

The Sugar-cane, which is cultivated to-day in all the warm regions of the world, is a species of southern Asia. The Sanskrit name for the product of this plant is "*sakkara*," and it is from this that our word "sugar" is derived. Sugar was not known to the ancient Greeks, and the plant was first introduced into Europe by the Arabs in the middle ages, where it was cultivated in Spain and Sicily until the abundant supply from the colonies caused its culture to be abandoned in Europe. It was introduced into Brazil about the beginning of the sixteenth century, and into San Domingo in 1520.

Hevea guianensis, and other species of this genus, from which India-rubber is derived, are natives of South America, and it is only in very recent times that they have been cultivated in other parts of the world.

From this brief review of the origin of cultivated plants we can see how closely these plants are connected with the progress of civilization, and such a survey is likely to make us more contented with our lot and less prone to pine for "the good old days," considering that in those days potatoes, corn, sugar, tea, cocoa, coffee, tobacco and our finest cultivated fruits were unknown to European nations.

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or in some cases a set sum per head. I beg to inform you that on and after April 1, 1920, the above-mentioned charge is not to be deducted from account sales of live-stock yards."

Co-operative Marketing of Live Stock.

There was a time when practically all our live stock was sold to drovers who, in turn, shipped to the central markets. Where two or more drovers shipped from one station the competition kept prices at a high level, but in outlying districts the drover made the best of the situation and, like most business men, bought as cheaply as he could and then sold to best advantage. There was nothing wrong in this except that where competition was lacking the producer was very often forced to take a good deal less than his stock was worth. This fact gave rise to the co-operative shipping of live stock in many localities, and the scheme proved so feasible that the good work spread with great rapidity, not only in Canada but in United States as well. The stock is shipped to a central market and sold by a commission firm or by the man in charge of the load, and the sale price less selling expenses returned to the producer. The middleman's salary or profits go to the producer, and the former can devote his energies to a more productive line of work. Even in this method of marketing there are difficulties to be overcome. In some districts efforts have been made to discredit and, if possible, to wreck the co-operative movement. However, it is thriving at present, and as the work is more thoroughly understood co-operative selling not only of live stock but of all farm products will be practiced.

In the following paragraphs Dan M. Johnson, the Government Supervisor of Canada's stock yards, who has had a wide experience in the handling of stock,

associations in Europe. If the Canadian farmer is to successfully compete with other nations, and obtain a reasonable rate upon his labor and capital, he must not only resort to scientific methods of production, but must find the shortest and most inexpensive route from the producer to the consumer. Every unnecessary expense in the distribution of farm products and farm supplies must be eliminated. It appears singular when analysis of the subject of co-operative marketing is made that so many co-operative movements should be born and reared in fields foreign to the shipping of live stock. There are no farm products so easy to market as live-stock, yet many highly specialized co-operative marketing movements, much more complex, have been successfully conducted for years. It is singular then that the live-stock shipping movement in the co-operative field is so young. Compare live stock marketing with other co-operative movements. There are to-day co-operative concerns handling eggs, fruits, vegetables, milk, cheese, etc. These associations have found it necessary to construct large storage houses where their products are sometimes held for months until they are sold for the desired price. This method causes expense, as it is necessary to tie up large sums of capital. All these large co-operative concerns have had to spend vast sums in advertising schemes to aid in selling their product. Much attention and expense is given to the method of placing the product before the public. Live-stock shipping is less expensive in nature, as in the first place no capital is needed; it is not necessary to have buildings or a warehouse and no expensive storage problem exists. The whole thing resolves itself down to a quick movement from the farm to the nearest market of the stock to be sold. It has always seemed very strange that this simple method of marketing has not been used by our live-stock raisers to a greater extent. Very few farmers are able to ship a full carload of stock. The logical conclusion is that several farmers bind them-

Stock received from each individual shipper is marked so the animals may be identified at the terminal stock yards. This method is adopted so that each farmer may receive the exact amount his live stock brings on the day it is sold. Most live-stock shipping associations clip Roman numerals on the hips of the cattle and calves with a small pair of scissors, especially made for clipping marks on animals. This is done when the cattle are received by the local manager at the shipping point. Each person shipping in a car is given a number, this number being the one clipped on the animals. In the case of a cow with a small calf at foot, which are to be sold together, the number is clipped on the right shoulder of both cow and calf. The reason for marking the cow and calf in this way is that it may indicate to the commission man at the terminal stock yards that the cow is not to be sold to the butcher, but she is a milk cow and has a calf at foot. Sheep are usually marked with paint of different colors and in different places as on the head, the top of the shoulder, or on the right or left hip. This is a very simple method of marking sheep. Hogs are not generally marked, but are graded according to weight. Hogs between 140 and 250 pounds are known and listed as "selects." The rest are known as "cut-outs" and consist of sows, heavies, stags and boars. Each owner's cut-outs are marked in a different place and are described as "green-back," "green-rump," etc. By shipping live stock co-operatively a farmer who may only have half a dozen cattle to sell is able to place these on the market with just the same expense per head as if he owned a carload.

The manager makes no payment to local shippers when the live stock is delivered, but waits until he has received full returns. A complete statement may either be made by the manager or by the commission firm handling the shipment. Making out individual statements is called "pro-rating." A small charge is made by the commission firm for this service. A complete statement gives the selling weight, price per pound, gross proceeds, expenses, net proceeds. Associations have various ways of paying their manager, sometimes he receives a straight salary, and sometimes so much per hundred pound weight. Some associations set aside so much for a sinking fund. This fund if created, enables the manager to pay for animals lost or injured in transit. Some associations carry transit insurance. The sinking fund sometimes is used for the building of a shed at the shipping point, and for the purchase of stock scales to be used by the association for weighing.

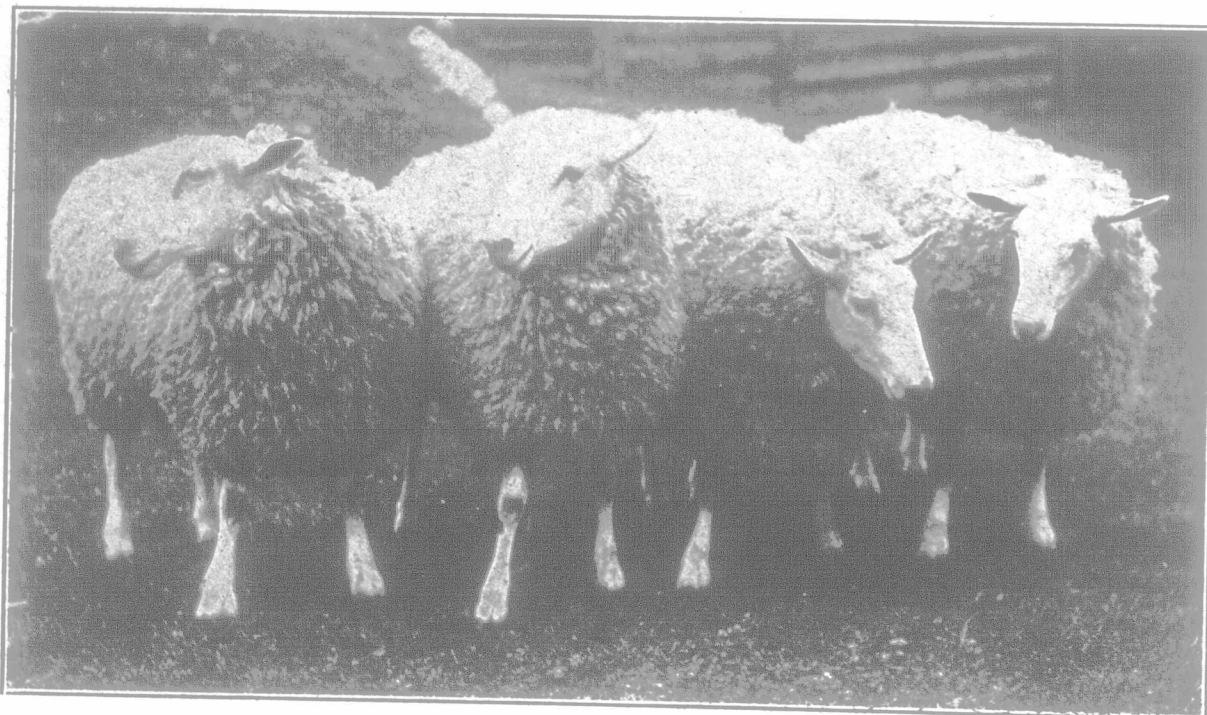
Feeding the Young Litter.

The hog feeder who has a liberal quantity of dairy by-products as skim-milk or butter-milk certainly has the advantage in starting young pigs. However, it is possible to raise thrifty, growthy pigs without milk. To start with, it is important to have the pigs eating well before weaning. Instead of taking the sow away at six weeks she should be left with her family until they are at least eight weeks old. If they are handled rightly they will receive no noticeable setback when they are forced to rely entirely upon feed from the trough. Some men are born pig feeders, judging by the way pigs do under their care. Others never seem to raise a litter profitably, even when conditions are ideal. The secret is largely in attention given to details in the feeding and comfort of the stock. Pigs which are rolling fat frequently die suddenly or else become unthrifty. They are generally killed with kindness. The feeder has them in a small, comfortable pen and feeds heavily on grain. Too heavy feeding and lack of exercise are fore-runners of apoplexy and unthriftiness. Success depends on keeping just within the appetite of the stock, keeping it warm and dry, and providing exercise.

If skim-milk, finely-ground oats and good mealy shorts are available together with mangels, the pigs can be kept going right ahead after weaning, provided the feeder watches the trough closely to see when he is feeding enough. It is a little harder to bring the pigs along for the first two months after weaning when dairy by-products are not available. An effort must be made to compile a ration that will come closely to the one in which milk is used. The concentrates above mentioned are as good as any obtainable, and to these may be added tankage up to ten per cent. of the weight of the feed. Ground flax or oil cake may be used to advantage as a partial substitute for milk. We have known of very good success resulting from using a half pint of ground flax to a gallon of shorts and oat chop, and the mixture soaked twelve hours before feeding. Then there are commercial feeds on the market which are supposed to contain a balanced ration for young and growing pigs. In some of these powdered milk, tankage, oil cake, etc., are used. Success depends on feeding all the pigs want of a balanced ration without interfering with the appetite. Intestinal trouble frequently follows irregular feeding, giving decomposing feeds or over-feeding. Once the digestive system is weakened or disturbed, unthriftiness results.

Concentrates are not the only feeds which enter into a pig's ration. The cost of feeding may be materially reduced by using roots and leafy clover or alfalfa hay. These take the place of green feed which a pig would obtain on free range. Then, too, mineral matter must be supplied in some form. Quite frequently the regular ration contains it in sufficient quantity, but it is a good plan to supply ashes and dirt. A mixture of sulphur charcoal, lime, salt, etc., might also be advisedly fed occasionally.

The main object is to keep the pigs growing rapidly, and to do this the feeder must cater to the wants of the animals under his care. At best pig raising is expensive



A Fine Quartette of Leicester Ewes.

expresses his views on the benefit to be derived from co-operative selling, and explains how the work is managed by different shipping associations:

Farmers must realize thoroughly that they can no longer depend entirely on the grass which nature has so abundantly provided, but must supplement their pastures with feeds cheaply produced, which will prevent loss during winter or in summer when climatic conditions are unfavorable. The most successful stock raiser of the future will be he who studies and works out means and methods of increasing the carrying capacity of his grass lands, grows crops which will yield the largest amount of nutriment per acre; harvests and stores his feed in the best manner, supplementing concentrates when necessary to increase its efficiency. In addition to his ability as a farmer and feeder, he must possess a sufficient knowledge of live stock to select the type of cattle which will most economically turn the products of his farm into meat, and at the same time be a desirable feeder and when marketed, make a first-class carcass. Another factor which will contribute to his success will be a study of market conditions, so his product may be cashed when most in demand. Stock men who thoroughly master all phases of the business and change their methods and ideas as new conditions confront them will be able to compete successfully with others who cling to old ways. The live-stock business is one that demands a large investment of brains as well as capital.

Co-operation in the marketing of farm products of all kinds has been the practice of European countries for many years. Up to the time of the war nearly every kind of farm produce was marketed under the co-operative plan. Why was it necessary to adopt this method? In Europe the agricultural land is limited in extent and thus extremely expensive to purchase. The countries were thrown into competition with new nations with cheaper lands, and so they were forced to adopt more economic methods. They worked out and adopted various co-operative enterprises. The increased price of land in our own country is giving rise to the same conditions which forced organization of co-operative

selves together by forming an association for the purpose of shipping co-operatively. This affords the opportunity for the small live-stock producer to be in a position to sell his small offering on the open market. Co-operative selling system tends towards the improvement of live stock:

1. Farmers pay more attention to market reports.
2. They are encouraged to raise the grades of stock that bring the best price.
3. Tends towards raising breeds and first step towards community breeding.

The first step to be taken by an association or a group of farmers for the co-operative shipping of live stock is the engaging of a competent manager. A manager of ability is the mainstay of the association. He must be honest and capable, possess a knowledge of live stock, know how to secure the best results in selling his shipments, and have a grasp of business principles. Too much emphasis cannot be laid on the securing of the right kind of a man for manager. In some cases men who have for years been shipping live stock to the market have become managers of shipping associations. After a suitable manager has been secured and an organization perfected, the next step is to decide from what shipping station shipments are to be made and on what days. In many places one day in each week is decided upon for a shipping day. If but little stock is available once in every two weeks may be sufficient. Farmers who have stock ready to ship report to the manager by telephone or letter, stating the kind, number and weight of stock ready for shipment, stating date they wish to ship. A record of this is made in the office of the manager and when sufficient stock is on the books, the manager notifies the farmers who have reported the day delivery will be expected at the local yards. On the delivery day at the local yards, the manager receives the stock and weighs it. Some places do not have scales, so the stock cannot be weighed. A receipt showing the number of animals, their weight and mark used is then given each individual shipper. All receipts for stock received should be made out in duplicate, the farmer receiving the original and the manager keeping the duplicate for his office record.

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under present feed prices, but when the pigs are unthrifty and require extra two months' feeding to bring them to market weight, the problem is accentuated.

THE FARM.

Hydro Development.

EDITOR "THE FARMER'S ADVOCATE":

During the past six or seven years there has been an abnormal expansion along Hydro lines, thanks to the Hydro Commission largely, and the work is only nicely commenced, if we are able to see aright the future uses of Hydro, but some of the agitation for Hydro radials is, in our opinion, ill-timed. This country is heavily laden with debt and the object of development should be along lines that will the most quickly pay off our indebtedness. This cannot be done by building radial lines paralleling our steam roads, which are now raising their rates on freight, express and passenger at too frequent intervals, claiming that they cannot afford to run at the old rates. It is true there are districts that require railway service of some kind, but it is surely not the territory from Bowmanville to Toronto, which district now has three competing lines, nor the district from Niagara to Hamilton, which is now better supplied than most other districts. The special work for the Hydro Commission, if we have the correct vision, is to follow the example of the telephone—reach out into the rural districts to supply power and light on the farms, and thereby lessen the costs of and increase production, and at the same time relieve the tension on the farms increasing the output, all of which would tend to very materially reduce the cost of living. In the development of this great boon, a system of pay and pay alike should be introduced, putting every supplied district upon the same footing. Why should one district get Hydro at \$25 per H. P. while another only a few miles away has to pay \$45, or one district pay 4 cents per K. while the other pays 7 cents? Who would stand for paying ten times as much postage on mail being sent 1,000 miles as they would on mail going 100 miles? And the same may be said with regard to the Hydro; all must be charged the same rate. This is a Government enterprise. While it is impossible to reach everywhere at once, as it reaches each place the power that is supplied to that place should put each mill or factory in the place on an even footing with the mills and factories in large centres, as far as the price for power is concerned. Until such time as this system is adopted, small towns and villages, and farms as well, situated convenient to the power head will have decided advantages for development over the outlying districts. We are well aware that some districts have natural advantages over others, but we do not think that Government enterprise should further stimulate those advantages. While it looks as though it might be good business to electrify some of the shorter branch lines that now exist, buying electric engines instead of replacing some of the worn-out and out-of-date steam engines, it scarcely looks practical to undertake the building of many (if any) new lines until the rural power and light scheme has been got away to a good start. While the only thing that we can do is suggest, let us hope that the Commission will take this matter up with vigor determined to place the small places on a par with the big interests, as far as cheaper power and light is concerned, and to assist in the agricultural development by taking power and light to the farm at cost, that cost to be determined by the total cost of Hydro development and the total power in use, rather than on the basis of the distance from the fountain head.

Middlesex Co., Ontario.

R. H. HARDING.

Mental Food Necessary.

EDITOR "THE FARMER'S ADVOCATE":

Having read with interest the articles by Inspector Henry Conn, the "Objections" of Lorn Davidson and that timely letter from the Nova Scotia Junior Student I desire to add my opinion as one who has been through the mill of experience in Western Ontario.

If Ontario is to do its part in feeding a hungry world we must get back what we have lost, our proper proportion of rural population, but we must grow it, and in order to do that effectively we must not only give them muscle forming food but a mental food which will create a quality of intellectual stamina which will induce them to prefer, as Premier E. C. Drury declared he would prefer, to "Stay on the Farm." We must educate them not only and merely in English but also in

the science of their own calling. The opportunity to do this lies immediately before us.

Let us reorganize our rural school system by creating township and county school boards on lines very similar to our township and county council boards. Then throw four lines, across a township, into one consolidated school section, make our school year from April to December for children from 5 to 13 or 14 years on a curriculum similar to the present one. Two motor vans will gather up the pupils in about one hour; the teachers to be the drivers. During the winter months these same buildings will be used to teach agriculture and domestic science to our teen-age boys and girls; graduates of the O. A. C. to be the winter teachers. The big boys and girls can drive to school with the idle farm horses in cutters, while the little ones learn to do chores with their fathers and mothers where they should be in the cold winter months.

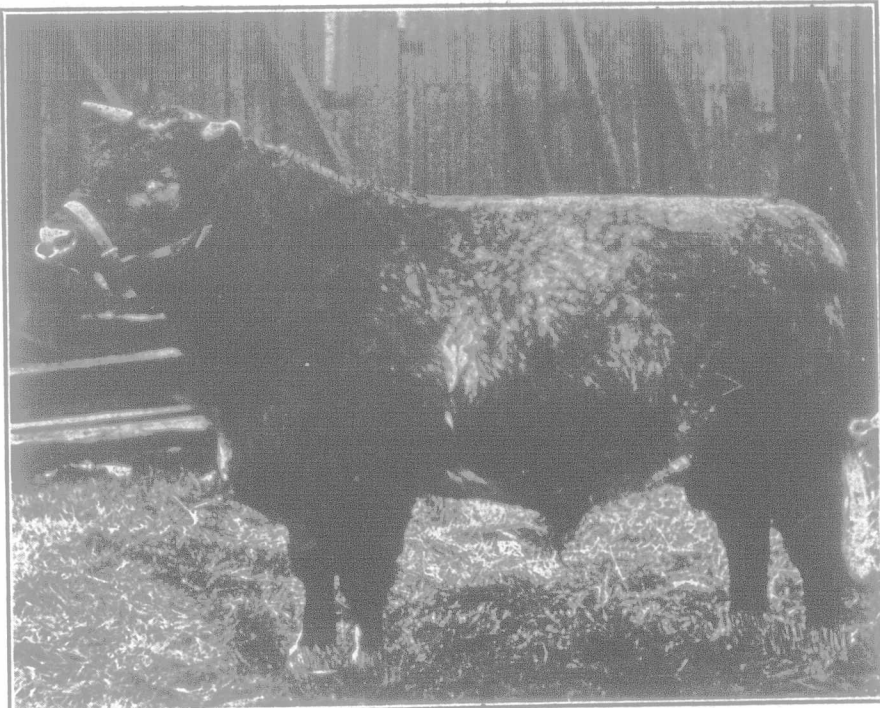
This system would fill out the lives of our young people with a happy progression.

NOTE—We believe it would be better not to interrupt the education of the younger boys and girls by discontinuing their training during the winter months. In a consolidated school additional classes could be organized for the older boys and girls in winter.—EDITOR.

Success With Sweet Clover.

EDITOR "THE FARMER'S ADVOCATE":

I am not going to write anything about sweet clover as I have never grown any, but we have another clover in this part of the country which we think has the sweet clover beaten. It is called Albotrea, and is a cross between the sweet clover and alfalfa. It has a yellow flower. The leaves are something the same as those of alfalfa, and the stock is much the same, growing to about the same height or maybe a little higher. It differs from the alfalfa in that you can only get one crop, or if you cut it middling high it may grow up and go to seed and seed itself. I might say this is our first year's experience with it but we like it so far.



Star of Millhills.

Reserve champion Shorthorn bull at Penrith.

We get a very heavy yield per acre from it; we cut as high as two and one-half tons to the acre, and it will grow where alfalfa or red clover would be killed out.

We find that it likes damp ground better than high land. It also makes excellent pasture; it grows very fast, and the live stock like it. The field we pastured we are leaving for this year in the hope that it will seed itself.

In seeding it down we sowed twelve pounds to the acre with oats as a nurse crop and it was extra thick when we came to cut it. I think if one was going to be short of land for hay it could be sown alone and a good crop produced that season. The reason I think this is, that in a field of oats seeded down with it the wire worm destroyed about an acre of the oats but the clover came along good and after harvesting the rest of the oats we cut this acre and we found it so heavy that in places it was lying down.

We have been feeding it to the live stock so far this winter and everything likes it even the hogs.

The points in favor of it over other clovers are: 1. It is not as coarse as the sweet clover, therefore, is relished more by the live stock. 2. It seems to us that it will grow where other clovers will not, especially alfalfa or red clover.

Huron Co., Ont.

R. W. N. WADE.

NOTE.—Albotrea is supposed to be a cross between the white and yellow varieties of sweet clover rather than, as intimated by Mr. Wade, a cross between sweet clover and alfalfa. Its flower is variegated, as one would expect, and it does not produce such large stalks as the parent plants.—EDITOR.

The Nova Scotia Farmers' Association.

EDITOR "THE FARMER'S ADVOCATE":

The annual convention of the Nova Scotia Farmers' Association was held at Kentville, late in January. The first session was occupied with the opening address of President D. R. Nicholson, of Coxheath, Cape Breton, and emphasized the fact that the rural population had decreased in proportion to urban population, and that the farmer must be assured of better markets and better living conditions in order to induce more young men to live on the farms. The great need of co-operation among farmers to secure political and industrial recognition was also dwelt upon.

Hon. H. H. Wickwire, Minister of Highways, explained the working of the new Nova Scotia Highways Act and asked for the co-operation of the farmers in bringing about a better condition of the highways of the Province. H. S. Arkell, Dominion Live-Stock Commissioner, emphasized the need of improvement in the quality of the live stock in the Province, by both better breeding and better feeding. Some moving picture films were thrown on the screen showing methods of raising, dressing and packing poultry, and also in re-foresting of waste lands.

Wednesday morning was devoted largely to business reports of directors, exhibition commissioners, and of the Superintendent of Agricultural Societies. There have been fifteen district exhibitions held in Nova Scotia during 1919, and most of them have been very successful shows. L. A. Clarke, Superintendent of Experimental Farm, Charlottetown, P. E. I., gave an address on rotations, showing the advantages of short rotations and gave figures showing great gains in crops on land that had been kept under a three or four-year rotation for a period of ten or twelve years.

The marketing of live stock was freely discussed. Several delegates expressed dissatisfaction that prices of hogs are often very much lower in Halifax than in Montreal and Toronto, while large quantities of pork and pork products are brought from Montreal to supply the retail trade in Nova Scotia. Mr. Fraser, of Davis & Fraser, Halifax, claimed that Halifax prices are practically the same as Montreal prices, in autumn and winter but in the summer months the supply is not sufficient to keep their plant busy and consequently they do not try to buy in the months of June, July and August. After considerable discussion a resolution was immediately adopted favoring the erection of a cold storage plant in Halifax to handle the Canadian winter export trade and which would also handle the local trade.

A. H. Gargison, of Carleton County, N. B., gave a very practical and instructive address on potato growing, emphasizing the following points: 1, cultivation; 2, the use of good seed from a field that had given a large crop; 3, supply plenty of plant food, he advised using a high-grade commercial fertilizer, using from 1,500 lbs. to a ton per acre; 4, cultivate thoroughly during the growing season, use the horse-hoe after every rain, and at intervals of not more than ten days; 5, spray thoroughly three or four times with Bordeaux and some poison, and get as high pressure as possible. He had found it a good plan to spray both up and down the rows, and he had found it possible to double the crop by spraying, as he had left a strip in the centre of a field not sprayed and found the yield only half of the average of the field.

Miss McDougall gave an interesting address on the work of the Women's Institutes. She advised the use of fresh vegetables and milk as necessary and economical foods, and said there is absolutely nothing that can take the place of milk as a food for growing children.

Prof. J. M. Trueman gave a very instructive address on "Home-Grown Crops," stating that the profit in producing any kind of live stock or live-stock products is largely a question of the raising of the crops. We cannot expect to make a profit on beef or butter if we depend on imported or purchased feeds. He advocated the raising of more grain for feed and corn or oats, peas and vetch for silage. Produce all the feed possible and feed it all on the farm. Aim at getting more feed into fewer animals, rather than keeping a large herd on a little feed.

Prof. W. S. Blair, Superintendent of the Experiment Station at Kentville, spoke of the use of ground limestone, and gave figures to prove the advantage of using lime on the land at the Kentville Station.

The Thursday morning session was devoted to business. A strong resolution opposed to the so-called daylight saving scheme was adopted.

The following officers were elected: President, J. Howe Cow, Cambridge; Vice-President, Johnson Cameron, Stellarton; 2nd Vice-President, Rev. R. L. McDonald, St. Peter's. Exhibition Commissioners, Wm. O'Brien and Stanley A. Logan. C. H. B.

A weekly financial paper argues that, "The only decrease shown in Ontario cattle has been in horses." Cows used to be worked and driven as well as milked, but up-to-date farmers specialize now and use different kinds of animals for various purposes. More than that our professors of animal husbandry are very particular and strenuously object to having horses, sheep, hogs or chickens classed as cattle.

CANADA'S YOUNG FARMERS AND FUTURE LEADERS.

A Society That Has Done Good Work.

EDITOR "THE FARMER'S ADVOCATE":

In response to your invitation of recent date, I will try to describe our literary society. Our literary society is now on its ninth successful year, with prospects of many more such in the future. There are at present about seventy members, most of whom are farmers' sons and daughters, though some live in a small village which is the community centre. Our meetings are held each Monday evening throughout the winter, beginning the first Monday after Christmas and continuing till about the first of April, when the season closes with a banquet. During the winter a few open meetings are held, besides the regular meetings, to which we invite other societies to debate or put on a program. Each season, also, we put on a play at home and at other places within a reasonable distance, where we are invited. I can say without exaggeration that our play is well received and we have great success with it, so that now it has become an established part of our yearly program.

The organization has now become settled by the test of time and runs very smoothly. We have our own by-laws, chiefly concerning procedure during the meetings and rules of debating. The executive consists of president, vice-president and secretary, elected yearly and never twice to the same office. The president is chairman at all meetings regularly, and, assisted by the vice-president, oversees the society in general. We have a permanent pianist and home committee, elected yearly, while the program committees are appointed each week by the president, for two weeks ahead. The home committee arranges for homes to hold the meetings in. Then there is the editorial staff, with four members, who take turns editing and reading the paper, which we call "The Excelsior Weekly News," after our society.

Our method of securing judges for debates seems to be the only one feasible in our case, though it may have its disadvantages. There are always three judges, one chosen by each side and one chosen by the other two judges. In judging, each of the two defends his own side, but if an argument threatens, the third judge gives the decision. The judges are usually society members, chosen because of their knowledge of debate and now practically all our debaters are fairly competent judges. It is very seldom, indeed, that we get an unjust decision.

Meetings open with the singing of some favorite song which is followed by the business. This includes the minutes of the last meeting, and the reports of various committees. Debates are featured every two weeks, and on these nights form the main part of the program. Other meetings are made up of speeches, prepared and impromptu, and music. Usually there is a contest of some kind which helps a great deal to bring the members together for a social time and it has been found almost indispensable, so that its absence causes quite a clamor. The program proper is closed by the reading of the newspaper, which we preserve in a well-bound book of about three hundred pages. Each week it contains an editorial, usually original, dealing with a topic of interest to all, some jokes, personals, and poetry of all kinds. After the proper ceremonies, the president adjourns the meeting.

The literary society is what might be called a school for young speakers and also musicians. Here, outside of school, their first efforts are made in public, and if it were not for the opportunity thus created many would never know what it is to face an audience and say something intelligently. The influences of our society are easily seen in the advances of its members. Some of our speakers have long passed the period were stage-fright played a part in their actions, at least before a small audience. Others, less experienced, as I am, can feel an increased confidence and can get along ordinarily without any serious mishap. It is hard work sometimes and results are discouraging, but it is worth while.

One of the most important rules is that on becoming a member you are under obligation to take part in the program whenever called upon, if the request is reasonable. The co-operation which was necessary for the society's foundation has been necessary ever since, and has now become one of its rules.

The literary society is, to Canada's young farmers and future leaders, one of the stepping stones to the art of self-expression in public. Used rightly, it is of unbounded benefit and, as in many other things, co-operation is the key to success. I would be glad to discuss this subject with anyone who wishes.

Oxford Co.

A YOUNG FARMER.

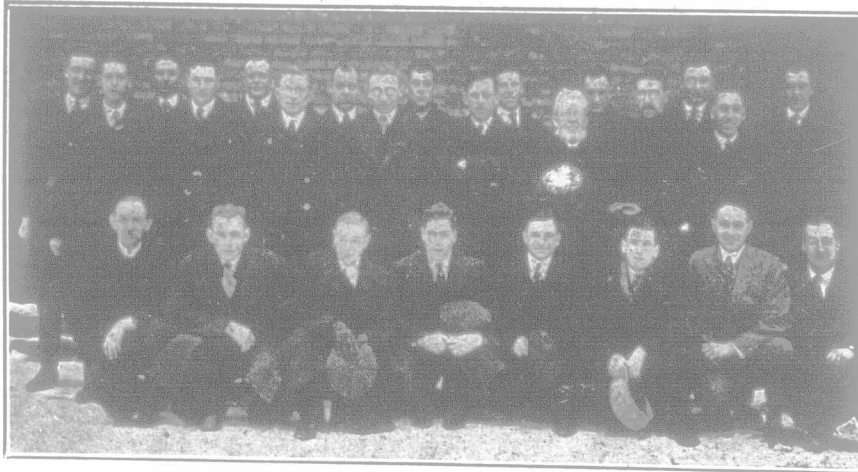
Farmers Should View Agriculture Differently.

EDITOR "THE FARMER'S ADVOCATE":

In recent years much has been said, but comparatively little done, concerning rural depopulation. Nearly every one recognizes that there is so much of a drift cityward that rural districts are becoming depopulated and cities overcrowded. But few people seem to realize that it is not the drain on quantity, or numbers, that is hurting the country so much as that it is a drain on quality. In other words, those boys and girls are the most likely to leave the farm who are ambitious and energetic, who want to gain prominence in the world, or do something they think is more useful. These are the ones the country can least afford to lose.

The effects of this tendency are not hard to see. It has been said that nearly eighty per cent. of our great people come from rural districts. The great majority of these become great in ways other than farming. It appears from this that the city is getting more than it should of the most able people of the country. If many of the eighty per cent. had stayed on the farm, and had properly educated themselves for rural life and work, they would have increased the average of ability in the country. Many of them would have become leaders in country life as they now are leaders in city life, and would have done much to bring about those economic and social readjustments that are necessary if the country is to maintain its maximum of attractiveness. As it is, the average of ability is increased in the city, and proportionately decreased in the country, thus aggravating a bad situation.

It is not to be wondered at that many of the country's best drift cityward. Our educational system seems especially designed for that purpose. Also, many of our country fathers and mothers think, and consciously or unconsciously teach their children, that if they want to do something really worth while they must leave the farm. Then, again, a farmer, no matter how successful he is as a farmer, gains little or no fame. True, if he turns farmer politician, or something of the kind, he becomes famous as such, perhaps, but not as a farmer. How often do we see a farmer's name in the "Who's Who" column of a magazine? Not often, even now, when farmers are more in the lime light than they ever have been before. Some may think that the desire for fame, or public recognition, is not a worthy



Members of the Middlesex County Short Course in Agriculture.

The course was conducted by R. A. Finn, Agricultural Representative.

motive, but we have to recognize that it is very much in evidence in human nature, and has done great things in the world.

To check the drift cityward those things will have to be remedied which are the cause of it. We hear a good deal these days about our educational system, and in the opinion of those who have studied the matter there is room for a great deal of improvement. But something we do not hear so much about and which is fundamentally important, is that farmers as a class should change their viewpoint of the value, importance and possibilities of agriculture. If farmers will not advertise farming, and render public recognition to successful individual farmers, nobody else will. Young people, on the farm especially, should be taught in school and home that there is no greater calling—other than special Christian service—than farming. They should be led to realize that there is room in agricultural enterprise for the greatest of talent; that farming is a profession not a job; and that it demands scientifically-trained people. When we can keep our best on the land and have them properly trained, then agricultural advancement will be well abreast of the times, and farming will assume the attractiveness it should have.

Wellington County.

R. W. B.

AUTOMOBILES, FARM MACHINERY AND FARM MOTORS.

Power From Windmills.

Aside from the horse, windmills have been used probably longer than any other power to make farm work easier. From the twelfth century, when the Hollanders began to use windmills to pump water from the land behind the dikes into the sea, their use has been steadily increasing, until the present time,

when they are so commonly found dotted all over the countryside and performing valuable work that relieves the farmer of a great deal of labor. There are many different styles of home-made windmills, but for the most part it pays better to purchase one of a reliable make.

Windmills receive their power from the power in the moving atmosphere, and since this power costs nothing, power secured through the use of windmills must be relatively cheap. The only costs to be borne are the costs of interest on and depreciation and maintenance of the plant. With such work as pumping water and grinding feed where it is not necessary to supply continuous power and where enough work can be done in a short time to last for a few days or until suitable wind develops again, power from a windmill can be used to good advantage. Most windwheels are made to regulate themselves automatically, and they seldom make a very high rate of speed. Generally when they reach a speed of 25 miles an hour they automatically cut themselves out. Perhaps the principal reason they are made in this way is that most windmills are used primarily for the pumping of water and cannot, therefore, be allowed to operate too fast, because few pumps work well when the number of strokes is too great. Naturally when the wheel is thrown partially out of gear it is prevented from doing as much work as it otherwise might.

The efficiency of a windmill depends, to a very great extent, on the diameter of the wheel, because of the fact that the velocity of the wind is not the same on any two parts of the wheel. One should be particularly careful to consider the gearing of a wheel before purchasing, because this is the wearing part of the machine and, therefore, the part of most importance. Probably no other machine has so many variables that affect its efficiency as a windmill. The following paragraphs are taken from "Farm Machinery and Farm Motors," by Davidson and Chase:

"In direct-connected mills the main bearings should be long and so placed that they will carry the wheels in good shape, and the guide should be heavy and designed so that it can be lubricated easily. The bumper spring should be well placed, not too close in so that as the wheel is thrown out of the wind there is not too much jar. Rubber should never be used for this spring, as the continual use and exposure to the weather will cause it to harden or flatten so that it is of no use. Generally, weights are better to hold the wheel in the wind than springs.

Since the top of the tower vibrates greatly it needs to be very stiff. Probably a wooden tower is stiffer than steel when new, but owing to the variation in wind velocity and direction, it is only a short time before the continual vibration has worked the tower loose at all joints and splices. At every joint in the wooden tower there is a chance for the rain to run and cause decay. Therefore, as an offset to the greater rigidity of the wood tower one must consider the time for tightening bolts, labor for painting and money for replacing the tower every few years. Steel towers do not present as great a surface to the wind as wooden towers, and since all parts are metal there is no chance for a loosening of the joints. The steel tower not only saves all of the labor and expense required to keep the wooden tower in repair, but it is practically indestructible.

Anchor posts can be made by setting strong fence posts in the ground their full length and nailing some strips across them to hold beneath the earth; but a better method is to insert an angle iron in a concrete base which will support the tower posts. The dimensions of the base should be about 18 by 18 inches by 4 feet for small mills, and proportionately larger for large mills. Windmills over 60 feet high should be assembled piece by piece, but low towers can be assembled on the ground, including windmill, head sails and vanes. After the tower has been raised it should be examined and all braces and stays given the same tension and all nuts tightened. It is also well before the pump rod is put in place to drop a plumb bob from the center of the top of the tower to the intersection of cords stretched diagonally from the corners of the tower at the base. If the plumb bob does not fall on this intersection, either the braces do not have equal tension or the anchor posts are not level.

Many manufacturers claim much more power than the windmills really develop. This erroneous claim is probably due to the fact that early experimenters worked with small wheels and figured the power of larger ones from the law of cubes, which does not seem to hold true in actual practice. The economic value of a windmill depends upon its first cost, its cost of repairs and its power. The competition in manufacture at present is so great that often the initial cost is kept down at the expense of the other two. A mill should have as few moving parts as possible. The power of a windmill is so small that if there is much to retard its action there will be very little power left for use.

In power mills very often the shafting is much heavier than it need be. This is probably due to the fact that the mill was designed for much more power than it will actually develop. Often poor workmanship in manufacture, as well as in erection, is the cause of so many mills having such small power. Trees, buildings and embankments cause the wind velocity to be so variable that for good work it is desirable that the windwheel be placed at least 30 feet above all obstructions. This would cause the towers to be at least 60 or 70 feet high. It is better to put a small wheel on a high tower than a large wheel on a low tower.

The pumping mill is ordinarily constructed so the work is nearly all done on the up stroke. This is hard

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on the mill, as it produces a very jerky motion and excessive strain on the working parts. By placing a heavy weight on one end of a lever and connecting the plunger rod to the other end this strain is reduced since when the plunger rod goes down it raises the weight and when it comes up, lifting the pump valve and water, the weight goes down and thus assists the mill.

As a rule power mills are larger than pump mills, and require more skill in keeping the bearings in repair. Care should be taken in erecting power mills that the shaft is in perfect alignment. A great deal of power can be lost by not having the shaft running in a perfect line.

THE DAIRY.

Some Wentworth County Dairy Rations.

A representative of "The Farmer's Advocate" recently found occasion to spend a day in the County of Wentworth, talking with representative milk producers and others interested in the agriculture of the County. Among others, we visited two dairy farms near Ancaster, where milk is being produced from herds of seventeen and twenty-one cows each for consumption in the City of Hamilton. Both herds are good ones and considerably above the average in production, and it was our purpose in visiting the owners to find out how the cows were being fed, particularly in view of the fact that feeds are so expensive. It may be remarked in passing that farmers in Wentworth County are noted for the excellence of their organizations. The Wentworth County Milk Producers' Association is among the strongest in the Province, and the Wentworth County Boards of Agriculture are among the very few in the Province that are alive and kicking. In addition, several hundred Wentworth County farmers are members of the Farmers' Section of the Hamilton Board of Trade. It might also be mentioned that by the time this issue appears a Wentworth County Seed Fair will be in progress, with a prize list of \$700 contributed by the County Council and every township council.

The first herd visited belonged to W. E. Shaver, who, we gathered, is considered one of the best feeders of dairy cattle in the district. As intimated before, Mr. Shaver sends his milk to the City of Hamilton under contract to supply so many cans of milk daily the year around. The Hamilton price is the same as the Toronto price, namely, \$3.10 per can, and Mr. Shaver is one of those men who never likes to supply less than his contract calls for. He did say that once or twice he was forced to send a little less, but at the present time he is shipping two or three cans a day above his contract. Perhaps the easiest way for readers to get an idea of the kind of man Mr. Shaver is, is to tell them that he has no use for a cow in his stable that will not give sixty pounds per day when she freshens as a mature animal. At the present time with the assistance of three sons, one of whom is married, he is farming three hundred acres of land, having started first on a hundred-acre farm on which he now lives, and which he rented for thirteen years. Only three or four years ago, when his boys grew up, he rented an additional hundred acres and finding that large-scale operations were in some respects easier and more profitable, he purchased another hundred acres last fall. All the stock, one might say, is carried on the two hundred acres, and includes forty-eight head of cattle, of which twenty-one are cows in milk, eight horses, and four brood sows.

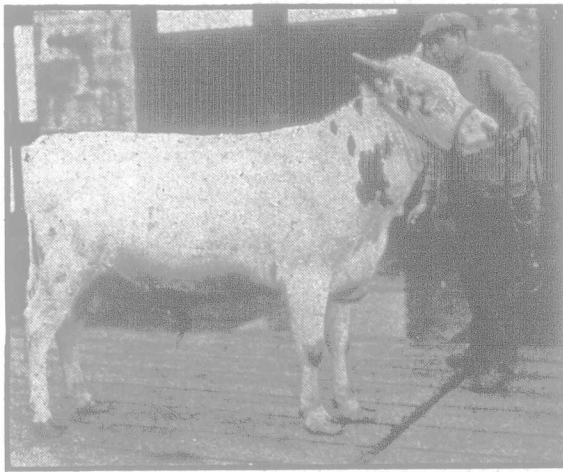
One might easily get the idea that Mr. Shaver is a good feeder by looking over his herd, because they are all in good condition. Two cows were in the stable by themselves, undergoing a Record of Performance test, and one of these cows in particular, a nine-year-old matron of splendid body and constitution, had been particularly well fitted. The other cow was a four-year-old, and both were giving about sixty-five pounds per day. It may be interesting to know what these cows are receiving. They were getting 50 pounds of mangels each, 20 pounds of very fine alfalfa hay that had been cured in excellent condition, and 14 and 10 pounds, respectively, of a grain mixture made up as follows: 100 pounds of bran (\$46 per ton), 100 pounds of oats, 100 pounds of brewer's grain (\$40 per ton), 150 pounds of oil cake (\$90 per ton), 50 pounds of gluten feed (\$72 per ton), and 50 pounds of cotton-seed meal (\$85 per ton). It will be noticed that no silage was being fed to these cows, although the milking herd was getting silage of which there was a plentiful supply on hand.

The twenty-one milking cows in the main herd are being fed red clover hay twice a day, and all the silage they would clean up, but the silage is mixed with part clover and straw chaff. They are not fed straw, although they are given plenty of straw for bedding, and if they want to pick it over they have the opportunity of doing so. Nothing is fed at noon. The grain ration is a mixture made up of 320 pounds of bran, 200 pounds of shorts, 300 pounds of oats and barley, which is about one-third barley, and 50 pounds of oil cake. As a usual thing, shorts is not fed in such large quantities, but it is difficult to obtain brewer's grains now, and 100 pounds of these usually take the place of 100 pounds of shorts that is being fed now. Salt is given liberally.

Notwithstanding the fact that up to the present

the farm has been 200 acres in size, a considerable amount of feed has to be purchased, and this, of course, adds considerably to the expense of operation. We asked Mr. Shaver what his practice was in connection with purchased feeds, whether he tried to grow as much of what he fed as possible, or purchased most of the concentrates and grew as much roughage as possible on the farm. He said that he had no definite practice, but that he never hesitated to buy feed for the simple reason that if it would not pay to take it out of the granary. The only difference that should be considered between home-grown and purchased feed is the cost of hauling the latter from the nearest source of supply.

Not far from Mr. Shaver lives Gordon Brown, a young farmer who has had the benefit of a two-year course at the Ontario Agricultural College, Guelph, and who has come back to the farm on which he was raised and is making good indairy. When we reached his farm we found a supervisor there from the Agricultural College, who was supervising the seven-day tests of two cows, each of whom were milking eighty pounds or more per day. Mr. Brown is a hustler, as the most casual observer can see, and is farming his 200-acre rented farm under more serious labor difficulties than Mr. Shaver. Nevertheless, his one vital interest is the herd of seventeen milking cows, each of which will produce a high average yield of milk per year. For three years Mr. Brown kept daily milk records of his herd, gradually weeding out the poorer ones and substituting better cows for them. At the end of the three years his herd averaged 8,000 pounds per year, and, while he has not been able to keep complete records since the war, he thinks that the average should be 2,000 pounds better than this now. There are only a very few grades in the herd, and these are to be disposed of very shortly. As a further indication of Mr. Brown's intention to breed for better production, he pointed to a junior bull calf of the breeding he desired that was recently purchased for \$600.



Springbank General.

First prize senior Ayrshire bull calf at the Ontario Provincial Winter Fair, Guelph, December, 1919. Owned by A. S. Turner & Sons, Ryckman's Corners, Ontario.

At the time of our visit, the two cows under test were receiving most of Mr. Brown's attention. The one cow was a strapping big individual, weighing, we were told, about 1,700 pounds. It was intended to test her just previous to the New Year, but unfortunately while she was being worked up to her full flow, and after she had reached 90 pounds per day, she was thrown off her feed in such a way as to make it unnecessary for the supervisor to come. She was being milked four times a day, and one evening Mr. Brown missed the last car out home from Hamilton, with the result that instead of being milked and fed at eleven o'clock in the evening she did not get milked until two a.m. Then, somewhat unwisely, Mr. Brown gave her another full feed at five o'clock in the morning, when she was milked again, and this sufficed to throw her off her feed. At the time of our visit she was giving 80 pounds per day in the seven-day test, but her owner thought he could get her back to 90 pounds. The other cow under test was a smaller cow by two or three hundred pounds, and was not so ready a feeder, although she was giving five pounds more milk per day than the big cow. Both were being fed rather heavily, we thought, as readers may judge for themselves from the following ration. The big cow was getting 90 pounds of silage, 15 pounds of medium quality alfalfa, and 26 pounds of concentrates daily. The smaller cow was getting 15 pounds of alfalfa, 12 pounds of silage, and 100 pounds of mangels, in addition to 26 pounds of concentrates. The concentrate mixture was one made up by Mr. Brown himself, and contained a considerable variety of feeds of high protein content, and was made up as follows: 100 pounds brewer's grains, 75 pounds of bran, 50 pounds of oil cake, 50 pounds of gluten feed, 25 pounds of cotton-seed meal, 50 pounds of corn, 50 pounds of oats and barley, and 5 pounds of charcoal. Mr. Brown said he had not worked out the nutritive ratio of the ration, but thought it would be found about right. Certainly the big cow seemed to be able to clean up a full feed readily enough, although the smaller cow was not able to do it so rapidly. We were informed, however, that she was naturally a slower feeder. We would expect that if this ration were worked out on paper and its nutritive ration determined, it would be comparatively rich in digestible protein and somewhat heavy in dry matter.

How Other Countries Grade Butter.

The following interesting paragraphs form part of an address delivered before the recent convention of the Canadian Produce Association, by W. W. Moore, Chief of the Markets Division, Dairy and Cold Storage Branch, Ottawa. Mr. Moore is in close touch with the market conditions on the continent, as well as throughout North America, and these references to the grading of butter should be of interest.

Countries that have the most important export trade in butter have adopted a universal system of inspection, grading and branding of butter that is intended for foreign markets. Denmark has only one grade known as "Lurmarke" or national trade mark established in 1906. The grading is under state control and liberty to use the brand is granted after examination and satisfactory scorings at the experimental station at Copenhagen. Three judges (one state inspector, one butter dealer and one buttermaker) are engaged in each examination and scoring. The butter is kept for two weeks at a central laboratory at a temperature of 50° F. before scoring. The country is divided into districts and each district has eight surprise scorings annually so that any failure to keep up to the standard is detected and immediately reported to Copenhagen. The aim of Denmark is to have only one grade and that the best.

The system in Holland is different, being based on a chemical analysis of the butter, the intention being to prevent adulteration by the addition of foreign fat or too high a percentage of water. There are eight central stations in the country and all export butter must have the government mark on it with the words "Netherlands Butter Control." The control stations are private but are under Government supervision, the creameries bearing the cost in proportion to their output. The Netherlands' brand covers composition only and does not take quality into account as we understand the word here.

In New Zealand all export butter must be inspected by a Government official and the grade marked on the package. It is also required that the butter remain in cold storage for at least four days before shipment. A special inspector, who has had experience in New Zealand, is stationed in London to examine each cargo of butter on arrival and to check the quality of each lot carrying a distinctive brand.

In Ireland there was no systematic grading of butter until 1917 when the British Ministry of Food took control of the butter trade after its delivery in England. Grading is in the hands of the Irish Butter Export Committee, which has distributing depôts in Great Britain through which all their butter passes and at which inspection and grading takes place. There is a special and four ordinary grades.

In Canada, there is more or less grading of butter by the provinces of Alberta, Saskatchewan, Manitoba, Quebec and Ontario. In New Brunswick grading of cheese was carried on last season and this year butter will be graded under the same system. In Nova Scotia there is no grading but there has been discussion and a committee will report on the subject at their Dairy Convention next winter. In British Columbia there is no grading but next summer the local Department of Agriculture will carry on educational butter grading. Cold storage space will be secured in Vancouver, Victoria and Vernon and buttermakers in these districts may ship in samples as often as they please and these will be graded, scored and reported on. So far as export grading is concerned the biggest system that Canada has ever had was carried on at Montreal by Mr. Burgess of the Dairy & Cold Storage Branch during the past three years when all the cheese exported in 1917, 1918 and the greater part exported in 1919 were inspected and placed in either 1st, 2nd or 3rd grade, with half a cent difference in price for each grade. The butter that was bought by the Commission in 1918 was similarly graded. You will see that in Canada, apart from what was done by the Cheese Commission as a matter of protection, grading is being worked out on a provincial basis, but to successfully compete in the world's markets we will have to get a uniform system. There is no doubt in my mind that in a year or two when transportation between countries becomes freer and more effective we shall see keener international competition in dairy products than existed before the war and then quality and uniformity will be the decisive factors in the game.

Breeding Versus Feeding.

Bulletin 275, of the Ontario Department of Agriculture, deals with the second survey of the dairy farming business in Western Ontario. The general findings of this second survey are summarized at the conclusion of this article. We wish, however, to give more or less in full the results of the survey that point to possibilities in reducing the cost of producing milk. It will be noticed from the summary of results that the average cost of producing milk on 139 Oxford County farms during the year ending February 28, 1919, was \$2.64 per hundred pounds, and that during the same period and on the same farms the average selling price was \$2.36 per hundred pounds. This statement gives point to the following paragraphs from the Bulletin dealing with methods that could be employed to reduce the cost of production.

Following up the classification according to cost of production, and the establishing of figures to represent average cost and average selling price, a study was made of some of the main factors in the farm business

which tended toward the lowering of cost of production, and, hence, the increasing of farm profits.

TABLE 1.

Yield Per Cow— Herd Average	No. of Farms	Cost Per Cwt.
Under 4,001 lbs.....	27	\$3.96
4,001-5,000 lbs.....	35	2.55
5,001-6,000 lbs.....	46	2.28
6,001-7,000 lbs.....	20	2.15
Over 7,000 lbs.....	11	2.05

As Table 1 shows, high milk yield per cow is, undoubtedly, the most potent factor in lowering the cost of production. As the yield per cow increases, the cost per hundredweight of milk steadily drops. With milk selling at an average price of \$2.36 per cwt., the cow which produced less than 5,000 pounds within the year could be classed as a "boarder." It cost her owner \$2.55 or more to get 100 pounds of milk, which he had to sell for \$2.34.

Having found the great factor in reducing cost of production to be the milk yield per cow, the next logical question is: "How best can milk yield per cow be increased, by feeding or breeding?" The following table was prepared to discover the relative effects, on the cost of production, of increased herd production by feeding and by breeding:

TABLE 2.

Farms With	All-Grade Breeding or Pure-bred Sire less than 5 years	Pure-bred Sire more than 5 years
Feeding low (below \$86 per cow).....	No. of farms... 45 Herd average, 4,400 lbs. Cost per cwt. \$3.08	No. of farms... 31 Herd average, 5,400 lbs. Cost per cwt. \$2.03
Feeding high (above \$85 per cow).....	No. of farms... 30 Herd average, 5,400 lbs. Cost per cwt. \$3.00	No. of farms... 33 Herd average, 6,100 lbs. Cost per cwt. \$2.28

Table 2 shows that both methods of increasing herd production are employed by the Oxford County dairymen. The upper left hand group were both poor feeders and poor breeders; consequently, their herd average was only 4,400 pounds per cow, and their average cost of production was \$3.08. The lower left hand group were poor breeders but liberal feeders. By feeding alone, they raised their herd average to 5,400 pounds per cow, at an average cost of \$3 per cwt. The upper right hand group used the other method to increase milk yield. They were sparing feeders, but each man had used a pure-bred sire to head his herd for over five years. In consequence, their herd average was also 5,400 pounds per cwt., but their cost of production was only \$2.03 per cwt. The breeding method is slower in bringing results, but it can be carried on in conjunction with the feeding method, and a comparison of the two last-mentioned groups shows its distinct advantage.

On going still further and looking at the lower right hand group, which is composed of farmers who are good breeders and at the same time liberal feeders, it is seen that the herd average has been raised to 6,100 pounds per cow, but the cost per hundredweight has also been raised 25 cents per cwt. over the group above. This would lead to the suggestion that even though the breeding of the herd be good, it is possible to feed more than the cows can profitably convert into milk. In order to find the "danger point" in high feeding, the 64 farms, shown in Table 2 as having well-bred herds, were sorted into groups according to the amount of feed fed per cow. Table 3 shows the result:

TABLE 3.

Feed per Cow	No. of Farms	Herd Average	Cost per Cwt.
Below \$71.....	15	5,200	\$1.98
\$71-\$86.....	16	5,600	2.07
\$87-\$101.....	20	5,800	2.10
Over \$101.....	13	6,500	2.55

It may be seen quite clearly that increased feeding increases both the milk yield per cow and the cost per hundred pounds. A well-bred dairy cow will naturally give a fair flow of milk, even though she be fed little more than a maintenance ration. This natural flow of milk is, of course, the most cheaply produced. As she is fed to produce more milk, so will the cost of that extra milk increase. But so long as this extra milk can be produced at less than market price, there is profit in producing it. In the first three groups in Table 3, where the cows were fed less than \$100 worth of feed each, the milk was produced at less than \$2.36—the average market price for the year. But in the last group, where the feeding was higher than \$100 per cow, the cost of production was \$2.55 per cwt., or more than the average selling price. Truly, these farmers raised their average herd production to 6,500 pounds per cow, but they did not do it profitably. The extent to which the owner of a well-bred herd may feed his cows will, of course, depend upon the price he receives for milk, but when he passes the \$100 mark he must proceed very cautiously.

The results of the second survey in Oxford County have been summarized in bulletin 275 as follows:

1. That while the labor income from the average

large farm is higher than that from the average small farm, it is possible, by employing better farming methods, to raise the labor income from the small farms considerably above the average.

2. That for dairying purposes, farms of 61-75 tillable acres, and 111-135 tillable acres, are "odd-size farms," which, to produce maximum profits, require greater managerial ability on the part of the operator than do farms of any other size.

3. That the labor income advances steadily with increased crop yields per acre, if all other factors remain constant.

4. That quality of live stock—or the producing capacity of the milch cow—is the greatest single factor in determining profit or loss in the dairy farming business. The dairy cow is the "commission house," through which the dairyman markets his produce. His profit depends upon how cheaply his produce is handled.

5. That the use of a grade or scrub sire cannot be tolerated by the progressive dairymen.

6. That all-year dairying—or winter dairying—has proven a most profitable feature of farm organization in Oxford County.

7. That the average man should not specialize in dairying to a greater degree than the receiving of 70 per cent. of his gross revenue from the dairy herd. The most profitable degree of specialization depends largely upon individual conditions, but certain side-lines work naturally into the business.

8. That the majority of farmers in Oxford County

may add to their profits by maintaining larger herds of milch cows on their present acreages.

9. That rigid economy in operating expenses is not the only key to success in dairy farming, unless the quality of live stock be poor. Farming still pays a premium for hard manual labor, but the farmer with good stock may secure greater profit with less work by making a liberal expenditure for labor and feed.

10. That despite the increased prices of farm products during the past few years; six per cent. of the farmers in the surveyed area of Oxford County had labor incomes of less than nothing, for the year ending February 28, 1919.

11. That the average cost of production of milk on 139 Oxford County farms, during the year ending February 28, 1919, was \$2.64 per cwt., and that during the same period and on the same farms the average selling price was \$2.36 per cwt.

12. That high milk yield per cow is the greatest single factor tending to reduce cost of production.

13. That breeding is a slower but much more profitable method of increasing the milk yield per cow (and hence reducing cost of production) than is feeding.

14. That there is a danger of feeding beyond the producing capacity of cows, even though they be of good breeding.

POULTRY.

Progress in Record of Performance.

Information received from the Poultry Division of the Live-Stock Branch, Ottawa, indicates that the final returns of the entries for 1919-20 in the Canadian Record of Performance for poultry show that upwards of 4,500 birds have been entered by some sixty-seven breeders of pure-bred poultry in seven provinces. Among the various breeds, individuals or flocks of which have been entered are the following, arranged more or less in the order of their numbers: Single-Comb White Leghorns, Barred Plymouth Rocks, White Wyandottes, Rhode Island Reds, Buff Orpingtons, White Orpingtons, Silver Laced Wyandottes, White Plymouth Rocks. The information sent us states partly as follows:

"The official inspectors of the Department of Agriculture have inspected all of these flocks and will continue to do so at frequent intervals during the course of the fifty-two weeks which the test will run. Many breeders, expressing appreciation of the work done and the helpful advice given by these inspectors, all years experience in actual poultry breeding or graduates of agricultural colleges. Some misunderstanding apparently exists as to the real object of the Record of Performance. It might be stated definitely that the Record of Performance for poultry is in no sense an egg-laying contest. Its sole object is the promotion of economic production; in other words, to encourage and help breeders to meet the present world-wide shortage by producing the largest possible number of eggs per bird, and the largest possible number of eggs per pound of feed fed. The latter is the factor that will

gauge the profitableness of poultry-keeping in the years to come.

"The official certificates to be issued in connection with birds which qualify under the requirements of the Record of Performance for poultry will be a guarantee that a particular breeder's stock and plant have been regularly and carefully inspected, and that the record of the bird specified in the certificate has been checked and verified at frequent intervals. Some changes will be made in the regulations for next year. Instead of having fixed dates for the commencement of the fifty-two weeks' test, the record for each pullet will commence from the date on which the individual bird lays her first egg. However, at least one month will be required for the identification and registration of the birds entered, and breeders will, therefore, find it to their advantage to make entries as early as possible."

Mating for the Breeding Season.

One authority, in discussing management of the breeding stock, states the primary object of such management to be that of securing fertile eggs in season. He says that the aim should not be to get the greatest possible number of eggs, but to secure the most abundant yield compatible with the large and uniform size of the eggs and a high percentage of fertility. The common method of improving poultry flocks is to breed up by selection, which means that with the average flock one must be particularly careful to make special matings each year for special breeding purposes. These matings are best made just previous to the breeding season, usually in January or February. The finest females in the flock are selected and mated with choice males of good pedigree. At least four weeks should elapse after these matings before the eggs are saved for hatching, since it will require this length of time before one can be sure that the influence of previous matings is gone. Breeding pens should be relatively small to secure best results, ranging from ten to sixteen birds. Not only can more care and attention be given to individual birds or pens, but fewer males will be required for each pen. Massed breeding cannot be used to bring about any material improvement, because many fowls will fall away below the average and their influence will equalize the influence of the good birds. Another objection to breeding from large flocks is that it is impossible to study individuality. The only possibility of future improvement lies in the study of the individual, with the hope of raising thereby the average production. Where only a small number of birds are kept in each breeding pen, a higher percentage of fertility will be secured, not only because one can use greater selection in picking out both the males and females but because the results will be better if only one or two males are present in the pen. In addition, there is the fact that it is much easier to keep track of the condition of the birds and to eliminate more readily the causes of infertility.

Where the breeding pens are small, it is possible to pay more care and attention to the handling and the selection of eggs for hatching. The hatchability of eggs and the success of the hatching season depends to no small extent upon the care that is given to the eggs after they are laid. Really the best kind of breeding pen is one that is made up in the fall, so that careful records can be kept during the winter months. Where this can be done, it will be possible to still further eliminate some of the poorer birds.

In selecting birds for breeding purposes, whether male or female, one should bear in mind the purpose for which the progeny is to be reared. Selection will be made along different lines if the object is to secure meat production than if it is egg production that is wanted. An ideal type should be decided upon, and selection made in every case with this in mind. After this has been done, the ancestry or pedigree of the birds, so far as it is known, should be considered. Where, as in many cases, the ancestry is little known, external appearances will have to count for much and those body characteristics which indicate egg-laying ability should be gone over carefully. The hens should be those that lay most of their eggs, or a large proportion of them, during the fall or winter, if the mating is being made with egg production in view. If the pedigree of the bird is available for some distance back, it is also possible to consider the matter of prepotency, that is the ability of the birds selected to transmit their desirable characteristics to their offspring. One must use judgment in the matter of external characteristics. Birds should not be introduced into the breeding pen merely because they are good lookers or carry the right coloring on the feathers, unless nothing is known of the ancestors that will enable the owner to balance pedigree and past performance against external appearance. Similarly, a bird that has a good record should not be discarded merely because her color markings vary somewhat from the standard. The health of the breeding birds is important, and, if it is possible to avoid it, birds should not be put into the breeding pen that have ever been affected with a disease. Use only such birds as are of good constitution and vitality.

When establishing a breeding pen from the farm flock, the best plan in order to secure definite results is to purchase good males from some reliable breeder. It should be remembered that the male is half the flock, and unless one knows that males already in the flock are of the desirable kind it will pay to purchase others. It has been stated that if the male is prepotent a good male is worth more than half the flock, because if used again for the second generation he will represent three-quarters of the blood of the progeny. Thus it is easy

oultry-keeping in the years

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to see that if this method is followed it will not be long before fowls will be raised inheriting almost entirely the pure blood of the first male used.

Hens make the best breeders during the second or third laying seasons. They have attained their maximum development with maturity, they are better known to their owner, and they produce large eggs. Generally speaking, it is probably a good plan to use yearling hens during the second laying season and well-developed cockerels of a relatively early hatch that show full maturity. If pullets are used for breeding, they should be hatched early, fully matured, and mated with old male birds, not cockerels. Pullets should be approximately one year old, or, for instance, birds hatched in January or February might be used for breeding purposes the next year in March or April.

With regard to the proportion of males to females, we quote the following from "Productive Poultry Husbandry," by Lewis: "The number of females, and the relation between females and males in special matings, depends upon certain conditions, such as the breed, the size of the flock, and the season. Where light, active egg breeds are mated, it is unnecessary to maintain as great a proportion of males to females as when the heavier, slower breeds are kept. For example, one Leghorn male to ten females is ample to insure a high fertility, whereas with the heavier breeds, which are slow and of less nervous temperament, one male to seven or eight females is as high a ration as is conducive to the best results. Season also influences this question. When the breeder desires eggs for hatching at other than the natural breeding season of spring, he must run a greater proportion of males in a flock of given size, this ratio, however, depending upon the number of eggs being produced. The size of the flock, to quite an extent, also affects the fertility. The smaller the flock, the larger the number of males necessary to a given number of females, and the larger the flock the smaller the proportion of males. The best practice is to mate them according to a well-established scale, and study the resulting fertility. Any great excess of infertility will probably be due to poor methods of breeding the birds, rather than to the relative number of males."

HORTICULTURE.

The Potato Leaf Hopper.

EDITOR "THE FARMER'S ADVOCATE":

During the early summer and fall of 1919, potato crops in western Ontario suffered a considerable amount of damage by a small sap-sucking insect known as the potato leaf hopper, also as the apple leaf hopper. This insect is an old offender to orchards, but fortunately this is one of the first records of serious injury to the potato and bean crops of Western Ontario.

The season of 1919 was extremely dry, and the causal comment was that the potatoes were either blighted or were suffering from an attack of "tipburn," although a few observers had noted an unusually large number of small insects on the underside of the leaves of potatoes and beans. I had noticed these insects in our experimental plots at Strathroy, but not in sufficient numbers to be injurious. Their absence may have been explained by the heavy Bordeaux sprayings, as noted by Fleck in New Jersey. Besides attacking potatoes and beans, I noticed the insects on tomatoes, lettuce and Scotch kale.

A general survey of potato fields found the leaf hopper to be extremely abundant, and undoubtedly doing considerable injury to the earlier-planted potatoes. Late-planted potatoes seemed to be free of injury, but early-planted varieties were in some cases reduced in yield to the extent of at least 25 per cent. My attention was first drawn to the seriousness of the situation by an extensive outbreak at Delaware, where a fine, seven-acre field of potatoes was being seriously injured by these insects. The injury was most acute on an early-planted variety—Irish Cobbler—and early in July this portion of the field was completely brown, and although a considerable number of the insects were still on the plants, the majority had migrated to the later-planted variety.

The situation was so serious that it was decided to try some experimental spraying with "Black leaf 40." A new power outfit was obtained and the field was sprayed with nicotine sulphate using $\frac{1}{4}$ pint of Black leaf 40 and 3 pounds of soap to 40 gallons of water. The spraying was partly effective. It should, of course, have been done much earlier. While I believe this will prove to be an effective remedy, it must be done before the nymphs have attained their wings and a high pressure is very important; the spray nozzle, too, must be on an upturned rod so that the under sides of the leaves will be hit.

It must be remembered that the spray must come into actual contact with the insects before they will be killed.

Whether we shall experience another outbreak this year cannot be foretold. It may be that in seasons of normal rainfall no injury will result, but should the pest prove as abundant as last year, considerable relief may be expected by early thorough spraying with the nicotine sulphate solution.

H. F. HUDSON,
Strathroy, Ontario.

Dominion Entomological Laboratory.

Some Advice on Pruning.

There is too great a tendency to neglect the pruning of our mature apple orchards. Trees which have been grown at considerable expense to maturity cannot produce the quality and the quantity of apples they are capable of producing unless they are pruned regularly and sufficiently. Not a great deal of pruning is necessary or desirable, however, once the tree has been brought to a condition where it is in a position to bear fruit freely, if properly fed.

W. F. Kydd, of the Department of Agriculture, Toronto, characterizes pruning as one of the "musts" in fruit growing, and says: "Trees must be pruned to get high-class apples. A very common question is: 'What is the best time to prune?' If the grower has plenty of help and could do all his pruning at the so-called best time, I would suggest April or the beginning of May, but where is the orchardist in Ontario that could do all of his pruning at the so-called 'best time?' We prune any month of the year when the weather is not too cold for our men, but if there are some large cuts to make (there should not be any if the young trees had been properly cared for) I would leave a stub about a foot long and cut off the stub in the spring. Cuts of about two inches or more do not heal so well when made in very cold weather, the frost injuring the cambium layer and preventing healing of the wound.

"Large cuts should always be kept painted to keep the wood from decaying. If that wood does not heal naturally and it is not painted, there will be in course of time, a hole that will eventually go deep in the trunk. If the reader has a tree with a hole extending down into the trunk, clean out all the decayed vegetable matter and bore a hole with an inch-auger from the outside at the bottom. This will act as a drain. Pruning is a slow business and costs a lot to get a big orchard done, but it is absolutely necessary if good apples are expected. Many of our trees are too high. Some are thirty feet or more in height. It is nearly impossible to thoroughly spray trees as high as that. Somewhere about twenty feet is high enough for any tree. It may not be advisable to cut ten feet off the top of a tree in one season, but the writer has often taken that much off with no bad effects.



The Effect of Wind Necessitates Careful Pruning to Correct It.

"Baldwin trees will not stand as severe treatment as most other varieties. Many of the apple trees had too many small branches cut off the lower limbs, the reason given being that it 'makes cultivation so much easier.' Most things that are easy are not profitable. The tree with a low head is easier pruned, easier sprayed and can be picked for half the cost, and the wind will not blow off so many apples. If the lower limbs have been pruned so they are destitute of bearing wood, take a little off the top of such a tree and feed it. This will have a tendency to force out sprouts on bare limbs. In four or five years those sprouts will be branches bearing lots of apples. In Prince Edward County we have practically grown new heads on old trees in five years. Those sprouts need attention. Where several come at one spot, thin to one in a place. When that one is several inches long cut it back to four inches. If there is a big space to fill, let one grow long to fill it. One might write yards of telling how, but it all comes down to this—use common-sense, no two trees need the same treatment. The tree should be pruned or thinned all over. There should be no cross branches left, nor branches close enough to rub the fruit, other than enough to permit the sun to reach the fruit. Several years ago a great deal was written about 'Opening up the centre of the tree to let the sun in.' Some so-called 'professionals' demonstrated on many trees how it should be done. Do not cut out the centre of your trees. That is the strongest part to bear a big load of apples. Cutting out the upright branches and leaving the tree like a bowl, makes a weak tree. A tree pruned in that fashion is more than likely to split unless carefully propped and fastened with cross wires.

"Young trees should have a little attention given them every year, but almost no heading back as was recommended years ago. The less heading back, the sooner there will be apples. Do not go to the other extreme, however. The writer has seen young trees that received no pruning for five years after they were planted. Those trees were most difficult to prune, with the idea of having a good top in the future.

"Before beginning the work of pruning, secure a saw with narrow blade (but not the barbarous saw with

teeth on both sides), a pair of hand clippers and a long-handle pruner (six feet is a useful length). If there are some old, dead branches to cut off, use a common saw eight or ten teeth to the inch, because this heavy work is hard on the fine saw. If the tree trunks and lower branches are covered with rough bark, it is a good idea to scrape off this rough bark with a hoe or other tool, just the rough bark and no deeper."

From the Superintendent of the Experimental Farm, Summerland, B. C., the following brief paragraphs also bear on this question of winter pruning of bearing orchards, and from the information sent us by Mr. Helmer we quote as follows:

"Winter pruning of bearing orchards should be attended to every year. The orchardist should go over his trees systematically and cut out crossing or broken limbs wherever these occur. Cut close to the main limb, don't leave stubs, and paint the wound with white lead and boiled oil (no turpentine). We prefer a stiff stencil brush and rub the paint well into the wood. A little brown coloring makes the wound less conspicuous. When cutting a large limb cut on the under side first, this prevents tearing the wood and bark as the limb comes away from the tree. When limbs spread too wide and make cultivation near the tree impossible, cut to a shoot that is growing up. This shoot will soon grow strong and take the place of the part cut off. Many of our older orchards have acquired the off year habit, which means crop one year, grow the next. It is after the growing year that we must thin our trees and see that there is not too much new growth to exclude light and air. If there is a heavy new growth, thin this to distribute it as evenly as possible. Don't leave stubs of heavy new growth hoping they will form fruit spurs, as cutting away the heavy new growth cuts away the big plump buds which easily form fruit spurs, leaving the less matured buds which prefer to make new wood of growth, so the result would be crowding instead of thinning the tree.

"Use sharp pruners and saws and make clean cuts.
"Use sharp eyes and good judgment; distribute the new growth evenly and the crop will be evenly distributed.
"A little well done every year eliminates the culls; tree butchery at long intervals eliminates the profits.
"Don't haggle a tree and expect the wounds to heal.
"Don't prune trees when frozen hard.
"Don't leave pruning until it is too late.
"Don't leave prunings lying about, burn them and take advantage of the ashes."

Decline in Fruit Growing in Middlesex County.

EDITOR "THE FARMER'S ADVOCATE":

During the past decade there has been a very noted decline in fruit growing in this county, and now the loss is being felt keenly in some districts. Nearly sixteen years ago, on February 29, 1904, the Ilderton F. G. A. was organized, the first in the county, and in 1906 and 1907 the membership was fifty-three, with an output varying from 1,000 barrels in 1905 to nearly 3,000 in 1910, since which date the output has declined to 350 barrels in 1919, and now the price has increased from \$2.50 and \$2 in 1905 to \$5 in 1919.

Neglect in caring for the orchards is the prime cause, but this was also partly caused by the world war, and now under peace conditions shall we allow this state of things to continue? We have right here in this district one of the very best fruit growing sections in Canada, where apples of the very best quality may be grown to perfection. In many places small fruits, also, prove profitable. The Byron district is noted for the successful growing of grapes, plums, berries, and peaches, and in Lobo, around Coldstream, Mr. Bycroft has made a success of grape growing, as well as other hardier fruits.

Well, how will we do it? Give the orchard the same care as our other crops and we sure will reap as good result as from any other line, and the work comes on mostly at a time when the other farm work is not pressing; first, the pruning in March and April, and spraying and cultivation after the other crops are in, except corn. The manuring must not be neglected, as half of our farm orchards are starved for the lack of a proper fertilizer. I have been often asked during the past season how it happened that our orchards had a full crop in 1919, while others all around were barren. Now, here is my answer.

I had often read that if you want wood growth, prune in winter or early spring; if fruit, prune in summer, May and June. Well, the season of 1917 had so light a crop of apples in winter varieties that it might be called a barren year, and this seemed a good opportunity to try out the truth of what I had read, as when the crop is large it is impossible to prune in these months without destroying the fruit. I hired two good pruners and gave them the necessary instruction along the line of the demonstration by the Fruit Branch—each tree to be thinned out enough to give plenty of sunlight to every part; no large limbs to be cut unless dead or dying; where necessary, according to variety, to be properly headed back, especially the Spy trees, and as soon as the spring seeding was done we helped them and pruned when possible nearly up to haying time. (In this connection I wish to say that I find June much the safest time to head back the large trees, as the sap is not flowing and growth starts at once to heal up the wound, if properly painted.)

Result.—1918, the big year when any and every old tree was loaded with fruit, there was only an average crop, but of good quality and packed well up in grade;

in 1919, the lightest crop in Middlesex for many years, our orchards had again on these pruned trees an average crop, and of better quality and grade than the 1918 crop, and, of course, sold for a much higher price. Now this experiment has shown me that although we may not be able to change the bearing habits of certain varieties, we can, by proper pruning, at least regulate so that we will have an annual crop. Of course these orchards were manured each year and had at least two good sprayings—and some varieties, like the McIntosh, three or four times. Also, cultivation was given where necessary, that is, on heavy land, in spring and up until July, when sown to rape and clover. I do not think it safe to plow an orchard in the fall in our climate, as the frost penetrates deeper in the bare plowed land, and I believe has caused the loss of many trees in Canada in the winter of 1917-18. We just lost one tree (Ben Davis) which stood on a rise, or hill, where the frost got down to all the roots. We would very much like to see a great revival in the fruit growing industry in our county, and any help or information I can give will be most freely and cheerfully given, in order to further this object.

Middlesex Co., Ont.

E. T. CAVERHILL,
Sec'y. Ilderton F. G. A.

THE APIARY.

Locating the Apiary.

EDITOR "THE FARMER'S ADVOCATE":

Spring is the best time to make a start with bees, for at this time of year we are looking forward to the honey season, and often a colony or two of bees will more than repay their cost before the time comes to put them away for winter. It is early yet to think about the actual purchase of bees—May is the time for that—but in considering our plans for gardening and laying out our ground it is well to make sure that a suitable site for the establishment of our apiary, whether old or new, is at hand. For those who winter their bees in a cellar, spring is the time to make a change in their location, for if they are placed on the new stand right as they are brought out of the cellar for the season, the bees will mark the location again and will not be in danger of returning to the places they occupied the previous season. If it is necessary to move them at any other time of year they should be either carried away to a place two or three miles distant for a week or so, and then placed on the new location, or else confined to the hives with screens so as to give plenty of ventilation and then placed in the cellar for several days. These plans are, of course, intended for use where it is needful to move a short distance only, and they are intended to make the bees mark the new spot and so not return to the former location of their home.

It is a curious thing that the bee, which can see quite a distance in its search of honey, appears to be unable to see a short distance, for if the hive is moved more than a few feet the bees are unable to find it and will cluster and die at the old stand as they return from the field, before they will hunt around and discover the new location.

When a bee makes its first trip to the fields it circles around a number of times with its head towards the hive, before it departs. After that it flies straight away without looking, and therefore always returns to exactly the same spot. When bees swarm, the bees belonging to the new swarm know in some way that they must mark their new location, and so after the swarm has taken possession of its new home, the bees fly out and mark the spot the same as if flying for the first time. If the new swarm is placed on a permanent stand, even if right beside the parent colony, the bees will not mix, but each hive will keep separate in this way.

SOURCES OF HONEY.

The above facts about the bees will guide the beekeeper in deciding just where he shall place his hives, but before doing so he should also consider the character of the country for a couple of miles around. There are hardly any districts where bees cannot find a living, but the number that can be successfully carried, in any one locality varies considerably. If one is in a favorable locality where there is an abundance of clover, basswood, buckwheat, or fireweed, or any other good honey plant, he ought to increase the number of his hives. "Keep more bees" is an old slogan amongst progressive beekeepers, and it is foolish to miss a trebled profit, for but very little extra work, in keeping only a very few bees. On the other hand it is a mistake to keep more bees than can be profitably handled in a location. Some places are not suited for large-scale beekeeping by reason of a lack of flowers, and some, though having plenty of honey, are exposed to the danger of foulbrood, and here the small apiary is the more successful if the bees are not neglected.

It is surprising how few of us really know intimately the two-mile circle of which our home forms the centre, and often the bees will find some slough or bluff that is filled with a valuable source of honey which we had not suspected.

WINDBREAKS.

In placing the hives, some sort of protection should be afforded that will break the cold winds of early spring. The bees begin to raise brood in their hives as soon as ever the weather becomes warm enough for them to fly, and to do this successfully they need to

keep the hive warm. A sudden cold spell may chill and kill brood so that the bees will throw it out of the door, and it is not a pleasant sight to the beekeeper to see the bees that he had hoped would gather his crop thus perish in infancy. Therefore, a southern exposure and a fence or grove of trees to shelter from the north are highly important.

In very hot weather in summer the hives are likely to become too hot, and this is a common cause of excessive swarming which cuts down the honey crop. Where there are a few trees to furnish shade, it will help a great deal, but the hives ought not to be placed amongst very dense woods, as they prevent a free circulation of air. If they must be placed in full sunshine, the bodies may be raised up on blocks during an extra hot spell in summer.

Shrubbery, preferably of the ornamental kind, scattered about a beeyard, have two very valuable effects. In the first place, they make the place attractive, and in the second they help the bees to mark their locations more surely. If robbing starts from any cause it will be much easier to control if the yard is broken by shrubbery, and one is not so liable to be annoyed by cross bees, as the lines of flight tend to get thrown upwards into the air.

HIVE STANDS.

One of the largest beekeepers in Ontario uses concrete for his hive stands, and this is certainly by far the most permanent and satisfactory hive stand. One must be sure though that the location of the apiary is permanent, for the concrete cannot be moved (at least it would be difficult). Some use the orthodox stand of lumber with a runway up from the ground in front. The only objection to this is that it makes the hives somewhat top-heavy in case of a windstorm. Bricks or half bricks are very good for hive stands, and if some kind of a runway be provided to enable heavily-laden bees to walk up from the ground to which they



The Location of the Apiary Should be Convenient and Suitable.

have fallen in returning to the hive, then they can be recommended. On the whole we prefer some kind of very low down stand made of cheap lumber, as low as possible without allowing the hive to rest on the actual ground.

In some foreign countries, and even occasionally in small apiaries on this side of the water, we occasionally have seen the hives placed upon benches or supports a couple of feet from the ground. This saves backache when going through the colonies, but is very unsuitable for the high tiering-up of supers when that big honey-flow comes along. In last year's "Gleanings" photos were published of hives that were so tall that a step ladder had to be procured to reach the top boxes. If a two-foot high stand were added the neighbors might think one was building a church.

If possible locate the bees well away from highways and footpaths. A person crossing the line of flight which leads to and from the entrance to a colony is quite likely to get stung, though he might go quite close to the back of the hives without harm. If it is impossible to avoid putting the bees near a road, a high fence or hedge between will help a great deal because this causes the bees to rise high into the air as they leave their hives. We have even known bees to kept right in the middle of a town in a small back yard, with a lane behind and houses on the lots either side. A high fence surrounded them and the bees soared up into the air and nobody seemed to be the least troubled. These bees were gentle Italians it may be observed. I doubt whether hybrids would have behaved so well. Provision should be made for cutting the grass easily, in laying out the apiary site.

Manitoba.

HENRY W. SANDERS.

A vast wealth is wrapped up in the maple groves of this country, and it is inexhaustible because it is renewed each year. Tap the maples and obtain some of this wealth which makes Canada famous.

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FARM BULLETIN.

Royal Agricultural Winter Fair Annual Meeting.

The first annual meeting of the Royal Agricultural Winter Fair Association took place in the Prince George Hotel, Toronto, on Thursday, February 19, following a luncheon at one P. M. During the meeting the chair was occupied by G. E. Day, Secretary of the Dominion Shorthorn Breeders' Association, owing to absence in Chicago of the President, W. A. Dryden, Brooklin. Premier Drury and the Honorable Manning W. Doherty were present at the luncheon and each delivered very brief addresses. The Premier said that the whole Government realizes that the agriculture of Ontario depends not only upon the quantity but upon the quality of the live-stock industry. He himself believes that the Province has advantages that will bring it well to the front in the commercial live-stock industry of North America.

The principal business before the meeting was the adoption of the by-laws as prepared. There were between twenty-five and thirty of these and most of them were passed without discussion. There was some discussion as to the date of the annual meeting, but it was finally decided to have it on the first Wednesday in March, in order that the managing director might have a little more time in which to make preparation. The representatives of the Fairs and Exhibitions Association began a prolonged discussion with regard to the associations from which directors should be drawn. They finally discovered that they had not understood the clause, but in the meantime W. J. W. Lennox had succeeded in having the number of directors representing the seed interests raised from one to three. In one other place the by-laws were changed so as to provide that any changes in the by-laws made or recommended by the directorate must be ratified by the Association at its annual meeting. The election of directors then followed, and the complete list is given below.

Horses (4): Robt. Graham, Toronto; J. M. Gardhouse, Weston; Wm. Graham, Claremont; Jas. Torrance, Markham. Beef Cattle (3): Jas. Bowman, Guelph; H. M. Pettit, Freeman; L. O. Clifford, Oshawa. Dairy Cattle (3): D. O. Bull, Brampton; W. W. Ballantyne, Stratford; G. S. Gooderham, Clarkson. Sheep (3): Col. Robt. McEwen, Byron; J. D. Brien, Ridgetown; W. A. Dryden, Brooklin. Swine (3): J. E. Brethour, Burford; H. A. Dolson, Cheltenham; P. J. McEwen, Wyoming. Poultry (3): A. E. Fieldmarshal, Beamsville; J. K. Saunders, London; J. W. Clark, Cainsville. Stock Yards (1): O. W. Waller, Toronto. Seed (3): J. Lockie Wilson, Toronto; W. J. W. Lennox, Toronto; J. J. Morrison, Toronto. Dairy Products (3): J. A. Sanderson, Oxford Station; Wm. Brown, Dickinson's Landing; Thos. Ballantyne, Stratford. Fruits and Vegetables (3): W. F. W. Fisher, Burlington; Jas. E. Johnston, Simcoe; J. J. Davis, London. Ontario Horticultural Association (3): G. H. M. Baker, Lindsay; J. H. Ross, Winchester; T. D. Dockray, Toronto. Bees (1): C. H. G. Sibbald, Toronto. Women's Organization (2): Miss Helen Beardmore, Toronto; Mrs. Frank Webster, Oakwood. Financial (4): Alfred Rogers, Toronto; H. C. Cox, Toronto; Harry McGee, Toronto; Wm. Ingles, Toronto. The following are directors by virtue of their office: the Mayor of Toronto; the Ministers of Agriculture, both Federal and Provincial; the Vice-Chairman of the Board of Control, Toronto; and the Managing Director of the Association.

A Thriving County Winter Fair.

The seventh Lambton County Corn Show was held at Petrolia on February 11-12 and 13, and about it there has been built up a winter fair of no mean proportions. A poultry show, wool exhibit, sale of pure-bred live stock and corn show were made to synchronize so to speak, but out of necessity were staged in different buildings about town. The exhibit of corn was a commendable one indeed; the quality was superior to that shown in the past, and up to a very high standard. John McRae, of Port Lambton, who began his career with corn only a few years ago as a contestant in the judging competition came to the front this year, winning the Bank of Toronto Trophy, as well as the Hanna Trophy for the best field of corn. S. McDonald, Port Lambton, showed the best ear of dent corn, while James Wright, Petrolia, had the best single ear of flint, as well as the best 10 ears of flint. The best 10 ears of dent were exhibited by Harry Shellar, Port Lambton.

Throughout the Fair several addresses were delivered on agricultural and educational subjects, and the farmers of Lambton were provided with a good exhibition without going outside the confines of their own county. The need of a suitable building in which to house this flourishing and expanding fair was very pronounced, and it was much discussed during the week.

A Correction.

In the report of the annual meeting of the Canadian Ayrshire Breeders' Association, which appeared in the issue of February 12, it was stated that under the revised rules transfers made within 60 days of sale would cost members 50 cents; it should have read \$1.00.

ULLETIN.

Winter Fair Meeting.

The Royal Agricultural Fair in the Prince George on February 19, following during the meeting the Day, Secretary of the Association, owing to the President, W. A. Dryden, the Honorable Manning the luncheon and each. The Premier said that the agriculture upon the quantity but advantages that will bring commercial live-stock industry

the meeting was the prepared. There were of these and most of them. There was some annual meeting, but it on the first Wednesday. The exhibition might have make preparation. The Exhibitions Association with regard to the should be drawn. They had not understood W. J. W. Lennox had of directors represent one to three. In one changed so as to provide made or recommended by the Association section of directors then given below.

Toronto; J. M. Gard- aremont; Jas. Torrance, Jas. Bowman, Guelph; Clifford, Oshawa. Dairy on; W. W. Ballantyne, Clarkson, Sheep (3); D. Brien, Ridgetown; ne (3); J. E. Brethour, inham; P. J. McEwen, Fieldmarshal, Beams- W. Clark, Cainsville. Toronto. Seed (3); W. Lennox, Toronto; ry Products (3); J. A. m. Brown, Dickinson's Stratford. Fruits and er, Burlington; Jas. E. vis, London. Ontario H. M. Baker, Lindsay; Pockray, Toronto. Bees Women's Organization Toronto; Mrs. Frank (4); Alfred Rogers, Harry McGee, Toronto; owing are directors by of Toronto; the Min- and Provincial; the Control, Toronto; and socation.

Winter Fair.

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Toronto, Montreal, Buffalo, and Other Leading Markets

Week Ending February 19.

Receipts and Market Tops.

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

CATTLE						CALVES						
Receipts			Top Price Good Steers (1,000-1,200)			Receipts			Top Price Good Calves			
Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Same Week	Week Ending		
Feb. 19	1919	Feb. 12	Feb. 19	1919	Feb. 12	Feb. 19	1919	Feb. 12	Feb. 19	1919		
Toronto (U. S. Y.)	2,103	6,220	2,950	\$14.50	\$15.50	\$13.25	451	427	590	\$25.00	\$17.50	\$23.00
Montreal (Pt. St. Chas.)	260	658	459	13.25	14.00	13.25	130	477	262	20.00	15.50	22.00
Montreal (East End)	225	894	862	13.25	14.00	13.25	150	204	419	20.00	15.50	22.00
Winnipeg	1,469	3,005	2,320	12.00	15.00	12.00	87	79	74	13.00	11.75	13.00
Calgary	1,197	3,672	1,371	11.75	15.60	12.00	221	—	86	10.50	—	9.50
Edmonton	947	1,364	1,406	11.50	14.25	11.50	67	25	150	12.00	11.00	12.00

HOGS						SHEEP						
Receipts			Top Price Selects			Receipts			Top Price Good Lambs			
Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Same Week	Week Ending		
Feb. 19	1919	Feb. 12	Feb. 19	1919	Feb. 12	Feb. 19	1919	Feb. 12	Feb. 19	1919		
Toronto (U. S. Y.)	1,789	6,111	5,351	\$20.00	\$18.25	\$19.50	380	1,378	595	\$21.00	\$16.25	\$20.00
Montreal (Pt. St. Chas.)	500	2,008	1,248	19.40	17.75	19.75	61	109	115	17.00	14.50	17.00
Montreal (East End)	177	777	1,237	19.40	17.75	19.75	79	219	337	17.00	14.50	17.00
Winnipeg	2,906	10,027	4,273	18.50	17.00	20.00	206	123	436	15.50	15.25	—
Calgary	1,477	4,154	1,204	20.25	15.75	21.00	678	1,654	774	16.25	13.50	—
Edmonton	956	1,116	495	18.50	16.00	20.25	260	295	44	11.50	13.00	—

Market Comments.

Toronto (Union Stock Yards.)

Owing to the recent severe snow storms in many parts of Ontario, and the subsequent freight tie-up on numerous branch lines of the railroads, receipts of live stock were very light during the week, and less than twenty-two hundred head of cattle were offered for sale. The supply was insufficient for local requirements, and as a result of a keen demand, prices were forced to higher levels, butcher cattle being marked up 50 cents to 75 cents per hundred on Monday, and an additional 50 cents on Wednesday. The prices paid for cattle were not normal values, and when a fair supply of stock moves to the market, a decline may well be expected. Very few heavy cattle were on sale. One pair of steers which averaged thirteen hundred and eighty pounds sold at \$14.50, one load of steers which averaged twelve hundred and fifty pounds at \$13.75, and six head of equal weight with the latter at \$13.25, per hundred. Of steers weighing from ten hundred to twelve hundred pounds, one choice load which averaged eleven hundred and ten pounds was sold on Thursday at \$14.85, and thirteen head which averaged ten hundred and forty pounds changed hands on Wednesday at \$14.50; numerous sales were made during the week from \$13 to \$13.75. A price of \$13.50 was paid for four heifers weighing nine hundred pounds, and a similar figure was realized on fourteen steers which averaged nine hundred and ninety pounds. Most of the good cattle of handy weights moved to the scales from \$9 to \$11. Cows and bulls did not share in the general advance, and while trading was good, prices were very little better than during the preceding week. A few choice cows sold up to \$11.50 and two or three head at \$12.50 per hundred, but most of the good cows were absorbed from \$10 to \$11. Good bulls sold within a similar range as the cows; medium quality in both classes changed hands from \$8 to \$9.50 per hundred. Canners and cutters sold at steady values, \$5.25 to \$6.50 per hundred being paid for this class of stock. No transactions were recorded in stockers and feeders. Calf receipts totalled five hundred head, and under a good inquiry the market advanced \$2 to \$3 per hundred. A few choice calves ranging in weight from one hundred and fifty to two hundred pounds sold at \$25 per hundred, but most of the calves on sale moved from \$19 to \$23, and common stock offered from \$11 to \$15 per hundred. There was very little trading in milk cows, and prices remained unchanged with choice cows quoted up to \$165 each.

While the lamb and sheep trade was active and firm, there was little change in quotations. A few choice lambs sold at \$21 per hundred, with the majority from \$18.50 to \$20; good sheep moved from \$10.50 to \$12 per hundred, and heavy, coarse sheep from \$8 to \$10.

Hog values were unchanged on the Monday market, but owing to the scarcity of supplies on succeeding markets, packers and local butchers were forced to pay premiums for their purchases. On Wednesday and Thursday, hogs were taken by the local abattoirs at \$20 per hundred.

TORONTO

CLASSIFICATION	No.	Avg. Price	Price Range Bulk Sales	Top Price
STEERS heavy finished	23	\$14.00	\$13.25-\$14.50	\$14.85
STEERS good 1,000-1,200	323	13.57	12.50-14.25	14.50
STEERS good 700-1,000	512	12.85	12.00-13.75	13.75
STEERS common 700-1,000	151	9.56	8.00-10.75	11.50
HEIFERS good	320	12.92	12.00-13.75	13.75
HEIFERS fair	80	11.11	9.50-12.00	12.50
HEIFERS common	20	9.23	8.00-10.50	11.50
COWS good	68	10.35	9.50-11.50	11.50
COWS common	270	9.23	7.75-10.00	10.00
BULLS good	25	10.23	9.75-11.25	11.50
BULLS common	23	8.42	7.00-9.00	9.75
CANNERS & CUTTERS	100	6.00	5.50-6.50	6.50
OXEN	—	—	—	—
CALVES veal	436	20.57	17.00-24.00	25.00
CALVES grass	15	7.34	6.75-9.00	9.00
STOCKERS good 450-800	117	9.07	8.50-10.25	10.50
STOCKERS fair	26	8.00	7.50-9.25	9.25
FEEDERS good 800-1,100	45	10.58	10.00-11.25	11.50
FEEDERS fair	—	—	—	—
HOGS selects	1,627	18.83	18.25-20.00	20.00
HOGS heavies	—	—	—	—
HOGS (fed and watered) lights	116	16.69	16.25-17.50	17.50
HOGS (fed and watered) sows	42	14.86	13.25-16.50	16.50
HOGS (fed and watered) stags	4	—	—	13.50
LAMBS good	234	19.75	18.50-20.50	21.00
LAMBS common	67	16.42	15.50-17.00	17.00
SHEEP heavy	74	12.55	10.00-13.50	14.00
SHEEP light	—	—	—	—
SHEEP common	5	5.70	5.00-7.00	8.00

MONTREAL (Pt. St. Charles)

No.	Avg. Price	Price Range Bulk Sales	Top Price
114	12.75	\$11.75-\$13.10	\$13.25
8	10.50	8.50-11.00	11.50
11	11.25	10.75-11.75	11.75
4	—	—	10.75
33	8.25	7.50-9.00	9.00
10	9.75	9.00-10.00	10.00
36	8.25	7.00-9.00	9.00
2	—	—	11.50
12	8.50	7.50-9.00	9.50
15	6.00	5.50-6.50	6.50
11	9.25	9.00-10.00	10.00
122	18.00	16.00-20.00	20.00
8	8.25	8.00-8.50	8.50
279	91.30	19.25	19.40
7	—	—	19.40
199	19.25	17.25-19.40	19.40
10	15.25	15.25	15.25
5	—	—	—
22	16.75	16.50-17.00	17.00
13	16.00	15.50-16.50	16.50
25	11.60	11.50-12.00	12.00
1	—	—	—

Of the disposition from the Yards for the week ending February 12, Canadian packing houses purchased 335 calves, 2,574 butcher cattle, 5,634 hogs and 376 lambs. Local butchers purchased 275 calves, 238 butcher cattle 251 hogs and 212 lambs. Canadian shipments were made up of 15 calves, 73 milch cows, 1 bull, 150 stockers, and 17 sheep. Shipments to United States points consisted of 59 calves, 207 butcher cattle, 43 stockers, 91 feeders and 141 lambs.

Montreal.

Owing to the decline in prices during the previous week, there were no good eastern butcher cattle offered on Monday's market, and on account of the slow movement of freight, due to weather conditions, no stock was received during the balance of the week. Prices for cattle were about 50 cents higher than during the closing market of the previous week, but all offerings were readily sold. Seven loads of cattle were received from Winnipeg and these were the only good quality shipments on hand. From these

loads the best steers were sold at \$13.10 per hundred, a few cows at \$10 and steers averaging ten hundred and sixty-five pounds at \$11.75 per hundred. The top price for bulls was \$11.50; common light bulls brought from \$7.50 to \$8.50, and heavy bulls of dairy breeds around \$10. The best cows offered brought \$10, but no choice animals were offered. Strippers in good condition brought from \$8 to \$8.50, and canners sold at \$5.50. Good veal calves were readily disposed of from \$18 to \$20 per hundred for milk-fed stock; common veal calves were sold from \$15 per hundred up, and grass calves brought from \$8 to \$8.50 per hundred.

Sheep and lambs remained steady at the previous week's quotations of \$11.50 to \$12 for good sheep, and \$16.50 to \$17 for good lambs.

A few hogs were sold at \$19.65 per hundred, off car weights, but the general price was \$19.50, although there was a slightly firmer tone to bidding at the end of the week.

PT. ST. CHARLES.—Of the disposition from the Yards for the week ending February 12, Canadian packing houses and local butchers purchased 249 calves 31 bulls, 376 butcher cattle, 1,248 hogs, and 61 lambs. Canadian shipments were made up of 6 milch cows. Shipments to

United States points consisted [of 13 calves and 54 lambs.

The total receipts from January 1 to February 12, inclusive, were: 4,142 cattle, 1,396 calves, 6,544 hogs and 4,327 sheep; compared with 5,557 cattle, 1,659 calves, 7,585 hogs and 4,488 sheep received during the corresponding period of 1919.

EAST END.—Of the disposition from the Yards for the week ending February 12, Canadian packing houses and local butchers purchased 406 calves, 734 butcher cattle, 1,237 hogs and 106 lambs. Shipments to United States points consisted of 13 calves, 72 butcher cattle, and 231 lambs.

The total receipts from January 1 to February 12, inclusive, were 6,494 cattle, 1,806 calves, 4,945 hogs and 3,368 sheep; compared with 6,369 cattle, 1,123 calves, 4,365 hogs and 4,721 sheep, received during the corresponding period of 1919.

Victory Bonds.

Following were the values of Victory Bonds on the Toronto market, Saturday, February 21: Victory Bonds maturing 1922, 99% to 100%; Victory Bonds maturing 1923, 99% to 100%; Victory Bonds maturing 1927, 101% to 101%

Victory Bonds maturing 1933, 102 $\frac{1}{8}$ to 102 $\frac{3}{8}$; Victory Bonds maturing 1937, 104 $\frac{1}{8}$ to 104 $\frac{3}{8}$.

Toronto Produce.

Receipts of live stock at the Union Stock Yards, West Toronto, on Monday, February 23, numbered 320 cars, 5,527 cattle, 471 calves, 5,659 hogs, 327 sheep and lambs. Slow market; butcher steers and heifers, \$1.00 to \$1.50, and in spots, \$2 lower than last week's high level. The general quality was good. Several good loads of 1,150 to 1,250-pound steers sold at \$13.50. One load of 19 head averaging 1,200 pounds sold at \$13.85. Bulls and cows, 75 cents to \$1.25 lower. Calves, \$1.00 lower; top, \$23 per cwt. Sheep, 50 cents higher; tops, \$12 to \$13. Lambs, 75 cents higher; top, \$22.75. Packers bid \$18.25, fed and watered, for hogs.

Breadstuffs.

Manitoba Wheat.—(in store Ft. William).—No. 1 northern, \$2.80; No. 2 northern, \$2.77; No. 3 northern, \$2.73. Manitoba Oats.—(In store Ft. William).—No. 2, C. W., 96 $\frac{1}{2}$ ¢; No. 3 C. W., 93 $\frac{1}{2}$ ¢; Extra No. 1 feed, 93 $\frac{1}{2}$ ¢; No. 1 feed, 92 $\frac{1}{2}$ ¢; No. 2 feed, 91 $\frac{1}{2}$ ¢. Manitoba Barley.—(In store Fort William). No. 3 C. W., \$1.74 $\frac{1}{2}$; No. 4 C. W., \$1.45 $\frac{1}{2}$; rejected, \$1.34 $\frac{1}{2}$; feed, \$1.34 $\frac{1}{2}$.

Ontario Wheat.—(f.o.b. shipping points according to freights)—No. 1 winter, per car lot, \$2 to \$2.01; No. 2 winter, per car lot, \$1.98 to \$2.01; No. 3 winter, per car lot, \$1.92 to \$1.93; No. 1 spring, per car lot, \$2.02 to \$2.03; No. 2 spring, per car lot, \$1.98 to \$2.02; No. 3 winter, per car lot, \$1.95 to \$2.01.

American Corn.—(Track, Toronto, prompt shipment).—No. 3 yellow, \$1.90; No. 4 yellow, \$1.87.

Ontario Oats.—(According to freights outside).—No. 3 white, 98¢ to \$1.

Peas.—(According to freights outside).—No. 2, \$3.

Barley.—(According to freights outside)—Malting, \$1.77 to \$1.79.

Buckwheat.—(According to freights outside)—No. 2, \$1.55 to \$1.60.

Rye.—(According to freights outside)—No. 3, \$1.55 to \$1.60.

Manitoba Flour.—(To-onto)—Government standard, \$13.25.

Ontario Flour.—(In jute bags, prompt shipment)—Government standard, \$10.80 to \$11 Montreal; \$11 Toronto.

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

Hay.—(Track, Toronto)—No. 1, per ton, \$27 to \$28; mixed, per ton, \$25.

Straw.—(Track, Toronto)—Car lots, per ton, \$16 to \$17.

Hides and Skins.

Hides f. o. b. country points—Beef hides 25c. to 27c., flat cured; 23c. to 25c. part cured; green or frozen hides; 20c. to 24c.; deacon or bob calf, \$2.50 to \$3; hides, country take-off, \$10 to \$12; No. 2, \$7 to \$9; No. 1 sheep skins, \$2.50 to \$4; yearling lamb, \$1.75 to \$2.50; horse-hair, farmers' stock, 40c. to 42c.

City Hides.—City butcher hides, green, flats, 30c.; calf skins, green, flats, 60c.; veal kip, 35c.; horsehides, city take-off, \$11 to \$13.

Tallow.—City rendered, solids in barrels 13c. to 15c.; country solids in barrels, No. 1, 12c. to 15c.; cakes, No. 1, 12c. to 15c.

Farm Produce.

Butter.—The butter market continued to be extremely dull, with a poor demand, and though it showed a weaker tendency, prices kept about stationary. Fresh-made creamery squares selling at 66c. to 70c. per lb.; creamery solids at 65c. to 67c. per lb., and choice dairy at 60c. to 65c. per lb.

Eggs.—New-laid eggs were slightly lower, but No. 1 cold storage kept about stationary as there are very few left. New-laid sold at 76c. to 78c. per dozen; cold-storage No. 1's at 64c. per dozen.

Cheese.—The cheese market continued to be very firm, especially choice quality old which sold at 35c. to 34c. per lb.; new bringing 31c. per lb., (wholesale).

Honey.—There are only very light offerings in honey; the strained selling at 25c. to 28c. per lb., and comb from \$5.50 to \$6.50 per dozen, (wholesale).

Poultry.—Receipts continued to be light, and prices firm, especially on heavy live hens. The following prices being quoted for liveweight and dressed varieties

to the producer. Liveweight prices.—Chickens, spring, 30c. per lb.; chickens, milk-fed, 35c. per lb.; ducklings, 35c. per lb.; hens, under 4 lbs., 28c. per lb.; hens, over 5 lbs., 33c. per lb.; roosters, 25c. per lb.; Guinea hens, per pair, \$1.60.

Dressed.—Chickens, young, 45c. per lb.; ducklings, 35c. per lb.; hens, under 5 lbs., 30c. per lb.; chickens, milk-fed, 38c. per lb.; hens, over 5 lbs., 30c. to 33c. per lb.; ducklings, 35c. per lb.; hens, under 5 lb. 30c. to 33c. per lb.; hens, over 5 lbs., 35c. per lb.; turkeys, young, 50c. per lb.; roosters, 28c. per lb. Guinea hens, \$1.70 per pair.

Seeds.—Following are the prices that wholesalers were paying for Alsike and clover at country points: Alsike, No. 1 fancy, bushel, \$33 to \$34; No. 1, \$32 to \$33; No. 2 choice, bushel, \$31 to \$32; No. 3, bushel, \$29 to \$30.

Red clover, No. 1 fancy, bushel, \$34 to \$35; No. 1 bushel, \$33 to \$34; No. 2, bushel, \$31 to \$32; No. 3, bushel, \$29 to \$30.

Sweet clover export, bushel, \$18 to \$19; Canadian No. 1, bushel, \$18.50 to \$19.50; Canadian choice, bushel, \$15 to \$18.

Wholesale Fruits and Vegetables.

Trade has been brisk in wholesale fruits during the past week, with prices keeping firm, especially so on oranges, lemons and grapefruit.

Rhubarb.—Hot-house rhubarb came in more freely and varied so in size and quality, that prices ranged from \$1 to \$1.35 per dozen bunches.

Potatoes.—Potatoes after having a decidedly weak spell at lower prices, again showed a firming tendency and were quite strong at advanced prices. The other lines of domestic vegetables keeping practically stationary in price.

Apples.—Western boxed, \$3.50 to \$4.50 per box; Ontario's and Nova Scotia's \$5.50 to \$11 per bbl.; Ontario boxed, \$1.60 to \$2.50 per box; fancy Spys, (Ontario), \$12 per barrel.

Grapefruit.—Florida, \$4.50 to \$6 per case; Cuban, \$4 to \$4.50 per case.

Lemons.—Cal. \$8 to \$9 per case; Messinas, \$5 to \$8 per case.

Oranges.—Cal. Navels, \$5 to \$8 per case; Floridas, \$7 to \$8 per case.

Rhubarb.—\$1 to \$1.35 per dozen bunches.

Tomatoes.—Hot-house No. 1's, 42c. to 45c. per lb.; No. 2's 30c. per lb.

Beans.—Dried white, \$1.50 to \$1.75 and \$5.50 per bushel.

Beets.—\$2 to \$2.50 per bag.

Cabbage.—\$5 to \$6.50 per bbl.; Cal. new, \$6.75 per case; Florida, \$8 to \$8.50 per case; \$4 to \$4.50 per hamper.

Cauliflower.—California, \$5.25 to \$5.50 per standard crate, \$2.50 to \$2.75 per pony crate.

Carrots.—\$2 to \$2.25 per bag.

Celery.—Cal. \$14 to \$16 per case; Florida, \$6.50 to \$7.50 per case.

Lettuce.—California Iceberg, \$4.50 to \$5.50 per case; Florida, \$4 per hamper, leaf, 30c. to 35c. per dozen.

Onions.—\$7.50 to \$8.50 per cwt., small sized, \$5 per cwt., Spanish, \$7.50 to \$8 per case.

Parsnips.—\$2.50 to \$3 per bag.

Potatoes.—\$1.25 to \$1.50 per bag.

Turnips.—\$1.25 per bag.

Montreal.

Horses.—Quite a little demand existed for horses last week, the demand having been stimulated by requirements arising from the recent heavy snowstorms. Carters required more horses to deliver their goods and a further demand was occasioned by snow clearing operations. Prices held steady with heavy draft horses, weighing 1,500 to 1,600 lbs. selling at \$250 to \$300 each; light draft, weighing 1,400 to 1,500 lbs., \$200 to \$250 each. Light horses were quoted at \$120 to \$200 and culls at \$75 to \$100 each.

Dressed Hogs.—Dressed hogs were bringing slightly higher prices last week, partly on account of receipts being prevented by the heavy snow. Country-dressed light weight hogs were being purchased at 25c. to 25 $\frac{1}{2}$ ¢, while the heavy stock sold at 24c. to 24 $\frac{1}{2}$ ¢ per lb.

Poultry.—Difficulty is already being experienced in obtaining sufficient fresh receipts, so that it is stated that cold storage stocks are being drawn upon to some extent. Prices were practically unchanged at 47c. to 50c. per lb. for good to choice turkeys, while good to choice chickens were 30c. to 35c. and ordinary stock 28c. to 29c. Geese were 26c. to 30c. per lb., and ducks 40c. per lb.

Potatoes.—Whereas the week previous the tone in the potato market was easier, owing to milder weather, last week it was rather firmer, owing to light deliveries following upon the heavy storms. Prices showed practically no change with carlots of Quebec stock selling at \$3.50 per bag of 90 lbs., ex-track, and at \$4 ex-store.

Honey and Maple Syrup.—The market for maple syrup continued quite dull, but very little was available. Gallontins of syrup were quoted at \$1.50, while sugar is 35c. per lb. Pound sections of white clover comb honey were 25c. to 30c.; strained being 22c. to 25c., and dark being 20c. to 22c. per 30-lb. tins.

Eggs.—There was some increase in the offerings of eggs, but owing to the lenten season the demand was more active with the result that new-laid eggs were 75c. to 77c. per dozen, selects being 60c. to 62c. and lower grades 45c. to 50c.

Butter.—Finest grass creamery was quoted at 63c. per lb., with fine ranging from 61 $\frac{1}{2}$ ¢ to 62c., and finest dairy at 55c. to 56c. Fresh fodder creamery was quoted at 55c. to 57c.

Grain.—No. 2 Canadian Western oats were quoted at \$13.25 per bushel, ex-store; No. 3 Canadian Western were \$1.01; No. 2 are 97 $\frac{1}{2}$ ¢; tough No. 2, \$1.01, and tough No. 3, 99c. ex-track.

Flour.—Manitoba spring wheat flour was steady at \$13.25 per barrel, in jute, ex-track, Montreal freights and to city bakers, with 10c. off for spot cash. Blended flour was steady at \$12.50 per barrel, in jute, ex-track, net cash, while Ontario winter wheat flour was \$11.25. White corn flour was up to \$10.50 and \$10.60, in jute, while rye flour was \$9.50.

Millfeed.—Bran was \$45.25 per ton, and shorts \$52.25 per ton, in bags, less 25c. for spot cash. Smaller lots were about \$2 above these prices, with pure barley meal at \$75 to \$76, and mixed grain mouille at \$73 to \$75 per ton.

Baled Hay.—For domestic consumption dealers were obtaining \$26 per ton for No. 2 timothy, \$25 for No. 3 and \$23 to \$24 for clover and clover mixed, ex-track.

Hides and Skins.—Prices fell to 30c. per lb. for steer and cow hides and 23c. for bull hides; 75c. per lb. for calves and 35c. for kips. Lamb skins were \$4 each and horsehides \$10.

Buffalo.

Cattle.—Live stock shipments were badly delayed last week, as a result of one of the worst storms experienced here in years. When the market opened Monday the run of cattle totaled only fifty loads and despite the light supply, it was a slow trade, with prices, barring a few good cattle that showed a 15 to 25 cent advance, no better than the week before. Included was only five or six cars of shipping steers and the range of these was from \$12.50 to \$15. Supply of Canadians numbered only twelve cars and these included mostly a medium and common class of butchering stuff. Best Canadian shipping steers, while none were here, were quoted around \$12 and \$12.50. About the best offered in the handy butcher steer line was a load of long yearlings at \$13.25 but most of the good butcher steers sold from \$12 to \$12.50, with a common to fair kind ranging from \$9 to \$11.50. Best butchering heifers sold from \$10.50 to \$11.25, best cows ranged from \$9.50 to \$10 and canners sold around \$5 to \$5.50. There was practically no demand for stockers and feeders, these selling largely for kill; bulls, with the exception of a few of the better kinds, which were stronger, sold about steady and while best fresh cows and springers continued to sell good, common and mediums kinds had to go for beef. Tuesday's run was 40 loads with trade about steady, Wednesday shipping cattle looked 25 to 50 cents lower with butchering grades steady and an unchanged market was had to balance of the week. Receipts the past week were 3,175 head, as against 3,975 head for the week before and 6,075 head for the same week a year ago. Quotations:

Shipping Steers — Natives — Very choice heavy, \$14.50 to \$15; best heavy, over 1,300, \$13.50 to \$14.25; fair, over 1,300, \$12.50 to \$13; best, 1,200 to 1,300, \$13.50 to \$14; good, 1,200 to 1,300, \$12.50 to \$13.50; plain, \$11.50 to \$12.

Shipping Steers — Canadians — Best heavy, \$12 to \$12.50; fair to good, \$11.50 to \$12; medium weight, \$11 to \$11.50; common and plain, \$10 to \$10.50.

Butchering Steers — Yearlings, fair

to prime, \$12 to \$13.50; choice heavy \$12.25 to \$12.75; best handy, \$11.50 to \$12; fair to good, \$10.50 to \$11; light and common, \$9 to \$10.

Cows and Heifers.—Best heifers, \$10.50 to \$11.25; good butcher heifers, \$10 to \$10.50; fair butchering heifers, \$9 to \$9.50; light, common, \$6 to \$7; very fancy fat cows, \$9.50 to \$10; best heavy fat cows, \$9 to \$9.50; medium to good, \$7 to \$8.50; cutters, \$6 to \$6.50; canners, good, \$5 to \$5.50.

Bulls.—Best heavy, \$10 to \$10.50; good butchering, \$9 to \$9.50; sausage \$8 to \$8.50; light bulls, \$7 to \$8.

Stockers and Feeders.—Best feeders, \$9.75 to \$10.25; common to fair, \$8 to \$9; best stockers, \$8 to \$8.50; fair to good, \$7.75 to \$8.25; common, \$6 to \$7.

Milkers and Springers.—Good to best, small lots, \$125 to \$160; in carloads, \$90 to \$100; medium to fair, small lots, \$80 to \$85; in carloads, \$70 to \$75; common, \$50 to \$55.

Hogs.—Market, on account of light receipts, occupied a very favorable position on the opening day of the week, but after Monday the supply was more liberal and as a result prices were on the decline. The week opened with good handy hogs selling at \$17, few yorkers, lights and pigs reached \$17.25, and heavies which were up 50 cents to \$1 from the previous week's close, sold from \$15.50 to \$16.50. Tuesday prices went off 50 to 75 cents, Wednesday's market was steady to 15 cents lower and Thursday values showed a further decline of 50 to 75 cents. Friday, light hogs were steady with Thursday, bulk going at \$15.75, while on the better weight grades the market was extremely dull. During Friday's late session some mixed hogs, kinds that sold Thursday at \$15.65, moved at \$15.25, but the close showed the bulk of the good hogs going over unsold without bids. Buyers got roughs down to \$12.50 and general range on stags was from \$9 to \$10. Receipts for the past week were 32,500 head, as compared with 17,214 head for the week before and as compared with 33,600 head for the same week a year ago.

Sheep and Lambs.—Light supply caused a sharp advance in prices the fore part of last week, Monday's market being the highest in the history of the trade. Top lambs reached up to \$23 and culls sold up to \$20.75. Receipts were liberal the balance of the week and prices were on the decline. Tuesday bulk of the top lambs went at \$22, and by Friday buyers got choice lots down to \$21.50. The latter part of the week showed culls going from \$19 down. Sheep were steady all week. Wethers sold at \$16, with two-year-old up to \$17, and best ewes ranged from \$14 to \$15. Receipts for the week were 20,900 head, the week before there were 22,096 head and for the same week a year ago the run numbered 20,600 head.

Calves.—Last week opened with best veals selling at \$24, Tuesday the bulk went at \$23.50, Wednesday's trade was steady, Thursday few reached above \$23 and Friday prices were up 50 cents, majority going at \$23.50. Culls were active and steady all week, selling from \$18 down, according to quality. The past week's receipts reached 3,450 head, being against 3,575 head for the week before and 3,300 head for the same week a year ago.

Chicago.

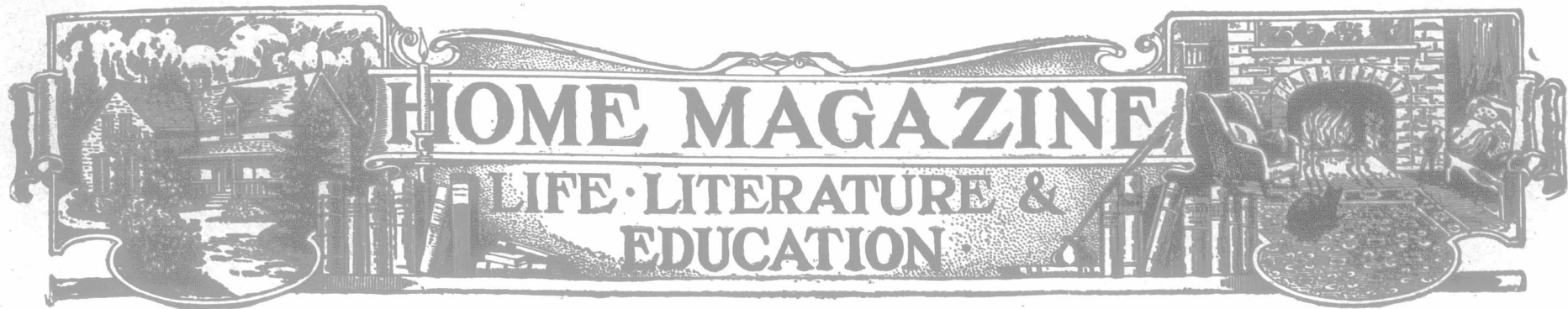
Hogs.—heavy, \$13.85 to \$14.30; medium, \$14.20 to \$14.70; light \$14.50 to \$14.90; light light, \$14.25 to \$14.85; heavy packing sows, smooth, \$12.75 to \$13.40; packing sows, rough, \$12.10 to \$12.65; pigs, \$13.25 to \$14.60.

Cattle.—Compared with a week ago, steers above \$13.50 unevenly, 25c. to 75c. lower; others mostly steady; butcher cows and heifers about steady; canners, 25c. lower; bologna bulls, good $\frac{1}{4}$ ¢ higher; calves, mostly 25c. lower; stockers and feeders, 25c. to 40c. higher.

Sheep.—Compared with a week ago, good to prime fat lambs, 25c. to 50c. higher; others little change; fat sheep and yearlings, 25c. to 75c. higher.

"We have taken 'The Farmer's Advocate' for about twenty-five years, and the farm would not be complete without it."

Kent Co., Ont. J. F. JORDAN.



The First Spring Day.

CHRISTINA ROSSETTI.

I wonder if the sap is stirring yet,
If wintry birds are dreaming of a mate;
If frozen snowdrops feel as yet the sun,
And crocus fires are kindling one by one.
Sing, robin, sing
I still am sore in doubt regarding spring.

Garden Folk in Convention

(Concluded.)

THE report of the delegates from the Ontario Horticultural Association to the Convention of the American Civic Association proved very interesting to the Convention in Toronto. Dr. Bennett of St. Thomas said it had appeared to him that a predominant idea in the minds of those present was that a revolution is heading America-wards, and that they must deal with the best methods of preventing it. Among the ideas for bettering conditions was that of town-planning, and here the "big man of the Convention," the one whose ideas were continually referred to and solicited, was Mr. Thomas Adams of the Commission of Conservation, Ottawa, Canada. A pleasant event of the trip was a visit to the village of Yorkship, a town planned from start to finish, and built for the ship-builders of the American navy. . . . Mr. T. D. Dockray of Toronto followed Dr. Bennett. He had noticed with pleasure, he said, the determination of the campaign against noise, smoke and bill-boards—"our unmitigated nuisances." War-memorials and the housing problem had been among the prominent topics. Mr. Dockray praised unstintedly a system of Community Service which has been established in Philadelphia to carry the ideas of experts to the people. Among the matters handled by this service are the building of community halls, unsightliness of rural schools, and the co-operation of the people in beautifying rural villages. In Yorkship, New Jersey, the houses are sanitary, from 4 to 7 roomed, and there are plenty of open spaces, parks, etc. Nor do the ambitions of the American Civic Association stop with community planning—they are contemplating regional planning as well—planning a whole state. Useful pamphlets also have been prepared, and may be obtained from the "American Civic Association, 914 Union Trust Building, Washington, D. C.

Sweet Peas.

This subject was taken up by Mr. H. W. Strudley, Stratford. Someone had remarked, he said, that "Boston is a state of mind." Personally he was of the opinion that horticulture is a state of mind when he heard people say things "can't be grown." Sweet peas, for instance, had been grown to perfection as far north as Alaska.

One of the many recommendations of this plant is that it is one of the most unselfish among flowers, it will give you cut flowers every day for 3 months.

To have success secure good seed, preferably from some grower who makes a specialty of sweet peas; the "Spencer" varieties are the most desirable. The best soil is heavy clay loam, well drained. In the fall trench it up 2 feet deep and 2 feet wide, put in some manure and slaked lime. Early in spring plant the peas 9 or more inches apart. Mr. Strudley starts some for "extra early" in thumb-ports about the 15th of March, putting one pea in each. At the end of April he transplants them into the trench, first soaking the soil then turning the ball out without distributing the roots. The plants are set 4 inches below, the level rows running north to south. As they grow he gradually fills in the soil, supplying poles and wire netting, or good brushwood if it can be obtained, for

support. During hot weather a good soaking to the end of the roots is given once a week and a grass mulch put over to conserve the moisture. After the buds form liquid manure is supplied occasionally. Spraying with water to remove insects or dust is given at the cool of the evening.

Rockeries and Rock Plants.

Mr. Simpson's paper on this subject was read by Mr. F. E. Buck, Central Experimental Farm, Ottawa, who, in introducing the subject referred to floriculture as a "state of eternal bliss". . . Ideally the rock garden suggests a ravine with rocks, streams and pools, but alas! the gardener usually has to deal with a flat piece of land lacking completely in what the artist calls "environment" or "atmosphere." So he must proceed with much care, for a rock garden is far from being "a heap of stones that bark the shins in the night."

Regularity is foreign to the nature of the rock garden. Indeed an attempt to imitate nature's mountains and precipices can actually be made without appearing ridiculous. On the contrary its appeal to the imagination may be very seductive.

Shade-loving plants should be selected for the north side—primulas, anemones, saxifrages, etc. Provide gentle slopes and steep declivities; observe nature, study books on the subject. Study to

give each species the right setting to display its charms.

Gray limestone is admirable for building material; sometimes sandstone is preferred because it is porous and will retain moisture, but even field boulders will do, and it is better to use large rather than small ones. Be careful to preserve an appearance of naturalness, e. g. stratified rocks should be horizontal but arranged to permit a flow of moisture. . . Give the plants soil suited to them. The writer had long ago wished for a rock garden. Finally he secured a collection of seeds of Alpine plants and raised them in a cold frame, "a most fascinating occupation," setting them out later in a corner where the grass was hard to cut. The "corner" developed into a border 36 ft. long and 3 ft. wide, with an almost incredible number of plants. Alpines by the way, will grow well in garden loam where there are no rocks.

Among the plants suitable for a rock garden are the creeping phloxes, moss pinks, arabis, violas, primroses, hardy primulas, campanulas, gentians, dwarf asters, myosotis, Iceland poppies, edelweiss, gypsophila, etc. A mixture of colors in a rockery is not unhappy; cascades of color may prove very attractive.

It is not a bad plan to grow a few Alpines on level ground before placing them in the rockery, to get used to their

habits. It is not low temperature but excessive moisture in winter that injures rock plants, whose natural place is near the snow line.

"Arrangements of Flowers at Exhibitions."

This topic was taken up by Mr. Jas. A. Wylie, St. Catharines. Exhibitors should pay attention to a few simple rules. They should be careful to select the very best specimens to educate the public in regard to what can be grown in the locality, and should take pains to choose specimens in such a state of development that they will keep fresh to the very end of the exhibition. Bloom should be cut with some of its own green foliage. Secure suitable receptacles that will be of the right balance and give the flowers as natural an appearance as possible, and avoid crowding or jamming the flowers down into the receptacles. Have plenty of tables and plenty of receptacles. Arrange for a pleasing effect from the entrance and other points of vantage. Vary the plan from time to time. Keep the classes together and have them follow the order of the prize lists for the convenience of visitors. Rolls of white paper would be found good for covering the tables.

Discussion on the paper was opened by Mr. Spencer, Ottawa, who showed a number of galvanized iron holders which when not in use could be packed in small space. He emphasized the necessity for placards and labels.

At this point Mrs. Malcolmson, St. Catharines, moved that Bird Protection should be linked with the work of horticulture, and the motion was referred to the Committee on Resolutions.

Annual Reports and Other Matters.

The subject "Are our Annual Reports Interesting and Valuable," introduced by Mr. G. H. M. Baker, Lindsay, called forth a number of opinions entirely favorable to the reports, but also the question as to whether it would not be advisable to provide a more attractive cover.

The Value of Illustrated Lectures.

During the evening session, which left the audience unconscious of being weary although the meeting did not disperse until after eleven o'clock, three illustrated lectures were given.

Miss Yates of Port Credit, spoke on "The Natural Style in Landscape Gardening," illustrating her remarks by a series of colored slides. The object of her lecture was evidently to favor the natural rather than the formal style of gardening. The former, she pointed out, must be informal, unsymmetrical, not apparently enclosed, and must suggest something akin to the idea we hold when we speak of the "spirit" of the woods or the mountains. The "natural" garden may include vistas. Harmony should prevail and contrast be the exception. All grouping of trees, etc., should be considered in regard to vertical projection—the skyline is important. Every work of art has some leading motif to give it character, therefore in planning the garden we must consider the effect of the isolated specimen and of groups of two, three, or the mass. Upon the whole we should tend towards simplification. . . The slides shown by Miss Yates depicted the use of rockwork, trees, rural roads, entrances to lawns, groups of color with background and without, and a few examples of the formal style of gardening, for contrast. In conclusion the speaker said she thought part of the propaganda of the Horticultural Society should be to try to preserve and restore the natural landscape, and to make the beauty spots accessible to the people.

In the discussion that followed, Dr. Bothwell, Stratford noted how difficult it is to plant a small garden informally.



Shasta Daisies en masse—Nature's Way of Planting.

to \$13.50; choice heavy, \$15.00; best handy, \$11.50 to \$13.00; light and medium, \$10.50 to \$11; light and medium, \$10.

Heifers—Best heifers, \$12.50; good butcher heifers, \$11.50; fair butchering heifers, \$10.50; light, common, \$6 to \$7; cows, \$9.50 to \$10; best, \$9 to \$9.50; medium to light, \$8 to \$8.50; cutters, \$6 to \$6.50; \$5 to \$5.50.

Heavy, \$10 to \$10.50; medium, \$9 to \$9.50; sausage cutters, \$7 to \$8.

Feeders.—Best feeders, common to fair, \$8 to \$9; \$8 to \$8.50; fair to good, \$7 to \$7.50; common, \$6 to \$7.

Springers—Good to best, \$15 to \$160; in carloads, \$10 to \$15; medium to fair, small lots, \$8 to \$9; in carloads, \$7 to \$7.50; \$5.50.

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It is not wise to curve a path across a lawn, he said, without evident reason for the curves—a tree, clump of shrubbery, etc. While imitating nature we must be careful to avoid showing imitation. A perennial border beside a walk should conform to the walk as the shore follows the water, but if it faces on the lawn have it irregular—but not a succession of curves. Above all things don't have the same kind of garden as your neighbor. Let your garden be a reflection of yourself. Let it be unique.

"House Plants."

When house plants do not do well, said Mr. Wm. Allan, Toronto, the fault is usually with the grower, not with the plants. More plants are killed through kindness than in any other way. Too much water is usually given, and too much pot-room; a plant will often die if you put it in too big a pot. One great secret of success is drainage, another is cleanliness. The best soil is made up of 3 parts good garden loam, 1 part leaf mould, with a little dry manure and sand. Plenty of drainage material in the bottom of the pot is very necessary. First put a piece of curved broken crockery over the hole, fill in some clinkers, or stones, then put on some moss and lastly fill up with soil leaving plenty of room at the top to hold water when it is poured in. Except in the case of water-plants such as the calla never let water stand in a saucer or jardiniere; it chills the roots. Mr. Allen thought more people should grow bulbs, which are no trouble if potted in the fall and left outside for a while under leaves or rubbish to form root growth. Even if frozen when brought in they will be all right if thawed out very gently. A slide of daffodils brought forth the comment that the bulbs of these had been set thickly in a box about the end of October and left outside under frost and snow, then brought in and put in pots kept at first in a rather cool place. Darwin tulips grow well in this way—the cooler you grow them the better the results. Also jonquils, hyacinths and primulas. Keep these plants coming on slowly but steadily and don't give liquid manure until the buds show color.

The aspidistra, Mr. Allen said, is "the most good natured plant to find." It will put up with many inconveniences, as will also the rubber plant. To get new plants from the latter make a deep slit in a branch with a sharp knife, put in a little pebble to keep the wound open and bind some moss about; keep the moss moist, and when it is filled with roots cut off the slip and plant.

Insect Pests. For aphid or greenfly turn the plant upside down in soapy water. If this does not cure add 1 teaspoon nicotine preparation to 2 gals. water. Red spider may be routed by nicotine spray or by lots of washings applied well on the under side of the leaves also.

Jack Miner and His Birds.

The last lecture of the evening was given by that unique bird lover, Jack Miner of Kingsville, who has made a continental name for himself by making friends with the wild geese until at migration time, they come to him in thousands to be fed and petted and sent on their way rejoicing and wishing, no doubt, that there were Jack Miners scattered all along the way from the Gulf of Mexico to Hudson's Bay. His talk was splendidly illustrated by moving-pictures taken at his ponds, showing geese—"Canada Geese"—as much at home as barnyard fowl, flying, flopping, diving, quite unmindful of the crowds of human beings within a few yards of them. They know that on "Jack Miner's place" no deadly gun will be levelled at them.

As the lecturer told, with native dramatic power, the story of his feathered friends, singling out for especial mention "Polly," "Delilah," "Susan" and "Helen" the fast friends "David and Jonathan," and the game old husband "Jack Johnson" and his family, the audience was swayed from laughter to tears. The reporter would like right here to tell some of those stories—they would make "grand copy"—but it would be quite too wrong to hand out to the public Jack's best stories; some day he will be on the lecturing path again (at present he is giving very few lectures) and then those who wish to hear the stories can have them at first

hand, given as only Jack Miner can give them.

"My geese even find me friends," "The birds of the air introduce us," remarked Mr. Miner, and there, sure enough, was proof positive, for sitting not far away was an Anglican Missionary from near Hudson's Bay, who had learned of Jack Miner from the tags on the legs of some geese shot by the Indians and had come all the way down to visit him.

At the close of the lecture a collection which amounted to \$65 was taken up and presented to Mr. Miner to help feed his geese.

The New Officers.

Upon the second day of the Convention the officers for 1920 were elected.

President, Mr. G. H. M. Baker, Lindsay; 1st Vice-President, Miss Yates, Port Credit; 2nd Vice-President, Rev. W. L. McKay, Weston; Secretary and Editor, Mr. J. Lockie Wilson; Treasurer, Mr. C. A. Hesson, St. Catharines; Honorary Director, Mr. Wm. Hartry, Seaforth. Directors.—Dist. 1.—Rev. Dr. Scott, Perth; Dist. 2.—H. A. Middleton, Lindsay. Dist. 3.—(Northern Ontario): To be appointed later; Dist. 4.—T. D. Dockray, Toronto; Dist. 5.—W. B. Burgoyne, St. Catharines; Dist. 6.—

pointed out, as the first essential for accomplishing good work, the appointment of capable men and women as officers, and as the second essential, the enlistment of the support of the local newspaper, municipal council, school and churches. He suggested the setting apart of beautiful public squares, with seats, flower-boxes on posts, flower beds, etc., about the churches, schools and other public buildings. All of this had been done at Winchester, "the finest and best little town in Eastern Ontario," where more than one public eyesore had been turned into a spot of beauty. Dundas County had been selected by the Government for experimenting on farms, the farmers being asked to grow grain or vegetables under direction of the Commission of Conservation, and the work done had been of great value. At the last meeting it had been decided that a County Council of Horticulture should be formed to which delegates may be sent to get inspiration and advice.

The delegate from Dutton said that the society there brought the matter of securing funds before the County Council and it promised to supplement the Government grant by 25 per cent.

District Reports brought out the point that some of the Directors were not very clear in regard to their duties, but had

which 118 farmers belong. Dr. Bennett, told of the usually booming work in the St. Thomas district, and Mr. Glassford, Chatham, said he had written to the school boards asking them if they would enlist young men to plant native trees and shrubs on school yards, and offering to supply any they wished to buy at cost price.

Mutilation of Shade Trees

This subject proved very "alive". Mr. Hartry said he had received letters on the subject complaining bitterly of the mutilation of shade trees by the hydro and telephone companies. He thought no company should be empowered to destroy something that had taken a lifetime to grow. Formerly we had cattle guards about trees to protect them from cattle; now the lineman lop off half of the trees, rotting sets in and row after row is destroyed. Mr. Jaffray of Galt, suggested putting the wires underground. Mr. Buck, Ottawa, and others spoke, and the idea generally seemed to be that pending preventive legislation some effort should be made to confer with the companies coming into a district so as to induce them to spare the trees.

Better Opportunities for Garden Work.

Miss Yates, Port Credit, brought up the subject of establishing centres in which the interests of horticulture should have especial attention, noting that Toronto University, the Rose Society and the Vegetable Growers are all making plans for experimental gardens. Dr. Thompson, of Toronto University, added that the University is looking forward to a "Home for Botany" in the new buildings, with provision for gardens and forestry. The young men and women in the University, he said, should be taught to grow things. He greatly favored the idea of special centres for garden work, since Ottawa and Guelph, bound up more particularly with agriculture, have not sufficient facilities.

Mr. J. Lockie Wilson thought the "Farmers' Government" would be inclined to look with favor on the movement.

At the Round Table luncheon the subject was continued in a number of 3-minute speeches. Prof. McLaren expressed the opinion that, for want of proper facilities and sufficient funds we are away behind in our fight against insects and diseases. Mr. H. G. Moore pointed out that by "knowing how" vegetables and grains as well as flowers can be vastly increased in quality and production. Canada will need to make use of every facility to pay off her national debt. Prof. Macoun, Ottawa, noted the vast difference between the climate and products of different parts of the country e. g. Niagara Falls district and Kapuskasing and Cochrane, as a strong reason for establishing grounds to show what can be best grown in each locality. Prof. Crow, Guelph, heartily seconded Prof. Macoun's words, and thought the Horticultural Society must provide the machinery to set the idea in motion.

Premiums, School Gardens, Etc.

The subject of premiums (roots, bulbs, etc.) as an attraction to join the society was taken up by Dr. Bennett. (This paper will be given later.) Mr. T. D. Dockray, read Mr. J. G. McDonald's (Aurora) paper on School Gardens. The Aurora Society arose out of the gardens of the children of the public schools. Lectures to give instruction preceded planting the plots; exhibits followed, the second year in a big skating rink. The children "learned to do by doing," and, besides practice in practical gardening, got practice in arithmetic and composition thrown in. They were expected to make measurements and computations in regard to their gardens, and write the story of their work. Tomato plants were started in boxes in the school windows. At the fair prizes were given for aeroplanes, kites, bird-houses and home baking as well as for garden stuff, and the afternoon was given over to field sports.

Resolutions.

The Resolutions brought in by the Committee and carried by the Convention covered besides several minor and financial matters: (1— The appointment of a committee to select judges to be placed at the service of the societies.



Alpine Plants in a Rockery.

Mr. J. A. McGee, Hanover; Dist. 7.—L. Norman, Galt; Dist. 8.—Dr. Bennett, St. Thomas; Dist. 9.—John Glassford, Chatham.

Names and Varieties.

The report of the Committee on names and varieties was given by Mr. H. G. Moore, Niagara Falls, who emphasized the necessity of having expert judges at exhibitions. Small exhibitions, he said, might very well be left to one or two judges; too many judges may spoil the show. Score cards on various flowers had been prepared, and would be found helpful. Mr. Moore recommended establishing a system by which a qualified Board of Judges would be appointed to assist.

Work Over the Province.

General discussion on the work of Horticultural Societies over the Provinces opened by J. H. Ross, Winchester, brought out many interesting suggestions, and items of information. Mr. Ross

done the best they could. Mr. Middleton of Lindsay, had gone over a good deal of territory talking Horticulture.

Mr. McKay, Weston, said he often got the sympathy of the parents through work with the children's gardens. In Weston during the winter several addresses on civic improvement had been given. Mr. McKay thought love of birds and flowers very important "since it could produce such a man as we heard last night" (Mr. Miner). Dr. Smith, St. Catharines district, told about Mr. Burgoyne's rose garden, a rose show in June and a general flower show in the fall, and added that his district is planning for exhibits of vegetables and bird-houses. Mr. McGee, Hanover, told of greatly increased sympathy in the work of private and public improvement and the splendid results of children's gardens. Hanover, he said, has gone into propagating stock for its own society. He mentioned two purely rural societies, one near Seaforth with 65 members, and another at Clifford, to

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Whe... Send... Name... Post Of... County... Provin... Number... Age (cl... Measur... Date o... pear...
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2910... Cut... 4 requ... Price...
2924... Cut... 4 will... terial...
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2911... Cut... Size 8... materi...
2900... Cut... 36-38... 46 in... will re... Price...
2733... Cut... and 4... requir... Width... foot... cents...

farmers belong. Dr. of the usually booming Thomas district, and Mr. Nathan, said he had written boards asking them if they young men to plant native bushes on school yards, and apply any they wished to buy

on of Shade Trees

proved very "alive". Mr. had received letters on the plaining bitterly of the shade trees by the hydro companies. He thought should be empowered to thing that had taken a grow. Formerly we had about trees to protect them the lineman lop off half cutting sets in and row after oyed. Mr. Jaffray of d putting the wires under r. Buck, Ottawa, and others e idea generally seemed to ing preventive legislation should be made to confer anies coming into a district them to spare the trees.

ortunities for Garden Work.

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(2) That lantern slides relative to progress in Horticulture be prepared for the use of the societies. (3) That the Convention urge upon the Govern- ment the advisability of passing legisla- tion to protect insect-eating birds. (4) That the committee recommend the establishment of special facilities for the practical and scientific training of men in horticulture, and that representatives to a Canadian Council of horticulture be appointed to formulate plans for the development of horticultural interests. The important questions regarding mutilation of trees and creation of experimental plots were held over for further consideration and will be brought up at the next Convention.

The Convention of 1920 was very successful and very enjoyable. If a reporter, looking on as an interested outsider, may offer a suggestion it is that a paper on small fruits and another on some vegetable might be an interesting feature of future Convention programmes. Horticulture concerns not only flowers and trees; the beauty and interest, as well as the usefulness of the plot devoted to vegetables and small fruits, merit that it shall not be wholly overlooked.

The Fashions.

How to Order Patterns.

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

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

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

2934-2605. Ladies' Costume. Blouse 2934 cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Skirt 2605 cut in 7 sizes: 22, 24, 26, 28, 30, 32 and 34 inches waist measure. Size 24 requires 2 1/2 yards of 54-inch material. Width of skirt at lower edge is about 2 3/4 yards with plaits extended. TWO separate patterns, 10 cents FOR EACH pattern.

2920. Ladies' Dress. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 5 1/2 yards of 36-inch material. Width of skirt at lower edge is about 1 1/2 yards. Price 10 cents.

2910. Boys' Suit. Cut in 4 sizes: 3, 4, 5 and 6 years. Size 4 requires 3 yards of 27-inch material. Price 10 cents.

2924. Child's Dress. Cut in 4 sizes: 2, 4, 6 and 8 years. Size 4 will require 2 1/2 yards of 36-inch material. Price 10 cents.

2533. Girls' Dress. Cut in 5 sizes: 4, 6, 8, 10 and 12 years. Size 10 will require 3 3/8 yards of 44-inch material. Price 10 cents.

2911. Girls' Dress. Cut in 4 sizes: 6, 8, 10 and 12 years. Size 8 will require 3 1/4 yards of 44-inch material. Price 10 cents.

2906. A Comfortable Lounging Robe. Cut in 4 sizes: small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches bust measure. Size medium will require 5 1/4 yards of 36-inch material. Price 10 cents.

2739. Ladies' House Dress. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 7 1/2 yards of 27-inch material. Width of skirt is about 2 1/2 yards at the foot, with plaits drawn out. Price 10 cents.

2907-2931. Ladies' Costume. Waist 2907 cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 36 requires 3 3/8 yards of 27-inch material. Skirt 2931 cut in 7 sizes: 22, 24, 26, 28, 30, 32 and 34 inches waist measure. Size 24 requires 2 5/8 yards of 50-inch material. Width of skirt at lower edge is about 1 1/2 yard. TWO separate patterns, 10 cents FOR EACH pattern.

2926. Ladies' Dress. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 4 yards of 54-inch material. Width of skirt at lower edge is about 1 1/2 yards. Price 10 cents.

2933. Girls' Dress. Cut in 3 sizes: 12, 14 and 16 years. Size 14 requires 4 1/4 yards of 40-inch material. Price 10 cents.

2479. Girls' Dress. Cut in 5 sizes: 6, 8, 10, 12 and 14 years. Size 12 requires 3 3/4 yards of 44-inch material. Price 10 cents.

2697. Ladies' Apron. Cut in 4 sizes: small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches bust measure. Size medium will require 4 1/4 yards of 38-inch material. Price 10 cents.

2922. Ladies' House Dress. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 6 yards of 36-inch material. The skirt measures about 2 1/4 yards at the foot. Price 10 cents.

2919. Child's Play Suit. Cut in 4 sizes: 2, 3, 4 and 5 years. Size 4 requires 2 3/8 yards of 44-inch material. Price 10 cents.

2932. Girls' Dress. Cut in 4 sizes: 6, 8, 10 and 12 years. Size 10 requires 3 1/8 yards of 38-inch material. Price 10 cents.

2945. Child's Dress. Cut in 4 sizes: 4, 6, 8 and 10 years. Size 10 requires 2 yards of 27-inch material for the gimpie, and 2 1/2 yards for the dress. Price 10 cents.

2738. Child's Rompers and Cap. Cut in 3 sizes: 2, 4 and 6 years. It requires 2 1/2 yards of 36-inch material for a 4-year size. The cap requires 1 1/4 yards of 24-inch material. Price 10 cents.

2790. Dress for Misses' and Small Women. Cut in 3 sizes: 16, 18 and 20 years. Size 18 requires 5 yards of 44-inch material. Width of skirt at lower edge is about 1 1/2 yards. Price 10 cents.

2953. A Chic Costume. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 5 1/2 yards of 44-inch material. Width of skirt at lower edge, is about 1 1/2 yard. Price 10 cents.

2944. Girls' Suit. Cut in 3 sizes: 12, 14 and 16 years. Size 14 will require 6 1/2 yards of 27-inch material. Price 10 cents.

2936. Girls' Dress. Cut in 3 sizes: 12, 14 and 16 years. Size 14 requires 4 1/2 yards of 27-inch material. Price 10 cents.

2720. Ladies' House Dress. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 6 1/4 yards of 36-inch material. Width at lower edge is 2 1/4 yards. Price 10 cents.



2785. An "Easy to Make" Apron. Cut in 4 sizes: small, 32-34; medium, 36-38; large, 40,42; and extra large, 44-46 inches bust measure. Size medium requires 3 3/4 yards of 36-inch material, Price 10 cents.

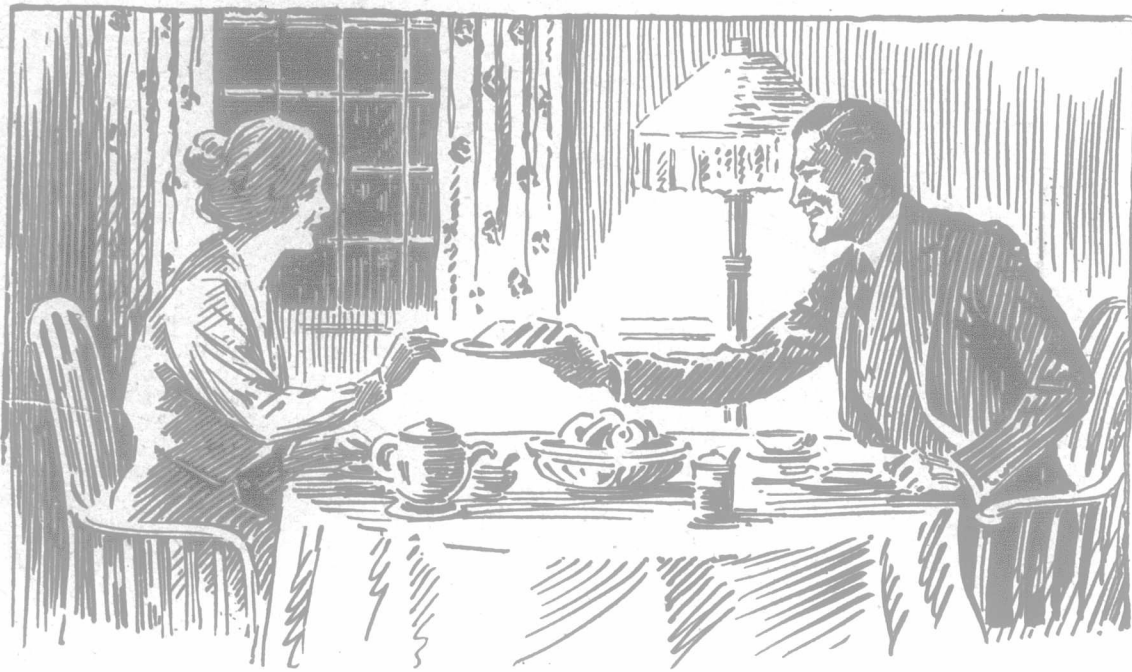
Hope's Quiet Hour.

True Religion.

Pure religion and undefiled before God and the Father is this, To visit the fatherless and widows in their affliction, and to keep himself unspotted from the world.—St. James 1:27.

St. James was comparing imitation religion with the true. Some men, he explained, made a great show of religion, so that they even deceived themselves and thought they were doing their duty to God and man; while they were all the time living for self alone. They prided themselves on the fact that they attended the services of the church, thinking that it was enough to be a "bearer" of the word. To listen to sermons (or even to preach them) is no proof of religion. Any self-righteous Pharisee can do that. Balaam was a very eloquent preacher, and yet he stands convicted as the type of a man swayed by covetous desires and eager to win the wages of unrighteousness. 2 Pet. 2:15; Jude 11; Rev. 2:14.

St. James had no respect for men who professed to be religious, yet did nothing



But He Was Wrong

"Say! This is great bread. Did your Mother send it over, Mary?"

No! Indeed, she did not! Baked it myself this morning."

"It's exactly like your Mother's. You'd better cut another plateful, dear. Some bread!"

"Thank you, Jimmie. It is good, isn't it? It's the flour that makes this bread so good. It is perfectly wonderful!"

"Why, what is this wonder flour?"

"Mother's old favorite—

Extra strong in gluten—the invisible part of the wheat berry that does such a lot in producing good bread, and milled from the best hard wheat in the cleanest modern mills. Cream of the West Flour will make the finest flavored, bulgiest loaves imaginable.

Cream of the West Flour

The Campbell Flour Mills Co., Limited affiliated with Maple Leaf Milling Co., Limited Toronto and Winnipeg



to help their fellows; and whose secret thoughts were not pure in God's sight. He sternly rebuked those who made a great fuss about the rich and important people, but who overlooked the needs of the poor as Dives overlooked the sick beggar at his gate.

Yesterday a little book called "Blood Brothers" was lent to me. It describes a young soldier, who tried to dig out his comrades—buried by an exploding shell—though bullets and shells were threatening his own life. At last he fell, terribly wounded, and was carried away to wait for death. The chaplain tried to teach him to look to Christ, and one day amazed the boy by telling him he was "very religious." His answer was: "Well, I ain't. I swear a lot sometimes, and I do lots of things I shouldn't, and I—I—well, I ain't religious."

The Chaplain asked him who was the most religious man that ever lived, and at last Tom said shyly that it was Jesus Christ. When asked what was the most religious thing He ever did, the boy exclaimed: "He gave His life for His friends."

The chaplain then told him that as he had shown himself willing to die to save his mates he had proved himself to be like Christ. He went on: "Now, Tom, that is one reason why I said you are religious. Let me tell you what a religious man is. He is a man who acts as Jesus Christ would act, who lives so that Christ would approve of his conduct."

The boy was captivated by the thought of being admitted into a "blood brotherhood" with the Saviour of the world, through the sacrament of the Lord's Supper. Soon after he passed on to

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O.A.C. No. 72 Oats, 2nd generation, Imp. O.A.C. No. 21 Barley, both grown from my prize-winning seeds of Guelph, Ottawa and Chatham Fairs, also Marquis Wheat, Alsike and Sweet Clover.

OSCAR KLOPP - Seed Grower Zurich, Ont., Huron, Co.

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Machine No. 1, in good working order. Will sell cheap for quick sale. Write BELL'S LIMITED :: Grimsby, Ontario

Choice Seed Corn

Wisconsin 7 and White Cap. Satisfaction guaranteed. Club orders solicited. W. A. BARNET :: Leamington, Ontario

meet the "Chief" he had learned to love. His religion had been one of deeds rather than of words, and the Lord Himself has told us that no one has greater love than the man who dies for his friends.

One of the Christmas cards that came to me lately contains the beautiful legend of the glow-worm. The poem begins with a description of the stable where the Baby-Jesus was lying. The cattle pressed close to keep Him warm, and the doves flew down from the rafters with feathers from their nests "to make a bed for Him." Then a little brown worm wondered what it could do to aid the Christ-Child in His need. After an eager search it found in the hay a little shrivelled flower, which it dragged with difficulty beside the Baby-King. I will give the rest of the story as it is told on my card.

"The act the Christ-Child understood, And touched the insect brown, In gentle Baby gratitude, For love towards Him shown. And, as He touched it, through the wall A moonbeam, soft and bright, Streamed o'er the lowly manger-stall, And bathed the worm in light. It was as if a blessing fell Upon the humble thing, Whose loving service pleased so well Its gracious Lord and King. And ever since that Holy night, Lit by His touch Divine, With soft imprisoned moon-like light The lovely glow-worms shine. For 'what it could' it did for Him, A lesson sweet to all, Who seek to cheer lives sad and dim, Although their powers be small."

It is only a legend, but what an inspiration for service we may draw from the quaint and beautiful story. We may not be able to do any great work for the Lord who claims the loyal allegiance of all, but every day—and many times each day—we can bring some flower-like offering of willing service. We can please Him and bring brightness to other hearts by everyday happiness and thankfulness. We can glorify commonplace duties by bringing them into the light of His presence, and they will shine with wonderful radiance as we lift them up for Him to touch.

This life is flying very swiftly. Soon we shall look back over our earthly course and wonder why we did not make more use of our opportunities. People often say lightly: "Tomorrow never comes!" but it is just as certain that "Yesterday never returns!" If we wasted yesterday in selfishness it is impossible to live that lost day again. If we waste to-day it will soon have slipped beyond our reach. While we are planning to do great things in the future we must be careful not to neglect the God-appointed duty of to-day. We none of us came into this world by chance. Each has a "vocation"—or "calling"—for which he is fitted by the Master of the world.

Here is another story. A vine was once entwined around a column of a ruined temple. One night part of the roof supported by this column was blown down. Next morning the gardener noticed that the vine was drooping. He found that it had not been injured by the storm. What could be the matter? Then the drooping leaves said sadly: "We have failed in the work our Master gave us to do. We were set here to support the temple roof, and it has fallen." The gardener answered tenderly, as he held up a bunch of purple grapes, "This is the work the Master set thee to do and thou hast done it."

Then the vine was cheered and went on hopefully with the work it could do. It could never have upheld the heavy roof, but it could produce grapes. It is not true religion to complain that we have no chance to do anything worth while. True religion lifts up to the Master a daily offering of purity, praise and helpful service.

Life brings opportunity, and opportunity means responsibility. We dare not waste to-day—it may be our last day on earth! We can't afford to throw away the treasure of Time; for an hour squandered can never be gathered into our grasp again.

A Sibyl (or prophetess) once came to a king and offered to sell him nine books of oracles for a great price. While he hesitated—unwilling to pay so much—three books were burned. Again she

he had learned to love. He had been one of deeds and words, and the Lord had us that no one has in the man who dies for

Christmas cards that came in the beautiful legend. The poem begins with the stable where the young. The cattle pressed in warm, and the doves in the rafters with feathers to make a bed for Him. The worm wondered what the Christ-Child in His eager search it found in the shrivelled flower, which in difficulty beside the will give the rest of the on my card.

Christ-Child understood, the insect brown, gratitude, He shown, shed it, through the wall soft and bright, the lowly manger-stall, the worm in light, blessing fell, a ble thing, service pleased so well and King. That Holy night, such Divine, oned moon-like light worms shine. And for my day so grieve and grieve." DORA FARNCOMB.

For the Sick and Needy. In these days of "flu" the Quiet Hour Purse is a splendid help. This week I gratefully acknowledge a donation of \$2 from a reader in Nova Scotia (S. M.), \$5 from H. S. B. and \$5 from "two small boys, Aberarder," The papers, which many readers have sent for the "shut-in," are piling up at present, because the hospitals are closed to visitors. They will be much appreciated later on. Of course I can find a mission for many of the papers outside the hospitals—but a parcel arrives nearly every day, and I have no garage attached to my little flat. DORA FARNCOMB, 6 West Ave., Toronto.

came and offered the six remaining books for the price of the whole nine. He again hesitated to pay the large sum demanded and three more books were burned. The three which remained could only be obtained by paying the full price for the whole set. The king at last laid down the money, and discovered—too late—that he had lost a priceless treasure through his procrastination.

So it is with our life. God asks for it all, and asks because He loves us. He knows that a life entirely consecrated to Him—from childhood to old age—is a treasure of priceless value. If we waste the first and best years, intending to devote ourselves to His service later on, we are destroying a treasure which we can never regain. Who can give us back the years wasted in selfish worldliness?

We may be rich if we will—rich in the dear blessing of God—to-day and every day. And life is made up of days, so a life-time of riches waits to be gathered up.

It is our own fault if we have to say in the evening of life:

"Who's seen my day?
'Tis gone away,
Nor left a trace
In any place.
If I could only find
Its footfall in some mind,
Some spirit-waters stirred
By wand of deed or word,
I should not stand at shadowy eve
And for my day so grieve and grieve."
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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.

Community Laundries and Kitchens.

THE delegates to the U. F. W. O. Convention which was held in Toronto shortly before Christmas, were greatly interested in (some for, some against) Mrs. Glenn's advocacy of community laundries and kitchens, and, no doubt, the many women to whom the delegates took the story on going home were very much interested too, possibly with a similar division of opinion.

Since then I have been doing what I usually do in similar circumstances—talking with every farm woman or ex-farm woman I can find, about the matter, and the conclusion I have come to is this: That in some populous, well-to-do communities the establishment of community laundries is a probability for the not-far-off future; that the members of other equally well-to-do and populous communities will prefer to solve the wash-day problem by using electric washers or motor washers in their own homes; and that the rest of the country places will still go on in the same old way, a motor-washer in this house, an old-fashioned washing-machine in that, and a wash-board in the next. Opinion seems to depend upon so many things—one's strength, one's inclination, and above all things, upon one's circumstances, pecuniary or otherwise. One woman, for instance, "does not mind washing in the least, even with a washboard," another "wouldn't think of letting her clothes go out of the house" but is delighted with the prospect of an electric washer that will wash while she sweeps up and gets the dinner; a third "simply can't afford" either to

buy an electric washer or have her clothes sent out; while a fourth looks to the possibility of a community laundry as the best thing that has come her way yet. It must be admitted that there are good reasons for each of these opinions.

Those who are in favor of community laundries point out the delight of not having the turmoil of washday in the house once a week, the boon to sickly women or to those with far too much other work on their hands, the relief, when sickness comes, of not having to do the laundry at home, and the better opportunity to devote one's time to more lucrative work than scrubbing out the week's soil. Those who are against, bring up the argument that it is very hard to find laundrymen who will not slip in some "bleach," so carelessly, too, that the life of the clothes is very much shortened (this is perfectly true, as everyone who is accustomed to sending things to city laundries knows). While the whole question is out of the running so far as the strong woman who "likes" to wash is concerned, and also for the one who can't afford any method other than rubbing out her own clothes.

With the idea of establishing community kitchens there were fewer in favor among those with whom I talked, although it was rather generally agreed that an emergency kitchen, if it could be maintained, would be a blessing, say for such times as wash-day, when "company" comes unannounced, in case of epidemic diseases such as the "flu", and when the new baby arrives or there is other illness in the home.

"I don't think having dinners sent in regularly from outside will ever be popular in the country," said one woman. "I just love to cook nice things for my family, and I think any woman who really wants to take the trouble can find out just the right way to cook things and the values of foods and all that. There's plenty of information on the subject; every magazine is packed with it at one time or another, and bulletins can be got about almost everything. Yes, I know there are lots of bad cooks, but there's no excuse for very bad cooking nowadays; surely any woman with ordinary intelligence, who wants to learn can learn. Girls should be taught all that before they are ever allowed to get married."

"You can't have dinners cooked out as cheaply as at home," said another who chose to look at the money end of the question. "You have to pay for extra equipment and outside labor. Most farmers couldn't afford to keep up such a thing regularly. Of course everyone would like to fall back on it occasionally if it could be managed. Yes there are always some women who would rather spend the time on poultry or in the field than at peeling potatoes and washing dishes, but I think they are few and far between."

Now I'm afraid I "haven't got anywhere" particularly in this screed, but it is something to present the pros and cons of the question as I have heard them discussed by practical people; if there are any points I have missed I shall be glad to hear from any of you who are particularly interested.

In closing I may tell the story of the Evanston Community Kitchen, which some of you may not yet have heard, although it has been told recently in at least two of the American magazines.

Evanston, Ill., a beautiful town of colleges and pretty residences, is really a suburb of Chicago. Its Community Kitchen, which seems to be very popular, arose out of the emergency kitchen which was established over a year ago at the time of the "flu" epidemic when simple meals were cooked and delivered by voluntary aid. When the need for that was over, three of the women, Mrs. Dawes, Mrs. Odell and Mrs. Kingsley conceived the idea of keeping a kitchen open permanently, rented the basement of the Women's Club for the experiment, engaged an expert dietician to manage, and started business.

At first the dishes, and meals were sold over a counter. This is still kept up, but to-day, in addition, whole dinners are sent out every night to hundreds of homes in Evanston and along the North shore of Chicago. Each patron of the place who wishes whole meals sent to her must provide her own "container," a sort of case made on the fireless-cooker principle, to retain heat. These

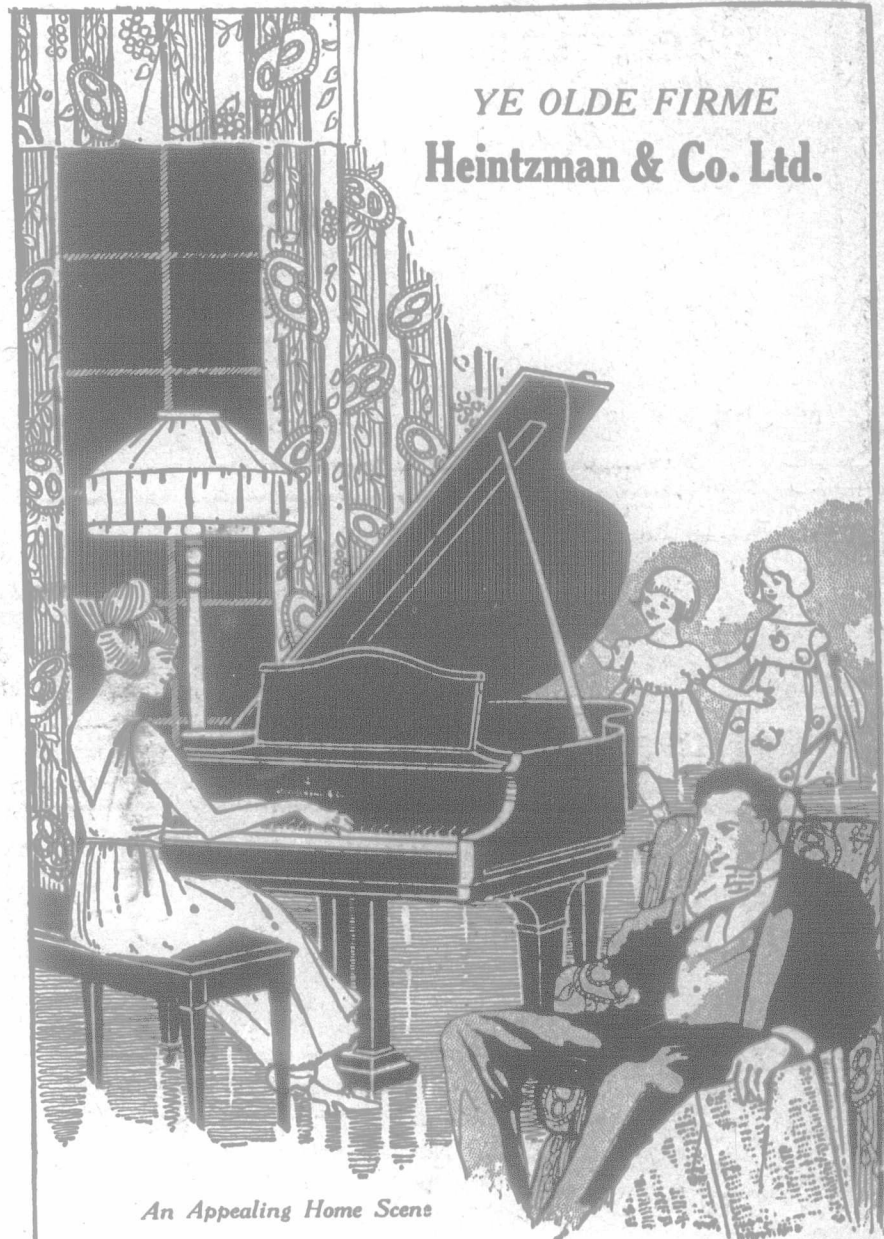
containers are made of aluminum and copper alloy and lined with heavy glass, and their equipment consists of 4 dishes with close covers, which are also constructed to retain heat. Every evening at 5.30 o'clock, the delivery trucks, loaded with containers, leave the kitchens; and every morning they bring back the containers and the dishes, which are to be washed and re-filled in the evening.

The kitchen is equipped with every modern appliance for efficiency and speed—electric cookers, steam tables, "a lightning potato-masher that whips up a bushel of potatoes in 4 minutes, an electrical mayonnaise mixer which prepares 6 gallons of salad dressing in 6 minutes," and so on. From day to day the meals are varied, but always they are "completely balanced, dietetically correct." As a rule they are made up of a meat dish, potatoes, a second vegetable,

**Dye That Skirt,
Coat or Blouse**

"Diamond Dyes" Make Old, Shabby,
Faded Apparel Just Like New.

Don't worry about perfect results. Use "Diamond Dyes," guaranteed to give a new, rich, fadeless color to any fabric, whether wool, silk, linen, cotton or mixed goods,—dresses, blouses, stockings, skirts, children's coats, draperies,—everything! A Direction Book is in package. To match any material, have dealer show you "Diamond Dye" Color Card.



An Appealing Home Scene

Unsurpassed in beauty of construction, but above all else, excelling in tone, touch and sweet singing quality, it is not surprising that the

**HEINTZMAN & CO.
GRAND AND UPRIGHT**

Pianos are the favorite to-day in all the Provinces of the Dominion—acclaimed by those best able to speak.

"It surpasses any piano I have ever used."—Leo. Cherniavsky, one of the world-famed Cherniavsky Brothers.

**HEINTZMAN & CO. LIMITED
TORONTO, CANADA**

BRANCHES:—Hamilton, Galt, London, St. Thomas, Sarnia, Chatham, Woodstock, Windsor, Stratford, Niagara Falls, Brantford, Fort William, St. Catharines, Peterboro.

AGENTS:—Oshawa, Arthur, Picton, Kitchener, Owen Sound, Mount Forest, Barrie, Ottawa, Belleville, Brockville, Kingston, Simcoe, Orillia, Goderich, Trenton, Midland, Campbellford, Sudbury, South Porcupine.



Have Your Cleaning Done by Experts

Clothing, household draperies, linen and delicate fabrics can be cleaned and made to look as fresh and bright as when first bought.

Cleaning and Dyeing Is Properly Done at Parker's

It makes no difference where you live; parcels can be sent in by mail or express. The same care and attention is given the work as though you lived in town.

We will be pleased to advise you on any question regarding Cleaning or Dyeing. WRITE US.

Parker's Dye Works Limited
Cleaners & Dyers
791 Yonge St., Toronto



Burlington Steel Fence Post

Cheaper—stronger, more indestructible than any other fence post.

Its U shape makes for rigidity, no fastening holes to decrease its strength.

See your fence, implement, or hardware dealer—or write us direct.

BOOKLET SENT ON REQUEST
BURLINGTON STEEL COMPANY, LIMITED
HAMILTON CANADA

SEEDS

Alfalfa Genuine Ontario Variegated.....\$45.00
Alfalfa No. 2—No. 1 Purity (local grown).....
Red Clover, No. 1 Govt. Standard..... 45.00
Red Clover, No. 2 Govt. Standard (local grown).....
Timothy No. 2—No. 1 Purity..... 42.00
Timothy No. 2—No. 1 Purity..... 9.50
Situating in one of the best seed-producing districts in Ontario, and having the very best of cleaning machinery we are in a position to offer high-grade seed, acclimatized and much superior to imported seed.
Write for catalogue—mailed free.

DOUGLAS & ROY, Seedmen
Box 254 Brantford, Ont.

A quantity of choice seed Oats
O. A. C. No. 72 variety

These oats won first prize in the standing grain competition. Price \$1.50 per bushel f.o.b. my station, (bags free).

E. Broderick, R. R. No. 1, Exeter, Ont.

When writing please mention Advocate

Tudhope-Anderson

WIDE TIRE Steel Wheels
are Made in Canada

Ordinary steel wheels—the imported kind—are often made with spokes cast in the hub. If you break a spoke you lose the whole wheel.

Tudhope-Anderson Steel Wheels have removable spokes easily replaced at low cost and in quick time. Write us today for order-blanks and full particulars about wide tire Steel Wheels for work about the farm. Made in sizes 20" to 60" diameter. Hubs to fit any skein or bearing. 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

47

and pudding, or cake and fruit. Cold foods such as salads and ices are placed in separate receptacles.

The cost?—Ah, there comes the rub! Each container costs \$30, each dinner 85 cents per person on week-days and a dollar on Sundays. . . But, of course, it is to be remembered that this is a city concern, in a rather rich university suburb of the great city of Chicago. The whole idea might be worked out at a much less cost in the rural districts, where the rural mail carrier, the men who take their own milk to the cheese factories or the drivers of the vans to the consolidated school, might be employed to do the carrying. Of all this, personally, I know nothing; it is a problem to be worked out carefully and thoughtfully in any district that wishes to try the experiment.

If, anywhere in Canada, either a community laundry or a community kitchen, or a combination of the two, has been established, we shall be very pleased to hear about the venture and pass the news of it on in this paper.

Here is just one little idea that I have thought out (I think it is original; at least if it has been acted upon I do not know of it): If such laundries and kitchens are ever established in the rural districts I think they should be in charge of domestic science experts who will conduct classes of girls from the neighborhood—grown-up girls, I mean—teaching them to be first-class housekeepers, and giving them their practical experience with the actual work to be done for the neighborhood. This would "kill two—no, three—birds with one stone." It would teach the girls to be capable home-makers; it would lessen the expense of the plant, and it would relieve the school-teachers of the sections about from the obligation to teach anything in domestic science except the most elementary principles in the schools. As a rule (pending the consolidated school) the rural teacher has far more to do than she can properly accomplish. If she can manage to teach the children to read well, write well, speak well, do enough arithmetic to carry them through business affairs, teach them enough hygiene to enable them to live healthfully, and, in addition, can train their interest in and taste for history, literature, nature-study and gardening, that is all that should be expected of her, except such domestic science as can be taught in connection with the school lunch. The ordinary rural school is not equipped, and cannot very well be, for any real work in domestic science.

I should like to hear your ideas about the whole subject, if you care to write to Ingle Nook about it.

JUNIA.

Worth Thinking Over.

"High-heeled shoes bring about as much injury to women as alcohol brings to men."—Frank H. Bethall.

"Britain and America have got to stand together, not in aggressive and jealous policies, but for the common welfare of humanity, else the future will be haunted by insecurity, as the past has been."—John Galsworthy.

For Would-be Nurse.

Will "Would-be Nurse" kindly send her address? It has been mislaid and a budget of mail is awaiting her.

Hard Soap From Wood Ashes.

For W. N., Essex Co., Ont.
Make a leach by setting a barrel on an inclined platform placed high enough above the ground to enable the lye to run off from it into a vessel. A still better leach is made of boards put together in a V-shape and set in a trough. . . . First in the bottom of the leach put a few sticks; over them spread a piece of clean old woolen cloth or a layer of straw. Next put on a few inches of ashes and from 4 to 8 quarts of lime; fill with moistened ashes and tamp down well. Pour some water in the top and let it drain off in lye. It is difficult to obtain the full strength of the ashes in a barrel without removing them after a day's leaching, and mixing them up and replacing. The top should first be thrown off and new ashes added to make up the proper quantity. Use boiling water for second leaching. The lye should be strong enough to float a potato.

Put the lye in a big iron kettle and add grease, all that the lye will take up as it boils; you will know this by the thickening of the mass and the absence of grease on top. This is what is known as "soft soap." To make hard soap put into a kettle 4 pailfuls of soft soap and stir in it gradually about 1 quart of salt. Boil until all the water is separated from the curd, remove from the fire and draw off the water with a siphon (a yard of rubber tube will do). Next pour the soap into a wooden mould in which cheesecloth has been placed. When firm turn out to dry, cut into bars, while still fairly soft, with a string or a brass wire, and let harden. If the soap is very thin more salt must be used. A little powdered rosin will assist it to harden and give it a yellow color.

Papering. Recipes.

Dear Junia,—I, like many other country friends, come to the helpful column in the "Farmer's Advocate" for advice. I am planning to paper my small parlor in the spring. It was formerly done with dark green oatmeal paper and draperies of same color. I wish to know what colored paper that I might use with same draperies, it being a northwest room. Thanking you for your interesting letters of the past, I will enclose a few recipes which we enjoy and hope may prove beneficial to others.

Stewed Cranberry Sauce.—One quart cranberries washed, put in as flat a dish as possible. Add 3 cups cold water and place over brisk fire. Cook until you think all skins are burst, stirring occasionally to make sure. Then add 3 large cups granulated sugar. Cook about 3 minutes longer or until transparent. I used the light-colored berries and found these jellied nicely, but prefer the dark ones. They make splendid pie.

Eggless Muffins.—Two cups flour sifted, 4 teaspoons baking-powder, a pinch of salt and any flavor desired, 3 tablespoons granulated sugar, 3 tablespoons shortening, (part butter) before being melted, 1 cup sweet milk.

Melt shortening and pour into milk. While beating flour rapidly pour in liquid. Put in greased muffin tins and let stand in a cool place until ready to bake. (An hour or two is best.) Bake 20 to 30 minutes and serve warm (makes 8 large ones). A spoonful of canned fruit, free from juice may be placed on top with a little batter over it, then baked. This served with cream and sugar or a sauce makes a splendid pudding. I remain,

MISS ANXIOUS.

Middlesex Co., Ont.

You are a girl after my own heart, Miss Anxious; you sent your questions in good time. But be anxious no longer. Your green draperies will work in very well. Since the room is on the northwest—not a very bright location—you might use plain sand-colored paper for the walls, with a cream ceiling. I think I should have the ceiling a "drop," for about 8 inches on the wall and edge it with a wooden moulding painted cream. Below that, if you like, you might place a paper banding with green leaves to match the color of the curtains. I hope there is some green of about the same shade in your rug, but if it is all in brown tones do not despair; put one or two small woolly green ones (may be hooked or braided) on the floor, and carry out the same tone in couch cover or cushions. A big green fern or other plant will also help out the color scheme.

The Cookery Column.

Cornmeal and Prune Pudding.—One quart milk, ¾ cup cornmeal, ½ teasp. salt, ½ cup sugar, 2 tablesp. melted butter, 2 beaten eggs, 1½ cup stewed prunes cut in halves. Bring the milk to boiling point, add the cornmeal slowly and cook until thick, stirring all the time. Add the other ingredients in order, pour into greased dishes and bake in a moderate oven until firm. Serve hot with cream, hot milk, or lemon sauce.

Chicken Loaf.—One fat hen steamed till done. Run all the meat, even the gizzard, through a grinder, also a cupful of nut-meats of any kind if you have them. Next mix in a dozen or more rolled crackers, 1 teasp. salt, 3 eggs, quarter teaspoon black pepper, 1 cup chicken-fat skimmed from the broth. Mix well, pack in two loaf tins and bake.

Apple Pudding.—Into 1 pint sweetened apple sauce stir the well-beaten yolks of 2

a big iron kettle and add the lye will take up as much as you know this by the thickening and the absence of grease. What is known as "soft soap" put into a quart of soft soap and stir in it 1 quart of salt. Boil until the lye is separated from the fire and draw off through a siphon (a yard of hose will do). Next pour the lye into a wooden mould in which the soap has been placed. When firm cut into bars, while still in the string or a brass wire. If the soap is very thin it will be used. A little powdered lye will harden and give it a

eggs. Bake 15 minutes. Cover with a meringue made of the stiffly-beaten whites of the eggs beaten with 1/2 cup powdered sugar. Return to the oven to brown.
Brown Betty.—Pare and chop 6 apples and place a layer in a buttered pudding dish. Next put on a layer of crumbs, and sprinkle with brown sugar and cinnamon. Repeat until the dish is full. Put several lumps of butter over the top, and pour in sweet milk until within an inch of the top of the pan. Bake in a moderate oven until brown. Serve hot with plain or whipped cream.

The Scrap Bag.
Buying Seed.

Do not get more seed than you need. Plan to sow it rather *thinly*; it is wasteful to have to thin out too much unless you have time to transplant. Buy only the best seed, from a reliable dealer, and choose only the kinds that will grow best in your locality.

Get Garden Tools.

Get your garden tools early, if you are not already supplied; if you "let them go" until seeding time they will not be got at all, in all probability. The labor of gardening will be greatly lessened—made play instead of work—if you have a hoe, a 3-cornered hoe, a wheel-hoe, a small hand weeder, a good digging fork, and a spraying machine.

Eyelets for Blouses.

In putting hooks and eyes on blouses time and trouble may be saved in making the eyelets, by going to work in the following way: Fasten your thread securely in the cloth, then put the needle through, but before putting it right through twist your thread from twelve to fourteen times round the needle, then pull through, and fasten down. This makes a splendid strong eyelet, and is very quickly made.

Shrubs.

If you want any new shrubs for your garden order them early. If you are a rose-lover you will find "Crimson Rambler" (red) and "Dorothy Perkins" (pink) among the most satisfactory for the amateur grower.

A Bit of Early Beauty.

About the latter part of February or early in March cut a few branches, several feet long, of pussy willow, lilac, crab-apple or golden bells (forsythia). Place the stems in a jar of water in a cool (not cold), darkish room. As the buds form gradually introduce them to warmth and light, and you will soon have a beautiful decoration for your home.

Jerusalem Cherry.

Sow seeds of the Jerusalem cherry in February. Pot the seedlings and set them in a shady place in the garden for the summer, watering when necessary, then repot in early fall. They will be ready for indoor decoration for Christmas. As the Jerusalem Cherry is rather susceptible to plant lice, keep a watch for them, and if they appear spray with weak tobacco tea or any of the nicotine preparations sold for the purpose.

Copper Cliff Name Wanted.

Will the person in Copper Cliff who ordered four patterns, enclosing postal note, kindly send her name? She forgot to sign it, and the patterns cannot be sent, of course, until further information is received.

Current Events

The new Legislature of Ontario will meet on March 9.

Mining experts report discoveries of gold, silver, radium and platinum in the vicinity of Huntsville, Muskoka.

Premier Drury won in Halton County over E. J. Stephenson with a majority of 2,300. Hon. W. E. Raney was elected by acclamation for East Wellington.

Hon. R. H. Grant, Minister of Education for Ontario, has announced that



The
Standard Bank
of Canada

Statement of the business of the Bank for the year ended 31st January, 1920

PROFIT AND LOSS ACCOUNT

Balance brought forward from January 31st, 1919	\$ 227,326.00
Profits for year ending 31st January, 1920, after deducting expenses, interest accrued on deposits, rebate for interest on unmatured bills, Provincial taxes, and making provision for bad and doubtful debts	776,310.19
	\$1,003,637.09
Dividend No. 114, paid 1st May, 1919, at the rate of 13% per annum	\$ 113,750.00
Dividend No. 115, paid 1st August, 1919, at the rate of 13% per annum	113,750.00
Dividend No. 116, paid 1st November, 1919, at the rate of 13% per annum	113,750.00
Dividend No. 117, payable 1st February, 1920, at the rate of 13% per annum	113,750.00
Contributed to Officers' Pension Fund	25,000.00
Contributed to Patriotic and other Funds	8,100.00
War Tax on Bank Note Circulation to December 31st, 1919	35,000.00
Reserved for Dominion Income Tax	45,000.00
Reduction of Bank Premises Account	75,000.00
Balance carried forward	360,537.09
	\$1,003,637.09

GENERAL STATEMENT
31st January, 1920

LIABILITIES

Notes of the Bank in circulation	\$ 6,766,218.00
Deposits bearing interest (including interest to date)	\$49,940,378.87
Deposits not bearing interest	24,078,643.26
	74,019,022.13
Dividend No. 117, payable February 2nd, 1920	113,750.00
Former Dividends unclaimed	377.00
Balances due to other Banks in Canada	1,249,985.65
Balances due to Banks and Banking Correspondents elsewhere than in Canada	978,812.08
Bills Payable	189,543.23
Acceptances under Letters of Credit	1,726,921.24
Liabilities not included in the foregoing	6,438.85
Capital paid up	\$5,000,000.00
Reserve Fund	4,500,000.00
Balance of Profit and Loss Account carried forward	360,537.09
	\$93,405,405.27

ASSETS

Current coin held by the Bank	\$ 1,731,285.45
Dominion Notes held	11,193,837.75
Deposit in the Central Gold Reserves	3,500,000.00
	\$16,425,123.20
Notes of other Banks	\$ 424,380.00
Cheques on other Banks	3,633,129.31
Balances due by Banks and Banking Correspondents elsewhere than in Canada	826,224.88
Dominion and Provincial Government Securities not exceeding market value	4,145,369.53
Canadian Municipal securities and British, foreign and colonial public securities other than Canadian	8,262,809.61
Railway and other bonds, debentures and stocks not exceeding market value	908,193.80
Call and Short (not exceeding thirty days) Loans in Canada on bonds, debentures and stocks	2,786,957.07
	20,987,064.20
Other Current Loans and Discounts in Canada (less rebate of interest)	\$37,412,187.40
Liabilities of Customers under Letters of Credit as per contra	52,465,273.50
Real Estate other than Bank Premises	1,726,921.24
Overdue Debts, estimated loss provided for	4,915.86
Bank Premises, at not more than cost, less amounts written off	114,672.70
Deposit with the Minister for the purposes of Circulation Fund	1,385,358.39
Other Assets not included in the foregoing	175,000.00
	123,071.18
	\$93,405,405.27

C. H. EASSON,
General Manager.

W. FRANCIS,
President.
Toronto, 31st January, 1920.

AUDITOR'S REPORT TO THE SHAREHOLDERS

I have compared the above Balance Sheet with the books and accounts at the chief office of The Standard Bank of Canada, and the certified returns received from its branches, and after checking the cash and verifying the securities at the chief office and certain of the principal branches on 31st January, 1920, I certify that in my opinion such Balance Sheet exhibits a true and correct view of the state of the Bank's affairs according to the best of my information, the explanations given to me, and as shown by the books of the Bank.
In addition to the examination mentioned, the cash and securities at the chief office and certain of the principal branches were checked and verified by me at another time during the year, and found to be in accord with the books of the Bank.
All information and explanations required have been given to me, and all transactions of the Bank which have come under my notice have, in my opinion, been within the powers of the Bank.
G. T. CLARKSON, F.C.A.,
of Clarkson, Gordon & Dilworth, Toronto, Canada
Toronto, February 16th, 1920.

Hon. Dr. Cody's policy of bonusing publishers, to keep down the price of schoolbooks, will be adopted by the new Government.

Dr. W. A. Riddell, Ontario Deputy Minister of Labor, has completed his report on mother's allowances, as ordered by the Provincial Government. He advises allowances to widows, wives of insane asylum patients, and wives of totally disabled husbands, the allowances only to be granted, under certain conditions, to families of 2 or more children under 14 years of age, where the mother and children do not own property valued at over \$2,000, and do not own more than \$500, cash or securities convertible into cash.

A new organization, the "Ontario Secondary School Teachers' Federation," to include teachers in High Schools, Collegiate Institutes and Technical and Commercial High Schools, has been found to improve the position of Ontario's teachers and the standing of the profession.

An option, important to British interests in Persia and the East, has been given to a powerful British syndicate to survey a railway from Karafu to Teheran.

The Fiume difficulty is still unsolved. President Wilson, it is said, contemplates withdrawal from the Versailles Compact if the Allies hold to their present proposals to apply the Treaty of London to the Fiume difficulty, so discriminating against the Jugo-Slavs, and setting aside the principles embodied in the "fourteen points." In the U. S. Senate, however, there is a greater disposition to enter the League of Nations, at least as a co-operating member under the Covenant terms as modified by the Lodge reservations. The change in the deadlock was due to Viscount Grey's letter, in which he explained to the British people the reservations under consideration in the Senate and indicated that there would be little objection to them on the part of the British Government. It is said that Sir Auckland Geddes may succeed Viscount Grey as British Ambassador to the United States.

The Bolsheviks are in possession of Archangel. In Korea an active rebellion against Japanese rule, fostered by the Bolsheviks, is in progress; Bolshevik proclamations are being distributed among the Japanese troops about Vladivostok, and Bolshevik uprisings against the Japanese have been reported from the Island of Sakhalin. A fortnight ago Admiral Kolchak was executed by his own troops. Gen. Wrangle has succeeded Gen. Denikine as commander of the Anti-Bolshevik forces in Southern Russia. The British have evacuated Batum on the Black Sea, which they occupied last December to prevent the Turks from penetrating the Caucasus region. Before leaving Dorpat, after signing the Treaty of Peace with Esthonia, in the Baltic region, M. Joffe, Chief of the Russian delegation, stated that Soviet Russia is prepared to conclude peace recognizing the independence of the neighboring emancipated States, and giving every facility for trade with the western powers on the sole condition that the blockade against Russia be really and completely ended and that there be

Prune Column.

Prune Pudding.—One cup cornmeal, 1/2 teasp. salt, 2 tablesp. melted butter, 1 1/2 cup stewed prunes, 1/2 cup milk, 1/2 cup meal slowly and cook all the time. Add the milk in order, pour into a moderate oven to bake in a moderate oven hot with cream, sauce.
One fat hen steamed with the meat, even the grinder, also a cupful of any kind if you have in a dozen or more tablesp. salt, 3 eggs, black pepper, 1 cup from the broth. Two loaf tins and bake. Into 1 pint sweetened well-beaten yolks of 2

FREE



54 Years
have been spent
gathering this
information for You

SEEDS

The big 1920 Keith Seed Book is ready. It brings to you in simple language all that we have learned in 54 years of scientifically selecting seed for farmers, vegetables and flower gardeners. It points the way to big crops, successful gardening. It guards you against the mistakes others have made. It is worth many dollars to you.

We will send this big book free to anyone sending their name and address. Look it over carefully. Note the pages of interesting information on feed, crops, grains, roots, vegetables and flowers.

Note the great values offered—special bargains—special varieties developed by us—all the standard varieties.

Write for this big book at once. It means bigger returns and lower cost for seeds.

A post card will bring it to you

GEO. **KEITH** AND SONS
124 KING ST. E. — TORONTO

Unreserved Auction Sale Shorthorns & Clydesdales

The property of ROBT. NICHOL, Sr.,
HAGERSVILLE, ONT.

Tuesday, March 9th, 1920

In Shorthorns there are two cows sired by Dorothy King (imported), one cow by a son of Joy of Morning (imp.), one cow by a son of Roan Chief (imp.), one by Fairview King, a son of Bapton Chancellor (imp.), three heifers by Roan Prince and three by Augustine (imp.). Bulls range from 11 to 15 months, and are a most serviceable lot—three roans by Augustine (imp.), four red ones by Meadow Sweet, a son of the great old Duchess of Clarence cow. The cows are from 3 to 7 years old, and all breeders, having calves at foot or well advanced in calf. There will also be a number of high-grade cows in sale. This will be an excellent chance to get a good heifer or cow or herd sire, as there will be no reserve, the farm having been sold.

In Clydesdales there are two brood mares and two fillies rising three years, also a number of geldings rising three and four years. These are a good lot, and will go to the highest bidder.

The sale will be held on the farm, known as the old Beswetherick Farm, Hagersville, and will commence at one o'clock sharp.

Seven months' credit will be allowed on approved joint notes.

ROBT. NICHOL, Sr., Prop., Hagersville, Ontario
Farm is quarter-mile from G.T.R. and M.C.R. stations.

no interference with the internal affairs of Russia.

* * * * *

The Peace Conference has given Norway the sovereignty over the Spitzbergen Archipelago. Also it has extended the time in which Germany is to reduce her army to 100,000 men until July 10. At present the Turkish question and the future of Constantinople, which, under considerable opposition the Allied representatives at the Conference have decided to leave to Turkey, are the burning questions, not even second to the Fiume difficulty, engaging the attention of the Supreme Council at Paris.

Serial Story

"His Family."

BY ERNEST POOLE.

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

CHAPTER XXV.

Roger saw little of Deborah in the weeks that followed. She was gathering her forces for the long struggle she saw ahead. And his own worries filled his mind. On his house he succeeded in borrowing five thousand dollars at ten per cent., and in his office he worked out a scheme along the lines of Deborah's plan. At first it was only a struggle to save the remnants of what was left. Later the tide began to turn, new business came into the office again. But only a little, then it stopped. Hard times were here for the winter.

Soon Edith would come with the children. He wondered how sensible she would be. It was going to mean a daily fight to make ends meet, he told himself, and guiltily he decided not to let his daughter know how matters stood in his office. Take care of your own flesh and blood, and then be generous as you please—that had always been his way. And now Deborah had upset it by her emotional appeal. "How dramatic she is at times!" he reflected in annoyance. "Just lets herself out and enjoys herself!" He grew angry at her interference, and more than once he resolved to shut down. But back in the office, before those watchful faces, still again he would put it off.

"Wait a little. We'll see," he thought.

In the meantime, in this interplay these shifting lights and shadows which played upon the history of the life of Roger's home, there came to him a diversion from an unexpected source. Laura and Harold returned from abroad. Soon after landing they came to the house, and talking fast and eagerly they told how they had eluded the war. For them it had been a glorious game. In Venice in early August, Harold had seen a chance for a big stroke of business. He had a friend who lived in Rome, an Italian close to his government. At once they had joined forces, worked day and night, pulled wires, used money judiciously here and there, and so had secured large orders for munitions from the U. S. A. Then to get back to God's country! There came the hitch, they were too late. Naples, Genoa, and Milan, all were filled with tourist mobs. They took a train for Paris, and reaching the city just a week before the end of the German drive they found it worse than Italy. But there Hal had a special pull—and by the use of those wits of his, not to be downed by refusals, he got passage at last for Laura, himself and his new Italian partner. At midnight making their way across the panic-stricken city, and at the station struggling through a wild and half crazed multitude of men and women and children, they boarded a train and went rushing westward right along the edge of the storm. To the north the Germans were so close that Laura was sure she could hear the big guns. The train kept stopping to take on troops. At dawn some twenty wounded men came crowding into their very car, bloody and dirty, pale and worn, but gaily smiling at the pain, and saying, "Ca n'fait rien, madame." Later Harold opened his flask for some splen-did Breton soldier boys just going into action. And they stood up with flashing eyes and shouted out the Marseillaise, while Laura shivered and thrilled with delight.

"I nearly kissed them all!" she cried.

Roger greatly enjoyed the evening. He had heard so much of the horrors of war. Here was something different, something bright and vibrant with youth and adventure! Here at last was the thrill of war, the part he had always read about!

He glanced now and then at Deborah and was annoyed by what he saw. For although she said nothing and forced a smile, he could easily tell by the set of her lips that Deborah thoroughly disapproved. All right, that was her way, he thought. But this was Laura's way, shedding the gloom and the tragic side as a duck will shed water off its back, a duck with bright new plumage fresh from the shops of the Rue de la Paix and taking some pleasure out of life! What an ardent gleaming beauty she was, he thought as he watched this daughter of his. And underneath his enjoyment, too, though Roger would not have admitted it, was a sense of relief in the news that at least one man in the family was growing rich instead of poor. Already Hal and his partner—a fascinating creature according to Laura's description—were fast equipping shrapnel mills. Plainly they expected a tremendous rush of business. And no matter how you felt about war, the word "profits" at least had a pleasant sound.

"How has the war hit you, sir?" Harold asked his father-in-law.

"Oh, so-so, I'll get on, my boy," was Roger's quiet answer. For Harold was not quite the kind he would ever like to ask for aid. Still, if the worst came to the worst he would have someone to turn to.

Long after they had left the house he kept thinking over all they had said. What an amazing time they had had, the two young scalawags.

Deborah was still in the room. As she sat working at her desk, her back was turned and she did not speak. But little by little her father's mood changed. Of course she was right, he admitted. For now they were gone, the spell they had cast was losing a part of its glamor. Yes, their talk had been pretty raw. Sheer unthinking selfishness, a bold rush for plunder and a dash to get away, trampling over people half crazed, women and children in panicky crowds, and leaving behind them, so to speak, Laura's joyous rippling laugh over their own success in the game. Yes, there was no denying the fact that Hal was rushing headlong into a savage dangerous game, a scramble and a gamble, with adventurers from all over Europe gathering here and making a little world of their own. He would work and live at a feverish pitch, and Laura would go it as hard as he. Roger thought he could see their winter ahead. How they would pile up money and spend.

All at once, as though some figure silent and invisible were standing close beside him, from far back in his childhood a memory flashed into his mind of a keen and clear October night, when Roger, a little shaver of nine, had stood with his mother in front of the farmhouse and listened to the faint sharp roll of a single drum far down in the valley. And his mother's grip had hurt his hand, and a lump had risen in his throat—as Dan, his oldest brother, had marched away with his company of New Hampshire mountain boys. "We are coming, Father Abraham, three hundred thousand more." Dan had been killed at Shiloh.

And it must be like that now in France. No, he did not like the look which he had seen on Laura's face as she had talked about the war and the fat profits to be made. Was this all we Yankees had to say to the people over in Europe!

Frowning and glancing at Deborah's back, he saw that she was tired. It was nearly midnight, but still she kept working doggedly on, moving her shoulder muscles at times as though to shake off aches and pains, then bending again to her labor, her fight against such heavy odds in the winter just beginning for those children in the tenement. He recalled a fragment of the appeal she had made to him only the month before:

"Can't you see that we're all of us stunned, and trying to see what war will mean to all children in the world? And while we're groping, groping, can't we give each other a hand?"

And as he looked at his daughter, she made him think of her grandmother, as she had so often done before. For

enjoyed the evening, so much of the horrors was something different, right and vibrant with adventure! Here at last of war, the part he had out!

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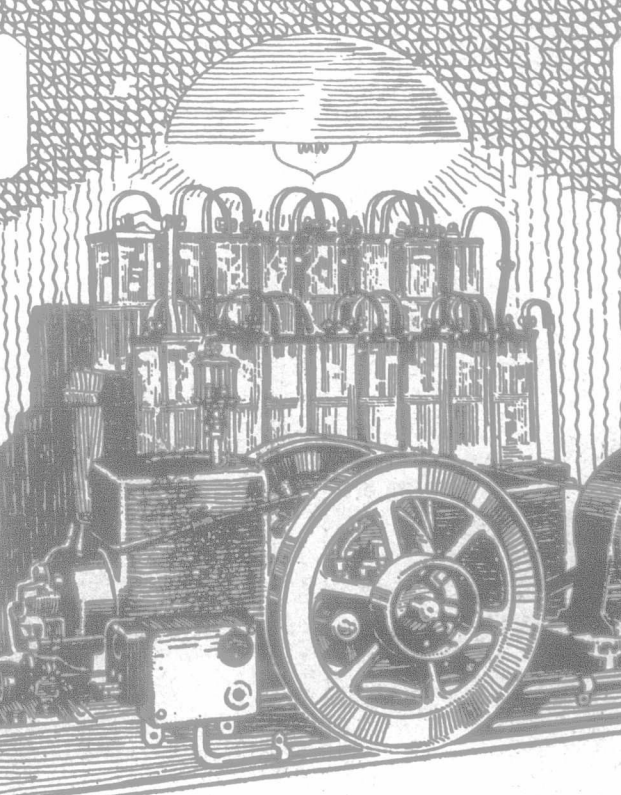
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POWER



LIGHT

\$495

40-LIGHT PLANT
F.O.B. TORONTO

—also
made in 65,
100 and 200
Light Sizes

You will never go back to Oil Lights

after you have seen the advantages of the "F" Power & Light Plant

Agents Wanted

in every district to handle this biggest and easiest selling proposition and give owners the kind of service which has built the reputation of this Company.

TOUCH A BUTTON!—Instantly a flood of brilliant light in house, stables, cellar, garage, or barnyard. Better light—less cost. No lamps and lanterns to fill and clean. No groping in dark corners or unlighted stairs. Bright clear light, wherever you want it. Dependable, convenient, economical.

Power also at your command. Direct belted to your separator, churn, pump, grindstone, or washing machine, the "F" plant engine does as much work as an engine twice its horse power, producing current to drive these same machines by individual electric motors. The "F" Plant is a farm utility which gives you, dollar for dollar, more comfort, convenience and profit than any other farm improvement. It is a time-saver and a labor-saver.

Install an "F" Power and Light plant now and enjoy the advantages it makes possible. You will immediately benefit, and find greater pleasure and satisfaction in your home and on your farm.

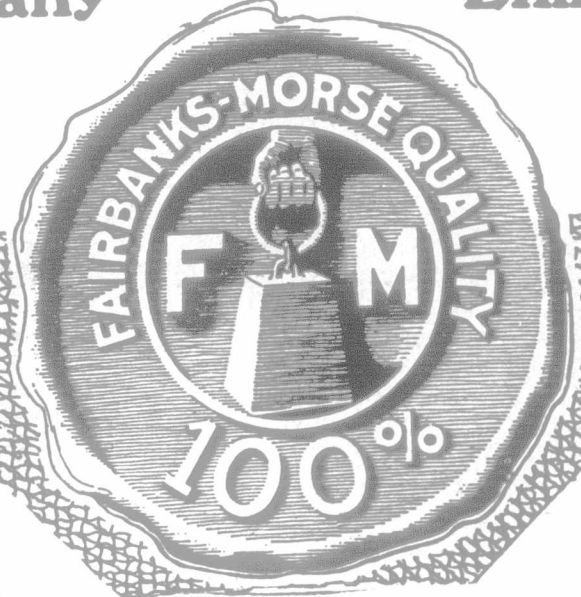
Mail the coupon to our nearest office, to-day, and the "F" Plant catalogue will reach you in a few days, giving complete information.

Made in Toronto, Canada, and guaranteed by

The Canadian Fairbanks-Morse Company Limited

ST. JOHN, QUEBEC,
MONTREAL,
OTTAWA, TORONTO,
HAMILTON, WINDSOR.

WINNIPEG, REGINA,
SASKATOON,
CALGARY, VANCOUVER,
VICTORIA.



Fill in this coupon and enclose it with your letterhead and mail to our nearest branch for full particulars of Fairbanks-Morse "F" Power and Light Plant Agency.

Dealer's Coupon

Name _____

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60 F.A.

User's Coupon

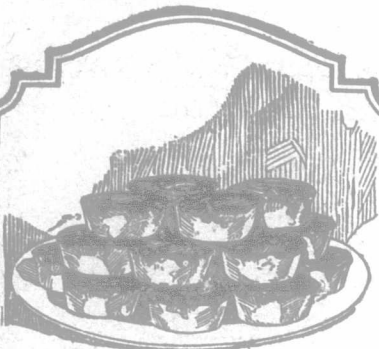
The Canadian Fairbanks-Morse Co., Limited

Tell me, without obligation, the advantages of Fairbanks-Morse "F" Power and Light Plant.

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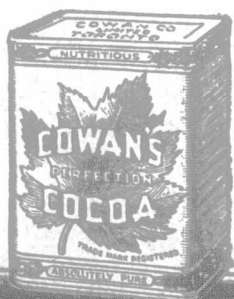


COOKERY COLUMN

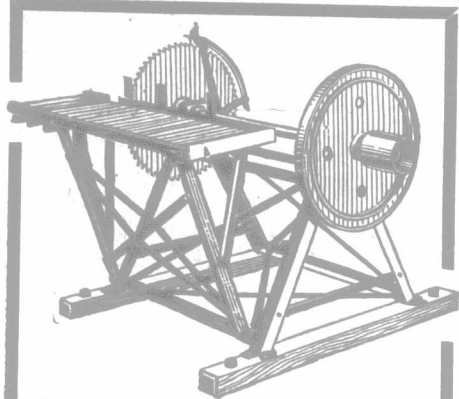
COCOA BISCUIT

2 cups flour
4 teaspoons baking powder
½ teaspoon salt
2 tablespoons sugar
4 tablespoons Cowan Cocoa
3 tablespoons butter
2/3 cup milk

1. Mix and sift dry ingredients.
2. Rub in the butter with the tips of the fingers.
3. Add milk gradually, mixing to a soft dough.
4. Toss on floured board.
5. Roll lightly to one-half inch in thickness, cut into small biscuits.
6. Bake in a hot oven 12 to 15 minutes.



Send for recipe booklet to
THE COWAN COMPANY LIMITED
TORONTO



THE LUNDY SAW FRAME

is of extra heavy steel, well braced, ensuring rigidity. The 17-inch balance wheel, weighing 80 lbs., gives a smooth, steady running only found in the Lundy.

A feature appreciated by all operators is the guard that is adjustable to any sized blade from 20" to 30". The roller on the tilting table for convenience in handling long poles is something you will find mighty useful. There are adjustable, dustproof bearings on the line shaft. These Saw Frames are all Lundy built, and contain the best material that money can buy. Only \$52 f.o.b. Toronto.

Saw Blades may be had from 20" to 30" with any size hole. The following prices are f.o.b. factory, and terms are cash with order.

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

Write if you want further particulars.

A. R. LUNDY
251 King St. W. TORONTO

62 BREEDS PROFITABLE
Pure-Bred Chickens, Geese, Ducks, Turkeys, Hardy Fowls, Eggs and Incubators at lowest prices. Pioneer Poultry Farm. Valuable poultry book and catalog FREE. **F. A. NEUBERT, Box 110 Mankato, Minn.**

Deborah, too, was a pioneer. She, too, had lived in the wilderness. Clearing roads through jungles? Yes. And freeing slaves of ignorance and building a nation of new men. And now she was doggedly fighting to save what she had builded—not from the raids of the Indians but from the ravages of this war which was sweeping civilization aside. With her school behind her, so to speak, she stood facing this great enemy with stern and angry, steady eyes. Her pioneer grandmother come to life.

So with the deep craving which was a part of his inmost self, Roger tried to bind together what was old and what was new. But his thoughts grew vague and drifting. He realized how weary he was, and said good-night and went to bed. There, just before he fell asleep again, he had a feeling of relief at the knowledge that one at least in the family was to be rich this year. With a guilty sensation he shook off the thought, and within a few moments after that his harsh regular breathing was heard in the room.

To be continued.

Field Crop Statistics.

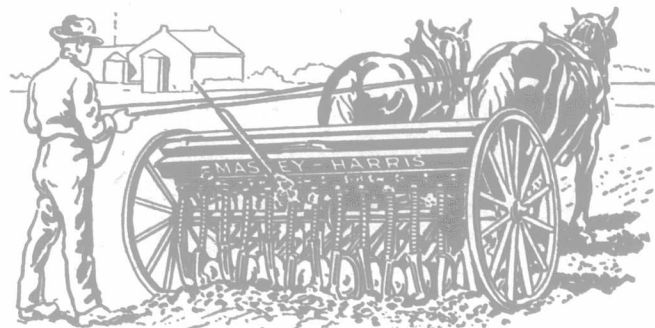
The following report issued by the Dominion Bureau of Statistics gives an estimate of the yield and value of the principal crops in Canada for 1919 as compared with 1918:

YIELD OF FIELD CROPS.—The total yield of wheat for all Canada in 1919 was returned as 193,260,400 bushels from 19,125,968 sown acres, an average yield of better than 10 bushels per acre. In 1918 the corresponding figures were 189,075,350 bushels from 17,353,902 acres a yield per acre of 11 bushels. The yield of oats in 1919 was 394,387,000 bushels from 14,952,114 acres, an average of 26.25 bushels as compared with 426,312,500 bushels from 14,790,336 acres, an average of 28.75 bushels per acre. Barley gave a return in 1919 of 56,389,400 bushels from 2,645,509 acres, an average per acre of 21½ bushels as compared with 77,287,240 bushels from 3,153,711 acres in 1918, an average of 24½ bushels per acre. Of the remaining crops the total yields in 1919 were in bushels as follows, (the figures in 1918 being given within brackets): Rye 10,207,400 (8,504,400); peas 3,406,300 (4,313,400); beans 1,388,600 (3,563,380); buckwheat 10,550,800 (11,375,500); mixed grains 27,851,700 (35,662,300); flax 5,472,800 (6,055,200); corn for husking 16,940,500 (14,205,200); potatoes 125,574,900 (104,346,200); turnips, mangolds, carrots, etc. 112,288,600 (122,699,600). In 1919 there was produced 16,348,000 tons of hay and clover as compared with 14,772,300 tons in 1918. Fodder corn gave a yield of 4,942,760 tons in 1919 as against 4,787,500 tons in the previous year. The yield of sugar beets increased from 180,000 tons in 1918 to 240,000 tons. The area devoted to the growing of alfalfa has increased from 196,428 acres in 1918 to 226,869 acres in 1919 and the yield from 446,400 tons to 494,200 tons. The average yields per acre of these crops in 1919, (with 1918 averages in brackets), were, in bushels, as follows: Rye 13½ (15¼); peas 14¼ (13¼); beans 16½ (15½); buckwheat 23½ (20¾); mixed grains 31 (38¾); flax 5 (5¾); corn for husking 64 (56¾); potatoes 153½ (142); turnips 354 (377½). Hay in 1919 gave an average yield in tons of 1.55, fodder corn of 9.75, sugar beets 9.80 and alfalfa of 2.20 tons as compared with 1.40 ton for hay, 9.50 for fodder corn, 10 for sugar beets and 2.25 tons for alfalfa in 1918.

WHEAT, OATS AND BARLEY IN THE PRAIRIE PROVINCES.—The total yields in 1919 were: Wheat 165,544,300 bushels from 17,750,167 acres, as compared with 164,436,100 bushels from 16,125,451 acres in 1918, and 211,953,100 bushels from 13,619,410 acres in 1917; oats in 1919 gave a yield of 235,580,000 bushels as compared with 222,049,500 bushels last year and 254,877,200 bushels in 1917; barley 36,682,400 bushels in 1919, as against 47,607,400 bushels in 1918 and 40,384,100 bushels in 1917; and flax 5,232,300 bushels as compared with 5,776,000 in 1918 and 5,835,900 in 1917.

VALUES OF FIELD CROPS.—The average values per bushel of grain crops at point of production, for Canada in 1919, according to the prices returned by Crop Correspondents, were as follows: Fall wheat \$1.97 as against \$2.08 in two previous years; spring wheat \$1.86,

Massey-Harris



Plants Every Seed Right

HERE is a Drill that will plant your seed with practically as much care as you could plant each seed individually by hand. The sowing is accurate and positive. The seed being sown in just the right quantities and in the right shaped seed furrows, evenly distributed and well covered, thus giving each plant a chance to develop and mature under the most favorable conditions.

Frame is substantial; self-aligning bearings for the axles and broad-faced wheels make it run easily and lighten the draft.

The Boot on the Single Disc is of steel, resulting in the lightest disc on any drill, and also allowing the disc to be set to cut at a much greater angle than that of any other disc, giving a wider seed furrow.

MASSEY-HARRIS CO. Limited

Head Office: Toronto, Ont.

AGENCIES EVERYWHERE

Important Sale by Auction

Shorthorns, Clydesdales YORKSHIRE SWINE, ETC.

At the farm, Lot 21, Con. 5, Tp. North Easthope, near Shakespeare, Ont.

Wednesday, March 10th, 1920, Sale commences 12 o'clock sharp

In Shorthorns three females—the cow Sue =119892= and two heifers, Amulree Lottie 2nd =139799= and Red Duchess =139806=, all bred to Escana Premier =115500=. Five bulls—the Herd Sire Challenge Plate 4th =105001= and four young bulls (three roans and one red) ranging from nine months to twelve months old.

There are also some high-grade Shorthorns—13 cows and 11 heifers supposed to be in calf, bred to Challenge Plate 4th or Escana Premier; 12 heifers under 2 years, 10 steers 2 years old in good condition to finish in stable or put on grass. 10 steers under 2 years in good condition, nearly all young stock sired by Challenge Plate 4th.

In Clydesdales—a pair of geldings rising 3 years old, a Clydesdale filly rising 3 years old by Knight of Glamis, one entire colt rising 3 years old of imported stock, sire Locksley (imp.) [15239], dam Amulree Bell [31041].

Registered Yorkshires—1 boar rising 2 years bred at O.A.C., 1 boar 8 months old, 30 brood sows supposed to be with pig or having litters at time of sale, all are bred of O.A.C. and John Duck, of Port Credit, stock.

There will also be sold 25 grade Leicester ewes and 1 registered Leicester ram.

Pedigrees and transfers will be furnished free with all registered animals.

Conveyance will meet morning and noon trains at Shakespeare day of sale. Lodgings and conveyance to trains will be provided for any unable to make train connections until next day.

The animals will be at purchaser's risk as soon as bid is off. If any are to be shipped they will be cared for and the work of loading on cars will be carefully done free of charge.

The above animals will positively be sold without reserve to make room for the growing stock of Registered Clydesdales, Shorthorn Cattle, Yorkshire pigs and Leicester sheep. No bidding in.

Terms: 10 months' credit will be given on approved joint notes. A discount of 5 per cent. off for cash. Purchasers from a distance will be required to furnish bank references as to their financial standing.

JAMES MCGILLAWEE & SONS, Proprietors, R.R. No. 1, Stratford, Ont.
THOS. SMITH, Auctioneer

150 Head

150 Head

WESTERN ONTARIO

Shorthorn Show and Sale

LONDON, ONTARIO

March 23rd and 24th, 1920

This will be a record sale of Shorthorns—150 head of good ones—50 bulls and 100 females. Save these dates and watch for our later advertisements.

HARRY SMITH, Sales Manager :: HAY, ONTARIO

A Never-Failing Record

MEMORY may fail; a receipted bill may be lost; a household record may be open to dispute; but a paid cheque is a lasting, absolute proof of the payment of money.

Any person wishing to place personal affairs on a business basis, may arrange for a checking account with this bank.

THOS. F. HOW
General Manager

THE BANK OF TORONTO

Capital \$5,000,000

Reserve \$6,793,983

Draw on Your Customers



through the Merchants Bank. With Branches in all parts of Canada, and correspondents abroad, this Bank is in a position to present Drafts promptly, have them accepted, and collect payment, with the least possible trouble and cost to you.

The Manager will be glad to take up this matter with you

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.

as against \$2.02 in 1918 and \$1.93 per bush. 1 in 1917; all wheat \$1.87, as compared with \$2.02 in 1918 and \$1.94 in 1917; oats 80 cents in 1919, 78 cents in 1918 and 69 cents in 1917; barley \$1.37 as compared with \$1 and \$1.08 in 1918 and 1917; rye \$1.40 as compared with \$1.49 in 1918 and \$1.62 in 1917; peas \$2.86, as compared with \$3 in 1918 and \$3.54 in 1917; beans \$4.48, as compared with \$5.41 and \$7.45 respectively in 1918 and 1917; buckwheat \$1.50, as compared with \$1.58 in 1918 and \$1.46 in 1917; flax \$4.13, as against \$3.13 in 1918 and \$2.65 in 1917; and corn for husking \$1.30, as against \$1.75 and \$1.84 in 1918 and 1917 respectively. The price per bushel of potatoes in 1919 as returned on October 31 was 95 cents, as against 98 cents in 1918 and \$1.01 in 1917; turnips, etc., are placed at 50 cents per bushel as compared with 43 cents in 1918 and 46 cents in 1917. Hay and clover is valued at \$20.72 per ton this year as against \$16.25 per ton in 1918 and \$10.33 in 1917; fodder corn is priced at \$6.92 in 1919 as compared with \$6.15 in 1918 and \$5.14 in 1917; sugar beets \$10.86 per ton as compared with \$10.25 in 1918 and \$6.75 in 1917. The price of alfalfa in 1919 per ton is \$21.85 as compared with \$17.84 in 1918 and \$11.59 in 1917.

The total values on farms in 1919 of the principal field crops are estimated as follows the corresponding values for 1918 are given in brackets. Wheat \$360,573,000 (\$381,677,700); oats \$317,097,000 (\$331,357,400); barley 77,462,700 (\$77,378,670); rye \$14,240,000 (\$12,728,600); peas \$9,739,300 (\$12,899,100); beans \$6,214,800 (\$19,283,900); buckwheat \$15,831,000 (\$18,018,100); mixed grains \$37,775,400 (\$40,726,500); flax \$22,609,500 (\$18,951,000); corn for husking \$22,080,000 (\$24,902,800); potatoes \$118,894,200 (\$102,235,300); turnips, etc., \$54,958,700 (\$52,252,000); hay and clover \$338,713,200 (\$241,277,300); fodder corn \$34,179,500 (\$29,439,100); sugar beets \$2,606,000 (\$1,845,000); alfalfa \$10,800,200 (\$7,963,500).

The aggregate value of all field crops in 1919 was \$1,448,153,500, as compared with a total value of \$1,372,935,970 in 1918 and \$1,144,636,450 in 1917. Both the acreage under crops and the value of crops produced is the highest on record. The aggregate value of all field crops exceeds that of 1918 by \$75,217,530, or 5 per cent., and that of 1917 by \$303,517,050, or 21 per cent.

Attention is drawn to the Western Ontario Shorthorn sale, to be held on March 23 and 24, at London. This sale is a semi-annual event, and the satisfaction given to purchasers in the past has made it a favorite place for the purchase of Shorthorn cattle. The usual guarantee as to the condition of the stock is again given. For fuller information see the advertisement in another column of this issue; watch for further announcements later, and write H. Smith, Hay, Ontario, for a catalogue.

The Farmer's Financial Friend

We have large resources and the vast experience of 87 years to draw upon to serve you; but we have something even more important—we have the earnest desire to do so.

We cash your produce and personal cheques, collect your drafts—all by mail if required—and gladly give you impartial advice on my financial or business matter.



THE BANK OF NOVA SCOTIA

Paid-up Capital \$ 9,700,000
Reserve Fund - 118,000,000
Resources - - 220,000,000

We invite your account. Special facilities for Banking by Mail. 310 Branches. General Office Toronto.

SOLD THE FARM

DISPERSION SALE

Maplehurst Shropshires

TUESDAY, MARCH 2nd, 1920

85 Registered Shropshires

will be sold by PUBLIC AUCTION at MAPLEHURST FARM, Village of Mt. Vernon Commencing at one o'clock

50 breeding Ewes, including a number of Shearlings.
20 Ewe lambs.
15 Ram lambs.

The above offering is of good quality and breeding, dense heavy fleeces, well covered heads, and will afford an excellent opportunity to breeders and others to secure good stock of the right type at their own prices.

Terms cash; or eight months credit at 6 per cent. per annum on bankable paper.

Trains will be met at Burford, G.T.R.

H. HANMER, R.R. No. 4, Brantford, Ont.

WELBY ALMAS, Auctioneer



The Greatest Chain of "Movies" in Canada

31 big theatres—seating capacity 45,000—with average patronage of 200,000 persons a day is the program of the Famous Players Canadian Corporation whose \$4,000,000 of 8% Cumulative Preferred Shares we will shortly offer to investors.

16 of these theatres now in operation; 5 more to be in operation by the end of 1920, and 10 more to be completed early in 1921—such is the scope of this new Canadian-controlled Motion Picture Theatre enterprise.

Is it any wonder, then, that as an investment opportunity, we rank it as one of the most favorable we have ever offered investors?

Indications are that the issue will be rapidly absorbed.

You should write, or wire, immediately for advance prospectus and full particulars.

Royal Securities CORPORATION LIMITED

73 MONTREAL
Toronto Halifax St. John, N.B.
Winnipeg London, Eng.

THE MOLSONS BANK

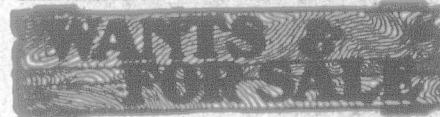
Incorporated in 1855
Capital and Reserve \$9,000,000
Over 120 Branches

The saving habit

like all other good habits, is the result of resolution and practice.

By depositing regularly a portion of your earnings in THE MOLSONS BANK, the saving habit is soon acquired.

Avoid careless spending by opening a savings account with us.



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—TWO OF BEST STOCK FARMS, Wentworth County. 175 acres, large brick house, frame house, two large bank barns stabling sixty head cattle, twelve horses, 112 acres first-class, frame house, bank barn stabling thirty head cattle, eight horses. Both farms on county roads, water in stables, silos, garages and driving houses. Frank Brown, R. R. 2, Dundas, Ont.

FOR SALE—86 ACRES, ELGIN CO.; 20 acres best celery land in Ontario; house, barn, pig-pens, wagon and tool sheds; \$45 per acre; 2 miles to two railroads. Terms: A. D. Urllin, 897 Main St. E., Hamilton, Ont.

SINGLE, EXPERIENCED FARM HAND wanted; must be good with horses and good milker. Please state wages. Albert Henry, St. Mary's, Ont.

WANTED IMMEDIATELY—WORKING manager, married, for stock and grain farm. Must be competent and practical. This is a good position for the right kind of a man. Reference required. State wages and give full particulars in first letter. Chas. Murby, Kerwood, Ont.

WANTED EXPERIENCED MARRIED farm hand by the year on grain and stock farm by first of April. No milking, must be thoroughly reliable and good with stock. Apply stating wages. Box 86 "Farmer's Advocate," London.

WANTED—A MAN TO TAKE CHARGE OF field work on the Glen Dhu Dairy and Poultry Farm at Whitby, Ontario. Must be experienced in cultivation for field crops. Will supply free house, wood, vegetables, fruit, milk and eggs. When making reply please send full particulars regarding experience, age, and salary expected. E. E. Wallace, 100 Stanley St., Montreal.

WANT TO HEAR FROM PARTY HAVING farm for sale. Give particulars and lowest price John J. Black, Advocate St., Chippewa Falls, W.

WISCONSIN INCUBATOR AND BROODER BOTH FOR \$19.50
 130 Egg INCUBATOR 130 Chick Brooder BOTH FOR \$19.50 Freight and Duty PAID

If ordered together we send both machines for only \$19.50 and we pay all freight and duty charges to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. station. Hot water, double walls, dead air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under egg tray. Especially adapted to Canadian climate. Incubator and Brooder shipped complete with thermometers, lamps, egg testers—ready to use when you get them. Ten year guarantee—30 days trial. Incubators finished in natural colors showing the high grade California Redwood lumber used—not painted to cover inferior material. If you will compare our machines with others, we feel sure of your order. Don't buy until you do this—you'll save money—it pays to investigate before you buy. Remember our price of \$19.50 is for both Incubator and Brooder and covers freight and duty charges. Send for FREE catalog today, or send in your order and save time.

WISCONSIN INCUBATOR CO. Box 224 RACINE, WISCONSIN, U. S. A.

Write Us Today—Don't Delay

POULTRY AND EGGS

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

BARGAIN SALE OF BREEDERS' EXHIBITION stock—Six females and one male \$25, or three females and one male \$25. Leghorns, Buff, Brown and White; White Wyandottes, R.-C. and S.-C. Reds, Barred Rocks, Buff Orpingtons, Rose and Single-comb Anconas. Can make up any size pens. Also supply cock birds of the above varieties. Price of odd males, \$3, \$5, \$10 each. Also O.A.C. strain of Barred Rock cockerels, strong birds, good, yellow legs, bred from noted laying strains. Price of them, \$3 and \$5 each. Idewild Poultry Yards, Burlington, Ont. C. F. Coleman, Prop.

BABY CHICKS—BRED-TO-LAY BARRED Rock, 25c. each; S.-C. White Leghorns, 20c. each; hatching eggs, \$3 and \$1.75 per 15. Circular. G. W. Grieve, Parkhill, Ont.

BABY CHICKS—SINGLE-COMB WHITE Leghorns, bred-to-lay in fall and winter. Book your order now for April, May and June delivery; safe arrival guaranteed; 25 \$7.50, 50 \$14, 100 \$25. Walnut Glen Poultry Farm, R.R. 4, Chatham, Ont.

BABY CHICKS, EGGS FROM OUR WHITE Leghorns, "Barron-Wyckoff strains." Send for our new, free catalogue and prices. Britannia Poultry Farm, R.R. 6, Brampton, Ont.

BARRED ROCKS—EGGS FOR HATCHING from trap-nested pedigreed layers. Ten pullets laid 2,044 eggs in eleven months. Few cockerels left. F. Coldham, Box 12, Kingston, Ont.

BABY CHICKS, ANCONAS, AND LEGHORNS \$13 per fifty, \$25 per hundred, delivered. Mating list ready, order now. G. A. Douglas, Ilderton, Ont.

BRED-TO-LAY S.-C. WHITE LEGHORNS—Cockerels \$3 each, chicks 25c. each, \$23 hundred, eggs \$2 setting. Descriptive literature free. Cooksville Poultry Farm, Cooksville, Ont.

CHOICE SINGLE-COMB WHITE LEGHORN cockerels from high-record hens. E. Crowley, Prescott, Ont.

FOR SALE—HATCHING EGGS, \$1.50 A setting; baby chicks, 25c. each; bred-to-lay S.-C. White Leghorns and B. P. Rocks. Hillside Poultry Farm, Christian Z. Albrecht, Prop., Bamberg, Ont.

GOOD BARRED ROCK COCKERELS—\$5, two \$9.50, three \$14. Eggs—fifteen \$2.50, thirty \$4.75, fifty \$7.50, \$14 hundred. From well barred and grand laying hens. Order direct from this advertisement. W. Bennett, Box 43, Kingsville, Ont.

INDIAN RUNNER, WILD MALLARD ducks, White Guinea, Barred Rocks. Mrs. John Annesser, Tilbury, Ont.

I HAVE SOME LIGHT BRAHAM COCK-ERELS for sale. E. H. Vint, Wyevale, Ont.

ROSE AND SINGLE-COMB RED COCK-ERELS, large, deep red birds, real exhibition stock, \$4.00 each. James Mackness, Chatham, Ont.

RHODE ISLAND WHITES, BOTH COMBS. Meat, eggs, beauty. Stock and eggs for sale. Send for mating list. Dominion Poultry Yards, 288 St. James St., London.

VESPERA FARMS—BARRED PLYMOUTH Rocks, Single-Comb Rhode Island Reds and Single-Comb White Leghorns. Pure-bred reliable stock, bred for heavy winter egg production. Hatching eggs and baby chicks. Send for circular. Our motto: "We're not satisfied until you are." J. F. McDonald, Barrie, Ont.

WANTED Crate Fed Chickens
Dressed

Also
Large Hens Alive or Dressed

Write for price list.

WALLER'S 702 Spadina Ave. TORONTO

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

A. H. CROZIER
Meadowvale, Ontario

POULTRY WANTED

It will pay you to sell your poultry to the best market in Western Ontario. Special prices this month for heavy live hens. Be sure and sell to

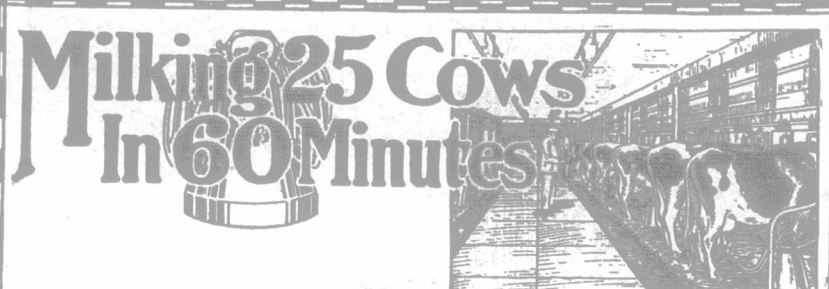
C. A. MANN & CO.

78 King St. London, Ontario

BABY CHICKS We ship thoroughbred chicks. All standard varieties. Safe arrival guaranteed. Delivery charges paid.

Write for free illustrated catalogue and prices.

CANADIAN CHICK HATCHERY, LIMITED
Box 192G, Hamilton, Ont.



Milking 25 Cows In 60 Minutes

PRETTY good milking you will admit! Yet it is by no means unusual for one man with a Macartney double unit to milk a herd of this size in less than an hour.

What this means in dollars and cents is easily illustrated. The average person milks about 8 cows in an hour, by hand. Figuring wages and board at 25 cents an hour, handmilking one cow costs about 3 cents or 75 cents for the entire herd. Twice a day for 365 days means a wage expense of \$547.50.

At 25 cents an hour the labor cost per cow with the Macartney Milker works out at 1 cent, or 25 cents per day. Twice a day the year 'round this would mean a milking cost of \$182.50, or a yearly saving of \$365.00 through the use of the Macartney Machine Milker.

Simple figures but very expressive. And remember that Macartney means profit in other ways. It means more milk per cow, longer lactation periods, less hired help and more time for other important work in the fields.

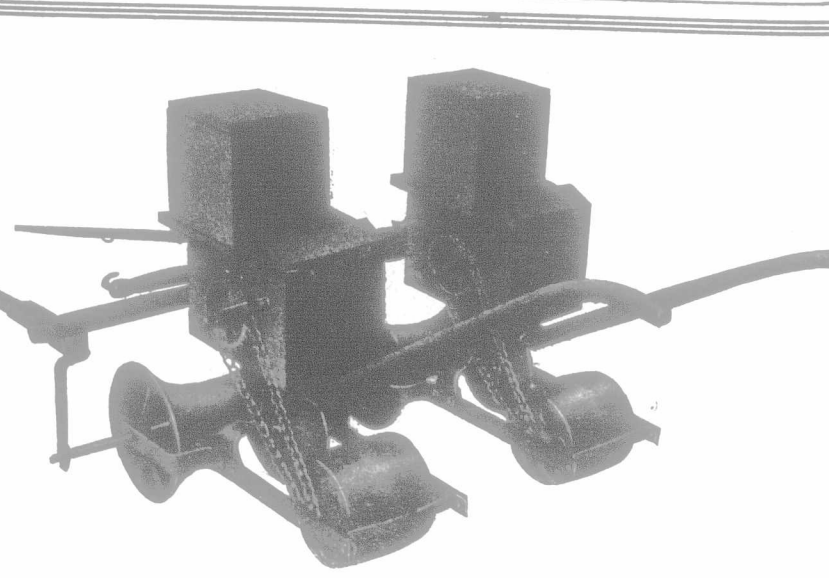
The Macartney Machine Milker is a real money making investment. You are losing money without it. You gain in every way when you adopt it.

Free Particulars
Further information concerning the Macartney Machine Milker will be mailed you on receipt of the attached coupon filled in as indicated. This information will not obligate you in any way. Even if you are not contemplating an immediate purchase our literature will prove helpful and interesting.

The Macartney Milking Machine Co. Limited
316 CATHERINE ST. OTTAWA (B-1)

The Macartney Milking Machine Co. Limited
OTTAWA
Please send me full particulars about the Macartney Machine Milker

Name _____
Address _____
I have _____ cows



Hemme's Latest Seeder

This seeder saves a great deal of seed and labor by planting it where you want it only, in furrow made by steel disc, which turns and does not clog or trail seed; will sow rape, turnips, carrots, onions, cabbages, sugar-beets, mangels, cucumber, sugar cane, corn or any other kind of seed, dropping seed like this or This method of seeding saves a great deal of seed and labor, also spreading as much fertilizer as you wish around the seed.

It has paid for itself on two acres by increasing the crop. Take advantage of special low exhibition price.

A. HEMME SONS & CO., Elmira, Ontario
Send TODAY for free information and special price

Questions and Answers.
Miscellaneous.

A Mail Carrier.
1. Can a stage driver carrying mail from one town to another also carrying passengers and some express and freight parcels legally demand all of the road when meeting another team?
Is such a stage driver supposed to stop at such places as gateways or other places that have been used as passing places along the road when he sees a team coming a short distance ahead?
3. Must the person meeting the stage turn out into any depth of snow, or with any size of load wherever he (stage driver) chases to meet him?
Ontario.
Ans.—1. No.
2. Yes.
3. No—To put it generally, while the carrier of His Majesty's mails has right of way it is a right that must be exercised reasonably.

Gossip.
In another column of this issue will be seen the advertisement of the Trumans' Stud Farm, breeders of Shire, Percheron, Belgian, Suffolk and Hackney horses. J. H. Truman, the owner of this farm, and his three sons, established this business in the United States in 1878, and for several years a branch was maintained at London, Ontario, managed by H. W. Truman. At all the larger shows in the United States entries from this farm have occupied a prominent place in large classes. A large number of stallions have been purchased by Ontario and Quebec breeders. The firm is now offering special inducement to purchasers of stallions in Ontario and Quebec.

Sale Dates.
March 2, 1920.—Bruce County Breeders' Club, Walkerton, Ont.—Shorthorns.
March 2, 1920.—H. Hanmer, R. A. Brantford, Ont.—Shropshires.
March 2, 1920.—Victoria County Purebred Stock Association, Lindsay, Ont.
March 3, 1920.—Guelph Fat Stock Club, Guelph, Ont.—J. M. Duff, Secy.
March 3, 1920.—Warren Stringer, Dunnville, Ont.—Holsteins.
March 4, 1920.—W. G. Strong & Sons, Gorrie, Ont.—Ayrshires.
March 4, 1920.—Geo. M. Hearne, Buffalo, Ont.—Shorthorns.
March 4 and 5, 1920.—Union Stock Yards, Toronto, Ont.—Clydesdales, Percherons, Shires and Belgians.
March 9, 1920.—R. Willis, R. R. 1, London.—Holsteins.
March 9, 1920.—Robt. Nichol, Hagersville, Ont.—Shorthorns and Clydes.
March 10, 1920.—Caledonia Shorthorn Breeders, Caledonia.
March 10, 1920.—R. M. Holmes, Otterville, Ont.—Clydesdales and Holsteins.
March 10, 1920.—A. G. McNiven, Parnam, Ont.—Shorthorns.
March 10, 1920.—Jas. McGillawee & Sons, R. R. 1, Stratford, Ont.—Shorthorns and Clydesdales, etc.
March 11, 1920.—Russell Bryant, Strathroy, Ont.—Holsteins.
March 16, 1920.—London District Holstein Breeders' Club, London.
March 17, 1920.—Oxford Holstein Breeders' Consignment Sale, Woodstock, Ontario.
March 17, 1920.—Geo. A. Ritchie, Plainville, Ont.—Aberdeen-Angus.
March 18, 1920.—Fred V. Heeney, Ingersoll, Ont., R. No. 2.—Holsteins.
March 23, 24, 1920.—Western Ontario Shorthorn Show and Sale, London, Ont.
March 24, 1920.—Perth Breeders' Holstein Club, Stratford, Ont.
March 25, 1920.—F. A. Legge, Jefferson, Ont.—Holsteins.
March 31, 1920.—Belleville District Holstein Club, Belleville, Ont.
March 31, 1920.—Brant District Holstein Breeders' Club, Brantford, Ont.
April 1, 1920.—Norfolk Holstein Club, Hagersville, Ont.
April 8, 9, 1920.—Canadian National Sale of Holsteins, Union Stock Yards, Toronto, Ontario.
June 15, 16, 17 and 18.—Live-Stock Breeders' Association of the District of Beauharnois, Limited, Ormstown, Que.

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Questions and Answers.
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Watches for Soldiers.
Is it legal for a council of a municipality to pass a motion to assess the township 2½ mills to raise \$5,000 to buy watches for presents to returned soldiers without submitting a by-law to the ratepayers for their approval. If it is not legal can the council be held responsible for the money?
Ontario. A RATEPAYER.

Ans.—It is possible that it may come within the amendment (which came into force 1st June, 1919) to the Municipal Act, providing that by-laws may be passed by the councils of all municipalities for making grants to nursing sisters, officers and men who have returned from active service and who resided in the municipality for six months prior to enlistment.

Fatality in Pigs.
I have been feeding pigs 5 months old on cooked shorts. They cease eating, bloat up and die in 2 or 3 days. I have lost 9 out of 21.
SUB.

Ans.—They die of indigestion, doubtless due to the food. They should be fed a variety of food. Cooking shorts lessens the digestibility of shorts. Give each of them a purgative of 1 oz. Epsom salt. If this does not act in 18 to 24 hours, give 1½ oz. raw linseed oil. Feed on milk, a little uncooked shorts, a little chopped oats with the hulls sifted out (also uncooked) and raw roots. Also allow free access to sods, wood ashes, and a mixture of equal parts powdered charcoal, sulphur and Epsom salt. See that they get daily exercise.

School Trustee — Annual Meeting.
1. Is a Reeve a legal trustee, when he has no vote in the school section?
2. Is a trustee legally appointed when nominated by an American who has not taken out naturalization papers and the motion seconded by the chairman of the meeting?
3. Is an annual school meeting legal when held in any building excepting the school house?
Ontario W. W.

Ans.—1. To be legally qualified to be elected a trustee he must be a resident ratepayer.
2. Probably not, but no complaint that the election has not been in accordance with the Public School Act can be entertained by the Inspector unless made in writing to him within twenty days after the holding of the election.
3. Yes, if so determined by a resolution of the Board.

1920.—Bruce County Breeder's Association, Ont.—Shorthorn Club, Ont.—H. Hanmer, R. A. Shropshires.
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1920.—Norfolk Holstein Club, Brantford, Ont.—Holsteins.
1920.—Canadian National Live-Stock Association, Union Stock Yards, Toronto, Ont.—Holsteins.
1920.—Live-Stock Association of the District of Ormstown, Que.—Holsteins.

Gossip.

The Caledonia Shorthorn Sale.

It will be noted by the advertisement of the Caledonia Shorthorn Club, which appears elsewhere in this issue, that forty of the fifty-seven head of Shorthorns consigned to their annual spring sale, scheduled for March 10th, are young bulls, there being only seventeen females listed. Shorthorn breeders who are familiar with the herds throughout the Province of Ontario, will need very little introduction to the class of cattle bred by the breeders of this district and once more the best from these herds have found their way into the catalogue and will be sold without reserve to the highest bidder on March 10th. The bulls with very few exceptions, are around the year old, and are all got by such good sires as Nonpareil Counsel, a good breeding son of Roan Chief; Nero of Cluny (imp.), and Proud Victor, etc. The females with three exceptions are heifers from eleven months to three years of age. Of the three females referred to, one only is above six years old, and it will, therefore, be noted, that the entire offering is one of breeding cattle of profitable age, or just the sort of cattle to make good buying on sale day. The catalogues will be finished by the last week in February, and are worthy of a wide distribution. All requests for same should be addressed to Hugh Scott, Sec. Caledonia Shorthorn Club, Caledonia, Ontario.

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SHIP FURS TO— HILL BROS. ST. LOUIS, MO. U.S.A. — GET THESE HIGH PRICES

Fox, Mink, Skunk, Muskrat, Lynx, Weasel and all other Canadian furs are in tremendous demand. Be wise—don't wait—bundle up every fur you have on hand and ship to HILL BROS.—the old reliable fur house of St. Louis where you are sure of correct grading, wonderfully high prices and a square deal every time.

WE CHARGE NO COMMISSION

When you ship to HILL BROS. of St. Louis you get ALL your money—every cent your furs are worth—nothing deducted for commission or handling.

WE PAY WHAT WE SAY

Over 350,000 old experienced trappers in United States and Canada ship us all their furs because they have found out by experience they can do better at HILL BROS. than anywhere else.

Read these EXTRA HIGH PRICES we are paying for Canadian furs if you ship AT ONCE.

EASTERN CANADA AND SIMILAR FURS

	Extra Large	Large	Medium	Small	Unprime or Otherwise Inferior	
MINK	Fancy Dark.....	\$ 50.00 to 37.00	\$ 35.00 to 30.00	\$27.00 to 21.00	\$18.00 to 14.00	\$17.00 to 1.25
	Dark.....	35.00 to 30.00	27.00 to 25.00	20.00 to 17.00	13.00 to 11.00	13.00 to 1.00
	Ordinary.....	30.00 to 25.00	22.00 to 20.00	15.00 to 13.00	11.00 to 8.50	10.00 to .75
MUSKRAT	7.00 to 5.60	5.25 to 4.50	4.00 to 3.25	3.00 to 2.25	3.00 to .25	
MARTEN	Dark.....	150.00 to 110.00	100.00 to 85.00	80.00 to 65.00	60.00 to 50.00	75.00 to 4.00
	Brown.....	70.00 to 55.00	50.00 to 45.00	38.00 to 32.00	28.00 to 22.00	35.00 to 2.00
	Pale.....	50.00 to 40.00	38.00 to 32.00	30.00 to 25.00	22.00 to 17.00	25.00 to 1.00
WHITE WEASEL	3.50 to 2.75	2.50 to 2.00	1.60 to 1.25	1.00 to .70	1.00 to .10	
WOLF	Cased.....	40.00 to 30.00	28.00 to 25.00	23.00 to 18.00	15.00 to 10.00	15.00 to 1.25
	Open.....	35.00 to 27.00	25.00 to 22.00	18.00 to 15.00	12.00 to 8.00	14.00 to 1.00
BEAVER	Lawfully Taken.....	55.00 to 45.00	43.00 to 38.00	30.00 to 25.00	21.00 to 16.60	23.00 to 1.50
LYNX	Heavy Furred.....	80.00 to 65.00	60.00 to 55.00	50.00 to 40.00	36.00 to 30.00	40.00 to 3.00
	Ordinary.....	65.00 to 55.00	50.00 to 45.00	40.00 to 35.00	30.00 to 24.00	35.00 to 2.00
RED FOX	45.00 to 35.00	32.00 to 28.00	25.00 to 21.00	18.00 to 14.00	20.00 to 1.50	

If you have any other Furs not listed here, such as Silver, Black or Cross Fox, Fisher, Bear, etc., write or wire us for prices.

USE THIS SHIPPING TAG
Cut it out—fill in your name and address—paste on heavy cardboard—and attach it to your shipment.
HILL BROS. FUR CO.
412 Hill Bldg.,
St. Louis, Mo. U. S. A.

FOR HILL BROS. MAIN & OLIVE ST. FUR CO. ST. LOUIS MO.

412

FROM _____

POST OFFICE _____

R.F.D. _____ BOX _____ STATE _____



“GALT” Corrugated Steel Sheets

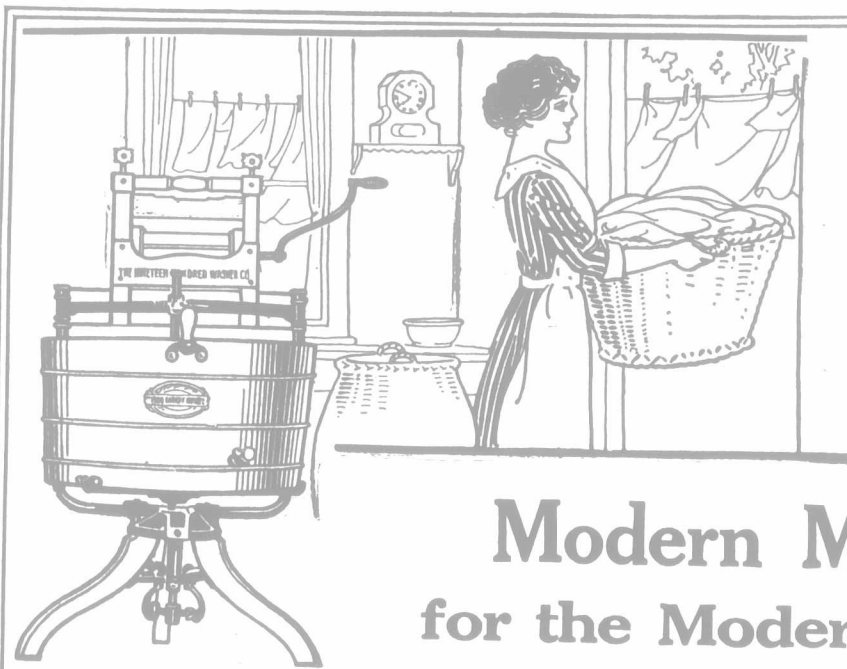
FOR ROOFING AND SIDING

We manufacture these Sheets both in Galvanized and Painted Steel, in lengths of 4, 6, 8 and 10 feet.

WE ALSO MANUFACTURE

“GALT” STEEL SHINGLES, VENTILATORS
ORNAMENTAL EMBOSSED STEEL CEILINGS, ETC.

The Galt Art Metal Co., Limited, Galt, Ont.



Modern Methods for the Modern Woman

Thrifty Housewives Approve this Means of Saving Time and Labor

SCIENCE offers you a skilled servant—the "1900" Gravity Washer. With one of these machines in your kitchen, you can face wash day with a smile. For it will make it possible to wash clothes more efficiently than human hands can do. You need a

"1900" GRAVITY WASHER

This machine will save you labor, worry, time, clothes and money. There are 5 important points about a Washing Machine

- 1. Does it Wash Clean?**
With a vigorous motion the "Gravity" drives the soapy water clear through the fibres of the clothes until they are thoroughly clean.
- 2. Is it Easily Operated?**
Because gravity plays so large a part in its action, our Washer requires the least labor of any machine on the market. Gravity does all the hard work.
- 3. Does it Wash with Speed?**
The "1900" Gravity Washer takes just six minutes to wash a tub full of very dirty clothes.
- 4. Does it Save Wear and Tear?**
Because the clothes are held still while the water and tub are in motion, there is absolutely no strain on linens, lawns, or laces washed the "Gravity" way. No frayed edges—no broken buttons.
- 5. Is the Tub Well Built?**
The "1900" Gravity tub is made of Virginia White Cedar, which we know, from 20 years' experience, is positively the best wood for making washing machines. It is bound together with heavy galvanized steel wire hoops, which will not break, rust, or fall off. The tub is detachable—an important feature.

If you are interested, let us tell you more about it. There's a book about the "1900" Gravity Washer, which we will send to you if you will ask for it.

We make a full line of washers—machines that operate by Hand, Engine Power, Water Power and Electric Motor. And we have descriptive literature on each of them. So when you write, state which you are particularly interested in—and ask about our Free Trial Offer.

THE NINETEEN HUNDRED WASHER CO.
354-A YONGE STREET, TORONTO

Attention, Canadian Stallion Buyers!

BEFORE YOU BUY A

SHIRE, PERCHERON or BELGIAN STALLION

Write us for full particulars, prices and SPECIAL INDUCEMENTS to ONTARIO and QUEBEC STALLION BUYERS, also for our Illustrated Catalogue. It will only cost you a postage stamp, and may SAVE YOU SEVERAL HUNDRED DOLLARS. Address:

TRUMAN'S PIONEER STUD FARM (Box A), Bushnell, Ill., U.S.A.

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.

Sundrum Clydesdales

For sale at the present time—choice selection of Clydesdales, including stallions, fillies and mates, safe in foal. All having size and quality, and priced to sell.

W. A. McNIVEN
R.R. 4 Hamilton, Ont.

For Sale or Let—A Grey Percheron Stallion, John D—
A1 stock horse and a money-maker.
D. A. GRAHAM
R.R. No. 4 Parkhill, Ontario

Clydesdale Stallion (Royal Marquis—12063)
foaled Sept. 2nd 1908.
This is a horse of size, quality and action. Come and see his stock. Priced to sell.

BROWN BROS., R.R. No. 2, Cornwall, Ont.

SEED CORN

For sale, many varieties Essex grown; special cured seed corn. Satisfaction guaranteed. Club orders a speciality. Apply to
ED. TELLIER - ST. JOACHIM, ONT.

Registered Clydesdale Mares For Sale

Having decided to sell some of my best show stock, I am now offering three very choice mares—
KIRMINNOCH QUEEN (43222)
Sire Kirminnoch Mac, by Montrave Mac
Dam Net Macqueen, out of Macqueen
MONTRAVE MAUD (43044)
Sire Kirminnoch Mac
Dan Moncreiffe Heather, sired by
Moncreiffe Marquis

This team of half sisters are five years old, weighing between 1,600 and 1,700 lbs. each. Have won many prizes and championships, and have never been beaten in the show ring. Price \$1,200—will not break team.

LADY GLENIFFER (41513)
Sire Lord Gleniffer, by Sir Ronald
Dam Iris, by Scotland's Choice
This is one of the best two-year-old fillies in Canada. Black with white markings. Weight between 1,400 and 1,500 lbs. Plenty of size and quality. Price \$500.
MANNING W. DOHERTY, Clontarf Farm, Malton, Ont.

HEAVES CURED

For a quarter of a century Capital Heaves Remedy has been saving horses and money for Farmers, Traders & Stockmen. It never fails to do the work, as proved by this letter.

New Town, N.B.
"My mare that I have been treating is like a new horse, she has improved so much. Please send me four more treatments; my neighbors want to try it."
E. M. CAMPBELL.

WRITE FOR FREE TRIAL
We will send a full week's treatment for 5c. to cover postage and packing.
VETERINARY SUPPLY HOUSE
750 Cooper Street - Ottawa

PREMIUM CLYDESDALES

Our Stud is headed by
BARON GARTLY

winner of third place in open class at Glasgow, Scotland, and grand champion at both Toronto and Ottawa. These are the highest in large classes at the latter two shows. High quality stallions for sale. Intending buyers should see our horses before buying.

BRANDON BROS., Forest, Ontario



Gossip.

Attention of readers is directed to the sale advertisement on another page of this issue announcing a sale of 47 pure-bred Shorthorns and 1 Aberdeen-Angus at Lindsay, on March 2nd, under the auspices of the Victoria County Pure-Bred Stock Association.

The lot comprises 35 bulls and 13 heifers and cows. Of the former the majority are around one year of age with some under and a few over a year old. The females are all young, but two aged cows, both bred.

This will be a splendid opportunity for buyers for the Western market to get their requirements. Catalogue will be mailed on application to the Secretary, A. A. Knight, Lindsay, Ontario.

Oxford County Holsteins at Woodstock

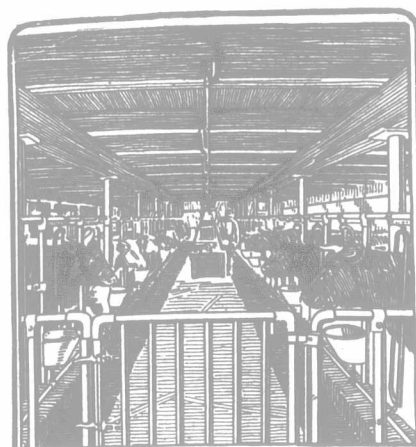
As will be noted by the advertisement appearing elsewhere in this issue, the Oxford County Holstein Club have increased the number of cattle going into their spring sale to 80 head. Of these 64 are females and sixteen are young bulls. There have in other years been a few more high records attached to a number of individual cows than are to be found in this year's catalogue but it is doubtful if they have ever been in a position to offer so large a number of choice individuals, and never before has there been so many fresh cows. Practically all the females are not only of milking age, but all will be selling in full flow of milk, or close up to calving at time of sale. The more noticeable records appearing in the catalogue include such entries as a 25.93-lb. cow consigned by M. & W. Schell, which also has close to 600 lbs. of milk for the seven days, and which is due around sale time to a son of Queen Butter Baroness, Canada's first 33-lb. cow. James Currie & Son also have a 25.13 lb. cow of similar breeding, being a daughter of Brookbank Butter Baron. This cow has 601 lbs. of milk for the seven days, and produced 16,260 lbs. of milk in the R. O. P. They also have another good entry in a six-year-old show cow, who made 11,235 lbs. of milk in the R. O. P. as a two-year-old, and 22.08 lbs. of butter in seven days at four years. We might add that the dam of this entry has a 27.96-lb. record. Walburn Rivers has two entries, one being a daughter of a 24,000-lb. four-year-old cow, and her record of 14.61 lbs. in 7 days was made at two years of age. The second is a heifer just two years old, and her dam has 13,500 lbs. of milk at two years. Wm. Stock & Sons, have a three-year-old daughter of King Lyons Hengerveld entered, and one bull, which is a year old calf from a 21-lb. heifer and got by a son of Baroness Madeline. Bert Leuszler is consigning a 20-lb. sister of Midnight Comet De Kol who has 34.98 lbs. of butter in seven days at four years of age. Arbogast Bros. are putting in two granddaughters of King Segis Alcartra Calamity, and E. E. Hammer consigns a 14.32-lb. junior two-year-old, and another heifer which is giving 60 lbs. at this writing. W. C. Shearer of Bright sends a young cow with a 16,299-lb. three year-old record, and Willard Scott has two daughters of Prince Abbecker Mercena entered, both of which are heifers and exceptionally promising. Charlie Hilliker has two good producing cows although neither are tested. Each are due around sale time to the service of a 34.68-lb. bred bull. A. E. Cornwell & Sons are entering three young cows, all of which are bred to this same 34.68-lb. bred bull, and one is a daughter of a cow which made 19,000 lbs. of milk as a three-year-old. The other two cows mentioned have 18.87 lbs. and 14.76 lbs., respectively, made in the three-year-old and two-year-old form. Martin McDowell has only one cow entered, but this is bred to his 37-lb. sire. In young bulls the highest is a 31.07-lb. calf consigned by L. L. Wetlaufer and the remaining ones run all the way from this down to 22-lb. mature dams, and 20 lbs. for dams under full age. Included in these are a number of show calves and from the information furnished it would seem that Woodstock, once again, will be a good place to buy herd sire material. For catalogues giving full information, apply to Geo. C. Currie, Ingersoll, Ont.

Gossip.

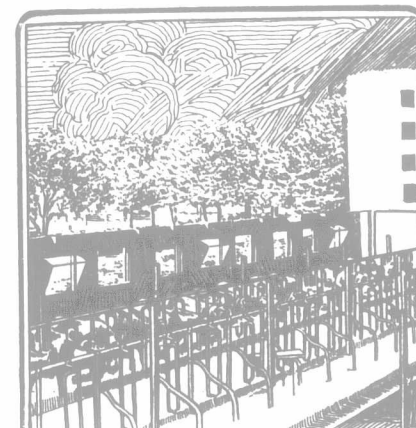
of readers is directed to the advertisement on another page of this issue, which is a sale of 47 pure-bred Aberdeen-Angus at March 2nd, under the auspices of the Victoria County Pure-breed Association. The sale comprises 35 bulls and 12 cows. Of the former the average age is around one year of age with a few over a year old, and all are young, but two aged.

A splendid opportunity for the Western market to get acquainted with the catalogue will be given by the Secretary, Lindsay, Ontario.

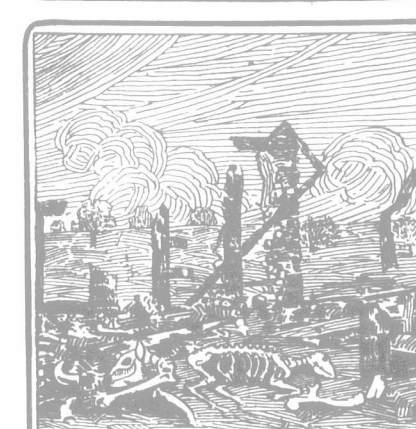
ty Holsteins at Woodstock. The advertisement elsewhere in this issue, the Victoria County Holstein Club have a number of cattle going into the sale to 80 head. Of these 64 and sixteen are young bulls, and the other years been a few more. Attached to a number of individuals are to be found in this sale but it is doubtful if they are in a position to offer so many of choice individuals, and has there been so many. Practically all the females are of milking age, but all will give a full flow of milk, or close to it at time of sale. The records appearing in the catalogue such entries as a 25.93-gal. milked by M. & W. Schell, close to 600 lbs. of milk in 7 days, and which is due to a son of Queen Butter, and a first 33-lb. cow. Son also have a 25.13 lb. milking, being a daughter of Butter Baron. This cow has given 16,260 lbs. of milk in the year also have another good 3-year-old show cow, who has given 22.08 lbs. of milk in the R. O. P. at four years. We might mention that this entry has a dam, Walburn Rivers has a daughter of a 3-year-old cow, and her dam has given 16,260 lbs. of milk in 7 days was made of age. The second is a 3-year-old, and her dam has given 60 lbs. at this age. Shearer of Bright sends with a 16,299-lb. three-year-old, and Willard Scott has a daughter of Prince Abbecker Merboth of which are heifers, all promising. Charlie's good producing cows are tested. Each are put to the service of a bull. A. E. Cornwell has a three-year-old cow, bred to this same 34.68-lb. sire is a daughter of a cow who has given 19,000 lbs. of milk as a 3-year-old. The other two cows have given 18.87 lbs. and 14.76 lbs. of milk in the three-year-old form. Martin McEwen's one cow entered, but she is a 37-lb. sire. In young calves it is a 31.07-lb. calf conformation and the remainder of the way from this down to the dams, and 20 lbs. for the year. Included in these are show calves and from the catalogue it would seem that, once again, will be a buy herd sire material, giving full information, C. Currie, Ingersoll, Ont.



1. The illustration above shows the Barn of Col. Robertson, of Willamstown, Ont. It is equipped with Steel Stalls. One day the barn caught fire and burned to the ground. Nothing was left standing but the outer walls and the BT Equipment. The BT Equipment was practically uninjured.



2. As soon as the rubbish was cleared away, the cattle were tied up in their old stalls. The above picture is from photo taken at the time by Mrs. Robertson. This is only one of dozens of cases where BT Equipment has come through a bad fire practically without any injury.



3. Wood Stalls are not fireproof. Moreover, in case of fire it is hard to get the animals out of them. It is difficult to untie cow chains when animals are crazy with fright. Make sure that your stalls will be fireproof, by putting in BT Steel Stalls. Send in the coupon below and get full details.

Send this coupon for the 352-page Barn Book. Tells how to plan and build the barn, how to ventilate, how to frame, how to save steps, labor, time and feed. This book saves you hundreds of dollars in building.

BEATTY BROS. LIMITED

4480 Hill St., Fergus, Ont.

I intend to build about.....
 I intend to remodel about.....
 I keep.....Cows
 My name is.....
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 If you live in Maritime Provinces, please fill out Lot and Concession. If you live in Western Provinces, please give Section, Township and Range.....

Questions and Answers.

Miscellaneous.

Spray for Horn Fly.

What is a cheap spray to apply to ward off the Texas Horn Fly? -W. L.
 Ans.—One part of one of the coal tar antiseptics mixed with 19 parts raw linseed oil. Water will do to mix it with but it evaporates much more quickly, hence the oil will prove the cheaper.

Casein.

1. How much casein will a gallon of skim-milk produce or how many pounds of skim-milk does it take to make 1 pound of casein?
 2. What is the value of one pound of casein?
 3. What is it used for?
 4. Is the process of manufacture expensive compared with making cheese?
 C. R.

Ans.—1. One hundred pounds of skim-milk will produce about 3½ pounds of casein.

2. The value of casein fluctuates according to the markets. Usually it is worth from seven to ten cents per pound. Just at present it may be slightly higher in price.

3. Casein is used in the manufacture of glue, paints, cement, and in the textile industry for the manufacture of calico printing, to give a glossy finish, and also for giving a fine coating to paper. To some extent it is used in the manufacture of substances which resemble ivory, celluloid, etc.

4. The process briefly is, to precipitate the casein with either dilute sulphuric acid, or rennet. The more common method is to use about one pint of diluted sulphuric acid to 1,000 pounds of skim-milk for precipitating the casein. The whey is drawn off and the curd is dried on heated trays. Up to the present this branch of dairying has not been very profitable in Canada, as the raw casein is sent to the United States, I understand, there to be refined, and the profit seems to be largely made by the refiner in the United States. I do not think it would be at all practicable for a farmer to undertake the manufacture of casein out of skim-milk. It would be much better to make it into skim-milk cheese, where it is not practicable to feed it on the farm.
 H. H. D.

Purchase of Binder.

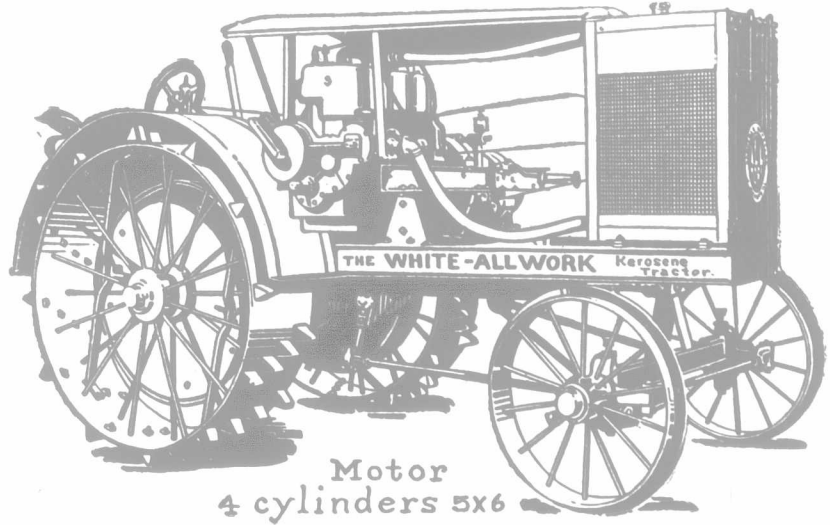
A had a six-foot binder which had run ten years. Last year he got two new canvasses for it. To make it run through next harvest he would have had to put quite a few repairs on it. His neighbor, B, having sold his farm, got out the bills for an auction sale. On them had advertised binder, 6 ft., nearly new. A went over before the sale and bought B's binder for \$175, and arranged to offer his old machine at the sale. C, who lived six miles away, needed a binder, knew that B had only been on that particular farm for three years. He went to the sale. When they came to sell the binder he saw that the canvasses were good. He surmised, by the appearance of the paint that, for a three-year-old binder, it had been exposed considerably. The binder was knocked down to him at \$92. On going back next day he saw that the binder was not as advertised, so he did not settle for it, but drew it into a near-by shed with his own team.

1. Must C give his note to A for \$92 when the binder is not worth \$20 to him?
 2. Did drawing the binder into the shed make him more responsible for payment for same?

3. A synopsis of Statute of Frauds, Chap 102, R. S. O., is "No sale of goods of greater value than \$40 shall be binding, unless the buyer actually receives some or all of the goods, or pays, part or all of the money, or there is an agreement in writing signed by the buyer and the seller." Does this apply in this instance, and, if C leaves said machine in the shed on B's farm, does he have to settle for same, and, if not does A have to remove the binder out of the road of the man who has bought B's farm?
 E. S.

Ans.—1. We think so—either that or cash.
 2. Yes.

3. We do not think that, under the circumstances the statute in question affords you a sufficient defence. It is a case for making the best settlement possible.



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.

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.

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

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"

AUCTION SALE OF Pure-Bred Angus Cattle

Farm Stock and Implements
 At Cold Creek Farm, Lot 23, Con. 7, Hamilton Tp., Northumberland Co., on
 Wednesday, March 17th, 1920
 20 HEAD ABERDEEN-ANGUS
 One four-year-old bull, 2 yearling bulls, 5 cows with calves at foot, 1 cow due to calve in April, 3 heifers 2 years old, 2 heifers one year old, 1 heifer under one year. Write for catalogue.
 Trains met at Campbellcroft Station, G.T.R., if notified. Good liveries from Cobourg and Port Hope. Sale of cattle about 3 o'clock.
 JOHN A. NOBLE Auctioneer
 Geo. A Ritchie, Plainville, Ont.

VALUABLE INFORMATION

In our interesting and instructive catalogue should be in the hands of every stock owner. Information on Animal Diseases and Animal Vaccines, Veterinary Instruments, Ear Tags, and Animal Markers, Dehorning, Horn Weights, Brands, Breeders' Appliances and supplies of all kinds. Write to-day for Catalogue "A"—It is Free.
 ONTARIO VETERINARY & BREEDERS' SUPPLY, LIMITED
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FAIRVIEW CLYDESDALE CHAMPIONS
 We have at present, several mares that have been champion winners at Toronto, Guelph, London and Ottawa. Look up our past winnings and call on us if you want something choice. We also have Shorthorn bulls and females of show individuality.
 ROBERT DUFF & SON MYRTLE, ONT.

BROWN SWISS BULLS
 2 young bulls fit for service from high-producing dams excellent type. This breed is ever growing in popularity.
 J. W. LAIDLAW, R. No. 2, WILTON GROVE, ONT.

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as well as painful

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WILL RELIEVE YOU.

It is penetrating, soothing and healing and for all Sores or Wounds, Felons, Exterior Cancers, Burns, Boils, Carbuncles and all Swellings where an outward application is required CAUSTIC BALSAM HAS NO EQUAL. Removes the soreness—strengthens the muscles. Price \$1.75 per bottle. Sold by druggists or sent by express prepaid. Write for Booklet 1.

The LAWRENCE WILLIAMS COMPANY, TORONTO

ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

Will reduce Inflamed, Strained, Swollen Tendons, Ligaments, or Muscles. Stops the lameness and pain from a Splint, Side Bone or Bone Spavin. No blister, no hair gone and horse can be used. \$2.50 a bottle at druggists or delivered. Describe your case for special instructions and interesting horse Book 2 R Free.

ABSORBINE, JR., the antiseptic liniment for manking, reduces Strained, Torn Ligaments, Swollen Glands, Veins or Muscles; Heals Cuts, Sores, Ulcers, Allays pain. Price \$1.25 a bottle at dealers or delivered. Book "Evidence" free.

W. F. YOUNG, Inc., 258 Lyman's Bldg., Montreal, Can.

Sunny Side Herefords

Herd headed by Brummel's Chance (Imp.) Champion at London and Guelph, 1919. We have for sale now a few choice bulls and heifers about a year old.

MRS. M. H. O'NEIL & SONS
R.R. No. 4 Denfield, Ont.
Phone Iderton.

Aberdeen-Angus Cattle

Suffolk Down Sheep or Clydesdale Horses.

WRITE:
JAMES BOWMAN
Elm Park Guelph, Ont.

GLENGORE Aberdeen - Angus

Do not miss the opportunity to secure some of the choice males and females of wonderful smoothness, quality and strain type that are being offered by **GEO. DAVIS & SONS, R.R. No. 1, Erin, Ont.** Herd sire a son of Black Abbott, Champion Angus bull of Canada. Write for particulars.

SUNNY ACRES ABERDEEN-ANGUS

The present string of young bulls for sale includes some classy herd bull prospects, winners themselves and sired by champions. If interested in Angus write your wants. Visitors welcome.

G. C. CHANNON, Oakwood, Ontario
P. O. and phone. Railway connections: Lindsay, C.P.R. and G.T.R.

Aberdeen - Angus

Meadowdale Farm
Forest, Ontario

Alonzo Mathews **H. Fraleigh**
Manager Proprietor

ALLOWAY LODGE STOCK FARM

Angus, Southdowns, Collies
Choice bred heifers. Bulls 8 to 15 months. Southdown ewes in lamb.

ROBT McEWEN, R. 4, London, Ont.

ANGUS BREEDERS—ATTENTION!

If you want a first-class Angus Bull to head your herd get Justice of Aberdeen, the 2nd prize senior calf at the Winter Fair, Guelph, 1919. Other stock for sale, male and female. **J. W. Burt & Sons, Aberdeen Farm, Hillsburg, R. R. 1, Ont.**

ABERDEEN-ANGUS CATTLE CLYDESDALE HORSES.

We offer good young stock for sale.

Jno. Underwood & Son, Grafton, Ontario

Balmedie Aberdeen-Angus

Nine extra good young bulls for sale. Also females all ages. Showing quality.

THOS. B. BROADFOOT, FERGUS, ONT.

Wanted—An Aged Shorthorn Bull

of fashionable Scotch breeding; tuberculin tested; with size, quality, proven prepotency, and guaranteed a sure breeder. State age, color and weight.

ADVERTISER
Care of Union Bank Esterhazy, Sask.

Questions and Answers.
Veterinary.

Infectious Ophthalmia.

Calves eyes become coated with a greyish scum and run water. In two or three weeks the eyes become somewhat clear, but a reddish point the size of a pea protrudes from the centre of the eye-ball. Six of my calves have become affected.

J. H.

Ans.—This is an infectious form of ophthalmia (inflammation of the outer portion of the eye). All infected should be isolated and kept in comfortable, semi-darkened quarters. A laxative of 2 to 4 oz. of raw linseed oil (according to size of animal) should be given. Get a lotion made of 10 grains of sulphate of zinc, 20 drops fluid extract of belladonna and 2 oz. distilled water. Bathe the eyes well with hot water 3 times daily and after bathing put a few drops of the lotion into each. When treatment is given in the early stages it is seldom that an ulcer (the points you mention are ulcers) forms. When it does form it should be touched with a pencil of the nitrate of silver once daily for 2 or 3 days. Great care must be observed to avoid touching any part except the most prominent part of the ulcer, else complications will result.

V.

Dirty Sheath—Splint.

1. Horse has a dirty sheath. He is dull, but has a ravenous appetite. I feed well on hay, oats and bran. What is the cause?

2. Driving horse has had a splint for 8 months. It is beginning to cause lameness. How can I remove it. J. L. K.

Ans.—1. Want of attention is the cause of the dirty sheath. It should be carefully washed out with warm soapy water and then dressed carefully with sweet oil. Have his teeth examined and if necessary dressed. Give him a laxative of 1½ pints of raw linseed oil. Mix equal parts of powdered sulphate of iron, gentian, ginger and nux vomica and give him a tablespoonful 3 times daily. He suffers from chronic indigestion.

2. It is remarkable for a splint to cause lameness 8 months after its appearance. Examine him or have him examined by a veterinarian to make sure whether or not it is splint lameness. It is very probable the lameness is not due to the splint. Splints are very hard to remove, but they usually gradually grow less without treatment. The lameness of splint is not due to the visible enlargement, but to the bony union between the large and small bones of the cannon. Absorption of the enlargement can be hastened by smart, repeated hand-rubbing or by blistering once monthly with 2 drams binodide of mercury mixed with 1 oz. vaseline. While the lump will probably disappear, either with or without treatment the union of the bones will remain, hence the splint will continue.

V.

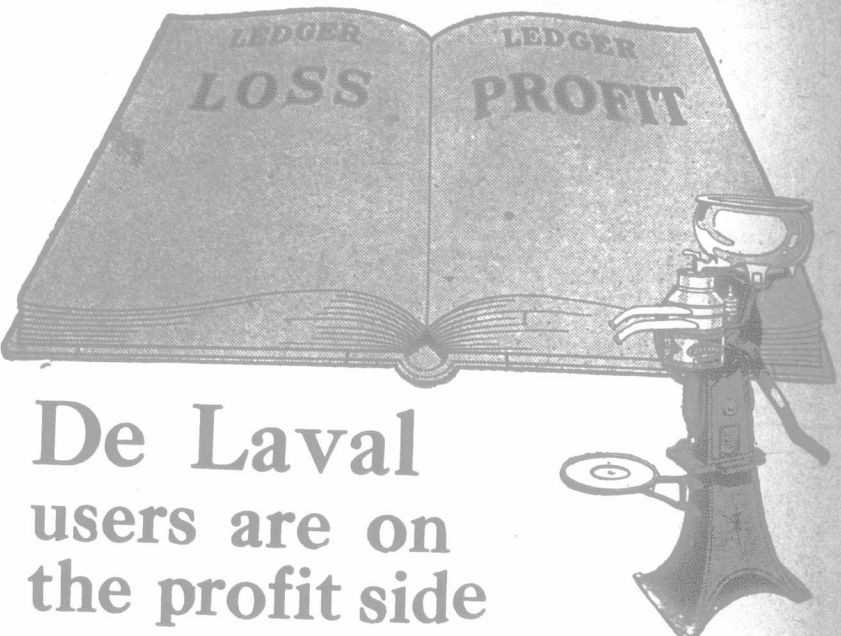
Through the courtesy of the Secretary W. W. Chapman, Volume 16 of the South Devon Flock Book has been received at our office. It contains the pedigrees of rams numbering from 14542 to 15624, and of flocks from 1 to 290. Anyone interested might secure a copy by writing Mr. Chapman, Room 4, Mowbray House, Norfolk Street, Strand, London, England.

Shorthorn Sale at Guelph.

Attention is drawn to the annual sale of Shorthorns to be held in the Winter Fair Buildings at Guelph, on Wednesday, March 3, at one o'clock sharp. A splendid opportunity will be offered to anyone needing a herd sire, or some females as there are many really high-class individuals, and a study of the catalogue reveals a lot of choice breeding.

Included in the offering are several proven sires, and younger bulls that have been winners at recent shows. There are suitable bulls for the breeder of pure-bred cattle, or for the farmer who wants to raise good beef animals. In the female offering there are some excellent cows and heifers, some with calves at foot and bred again; some heifers in calf, and others about a year old. Some of the heifers were shown successfully at several of the larger shows last fall, and are very promising. For catalogues apply to the Secretary, J. M. Duff, Guelph, Ontario.

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De Laval users are on the profit side

No machine used on the farm returns a larger profit on the investment than a De Laval Cream Separator.

It saves from 25% to 50% of cream twice a day every day in the year over crocks and pans; and from 10% to 25% of cream over an inferior or half-worn-out separator. With butter-fat at the present high prices these savings mount rapidly. Many thousands of users have found that their De Laval paid for themselves in a few months. De Laval users are always on the profit side of the ledger at the end of the year.

More De Laval are used than all other makes combined.

Your local De Laval agent will be glad to demonstrate what an Improved De Laval will save you. If you don't know the nearest agent, please simply write the nearest office below

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ABERDEEN-ANGUS CATTLE, SHROPSHIRE and SOUTHDOWN SHEEP
CORRESPONDENCE and INSPECTION INVITED
(Mention Farmer's Advocate)

GRAND RIVER DUAL-PURPOSE SHORTHORNS

Herd headed by Prince Lavender whose dam gave 16,596 lbs. of milk as a four-year-old. A real choice red bull, 11 months old, for sale now—his dam is a splendid milker. Also have a few good bull calves coming on.

HUGH A. SCOTT, CALEDONIA, ONT.

Irvin Scotch Shorthorns

—Herd Sire Marquis Supreme—by Gainford Marquis (imp.). We have at present three young bulls of serviceable age and one younger, all sired by our herd sire and from Scotch bred dams. Good individuals and the best of pedigrees. Also pricing a few females.

J. WATT & SON, ELORA, ONT.

Spruce Glen Shorthorns

—When in want of Shorthorns visit our herd. We have 80 head to select from—Minas, Fames, Florences, Emlys, Red Roses and Elizas—good milkers; just right.

JAMES McPHERSON & SONS, Dundalk, Ont.

R.O.P. Dual-Purpose Shorthorn Bulls

—I am consigning in Caledonia sale two of 11,862 lbs. milk and 513 lbs. fat. Dams of these bulls have good R.O.P. records, with record or breeding. Offering at farm one extra choice, eleven months' son of Maud.

GROVER C. ANDERSON, R.R. 1, Waterford, Ont.

Shorthorn Bulls and Females

—Herd headed by Ruby Marquis, a son of calves now coming are all by this sire. We are also offering a few females in calf to him. Get our prices before buying elsewhere.

PRITCHARD BROS., R. R. No. 1, ELORA, ONT.

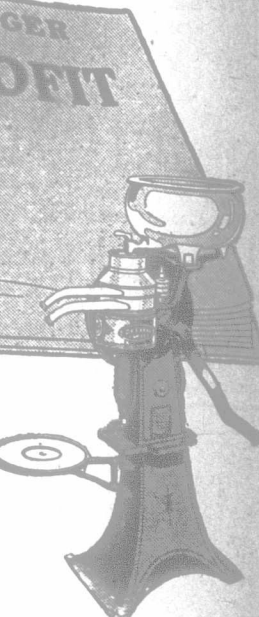
SHORTHORNS—CLYDESDALES

Just one bull left, 9 months old; sire, Lochiel (imp.); dam on the R.O.P. Pure Scotch. Stallion calf sired by Baron's Stamp. Fillies rising 2, 3, 4 and 5-year-old. Come, see, and be satisfied.

Brooklin G.T.R. and C.N.R. Myrtle C.P.R. WM. D. DYER, COLUMBUS, ONTARIO

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SHORTHORNS
s. of milk as a four-year-old
le now—his dam
w good

CALEDONIA, ONT.
—Herd Sire Marquis Supreme—by Gainford Marquis (imp.). We have at
sired by our herd sire and from
pricing a few females.

Shorthorns visit our herd. We
ect from—Minas, Fames, Flor-
Roses and Elizas—good milkers;
k, level, mellow fellows and breed

SONS, Dundalk, Ont.
nsigning in Caledonia sale two
s of Maud 108683, with record
R.O.P. records. See catalogue
Maud.

R. R. 1, Waterford, Ont.
ed by Ruby Marquis, a son of
ainford Marquis (imp.). Our
emales in calf to him. Get our

ELORA, ONT.
ESDALES
P. Pure Scotch. Stallion colt.
ome, see, and be satisfied.
ER, COLUMBUS, ONTARIO

Farmer's Advocate.

SCOTCH-TOPPED Shorthorns!

AT AUCTION

30 Choice Selections

The entire herd belonging to **GEORGE M. HEARNE**, and selling without reserve at the farm, 1 mile from Burford, Ont.,

Thursday, March 4th, 1920

This herd, although small, comprises a number of choice Scotch-topped females, all of which are real good representatives of the breed, and selling in the best of breeding condition. The majority of the breeding cows will have calves at foot by, or be calving early to the service of the herd sire, which is a son of that good breeding bull, Nero of Cluny (imp.). The service of this sire should increase their value considerable, a fact which will be better appreciated when his one- and two-year-old daughters are seen on sale day. In all, there are six of these daughters, among which will be found some nice Strathallan and Roan Duchess pedigrees. Catalogues on request.

As Mr. Hearne is going up farming there will be positively no reserve, and, in addition to the pure-bred cattle, there will also be a number of grade cattle selling, as well as horses, implements, hay, grain, etc., including all equipment which has been used on this up-to-date 250-acre farm.

George M. Hearne, Burford, Ont.

Brant County

Second Annual Sale Caledonia Shorthorn Club

ATTRACTION 57 Breeding Cattle 57

Carefully selected from the leading herds of the district and selling without reserve at

Caledonia, Ont., Wednesday, March 10, 1920

Forty Young Bulls. Seventeen Females.

The largest offering of young bulls ever offered in an Ontario sale ring. There is herd sire material here, and breeders who are looking for a herd sire should attend this sale. The females, too, will please.

Consignors: J. B. Calder, Glanford; D. B. Campbell, Cainsville; E. W. Gowan, Jarvis; Peart Bros., Caledonia; Hugh Scott, Caledonia; Ross Martindale, Caledonia; Jno. Senn, Caledonia, and others.

For catalogues, address:

HUGH SCOTT, Caledonia, Ontario

Sales Managers: W. A. Douglas, D. Z. Gibson

Auctioneer: T. E. Robson

Questions and Answers. Miscellaneous.

Land Agent's Commission.

Would you kindly let me know what the law is regarding the listing of farms and agent's commission. I listed a farm with a certain agent who has not succeeded in bringing me a purchaser. Now am I liable to him for commission if I sell through another agent? He claims I am.
Ontario. C. E.

Ans.—It depends mainly upon the terms of your written agreement with the agent, and we cannot answer your questions without first seeing same or a copy.

Leaky Stovepipes—Lump Jaw.

In advice on leaking stovepipes you state that you open a hole in the pipe to send additional warm air up the chimney to prevent leaking. I have a stove with a controller damper in the pipe, under the warming oven, but I understand that when it is open it checks the fire. Should I cut a larger hole above the warming oven?

2. I have a cow with a large lump under her jaw. Would this be lump jaw, or does this disease always come on the side of the jaw?
T. W.

Ans.—1. The leaking stovepipe is usually caused by a cold chimney, and it is the moisture in the smoke condensing that causes the trouble. There is usually more leakage when burning green wood. As you state the small controller damper checks the fire when it is opened, but if you would put your hand to this damper you would notice that there was a strong suction. The warm air from over the stove is drawn up the chimney, which aids in drying the chimney, thus preventing leaking. A larger opening would possibly give better results.

2. Lump jaw may appear on any portion of the jaw. If it is not attached to the bone it may be dissected out. If attached to the bone, the iodide of potassium treatment is recommended, which consists in giving iodide of potassium three times daily, commencing with one dram doses and increasing the dose by one-half dram daily until

A NEW IMPORTATION OF FORTY SCOTCH SHORTHORNS

arrived home Dec. 17th. From our herd of 125 head we can offer a large selection in choicely-bred bulls and females. Anyone in need of foundation stock may find it to their advantage to look over our offering before making any purchases.

J. A. & H. M. PETTIT, - - - - - **Freeman, Ontario**
Burlington Jct., G.T.R., only half mile from farm.

The Salem Herd of Scotch Shorthorns

HERD HEADED BY GAINFORD MARQUIS, CANADA'S PREMIER SIRE
Write us about the get of Gainford Marquis. They have won more at Toronto and other large exhibitions than those of any other sire. We still have a few sons to offer, as well as females bred to Canada's greatest sire.

J. A. WATT, : : : **Elora, Ontario**

PLASTER HILL STOCK FARM The Home of Dual-Purpose Shorthorns

I have now a large number of cows running in the Record of Performance, and have a few bull calves for sale from these. Can also spare a limited number of females.
Herd sires:—Green Leaf Record 96115 and Commodore 130056. The two nearest dams of the latter average 12,112 lbs.

ROSS MARTINDALE - - - - - **Caledonia, Ont.**

Walnut Grove Scotch Shorthorns

We are offering choice young males and females from the best Scotch families and sired by Gainford Eclipse and Trout Creek Wonder Ind. If wanting something real good, write, or come and see us.
DUNCAN BROWN & SONS, Sheddow, Ont., P.M., M.C.R.

Shorthorn Females—Shorthorn Bulls—We are now offering a number of choice heifers, good families and good individuals. Many are well forward in calf to our Roan Lady-bred sire, Meadow Lawn Laird. We also have bulls ready for service. Prices right. Satisfaction guaranteed.
J. K. CAMPBELL & SONS, Palmerston, Ont.

THE HAWTHORNE SHORTHORNS AND CLYDESDALES

Herd headed by "Gainford Select" =90772= by "Gainford" Marquis (imp.). Heifers and cows in calf to him, and six bulls, mostly by our former sire "Royal Choice." Clydesdale mares and fillies, imported and Canadian-bred. Leicester sheep. Prices moderate.
ALLAN B. MANN, Peterboro, R. R. 4, Ont.; The Hawthornes, C.P.R. and G.T.R.

GLENGOW SCOTCH TOPPED SHORTHORNS

We have several thick, growthy bulls about a year old and sired by Prince Sultan; our present herd sire—a Roan Lady, by Lavender Sultan. The families represented are Golden Drop, Crimson Flower, Wedding Gift, Wimple and Kilblean Beautys. Also pricing females.
WM. SMITH, M.P., Columbus, Ont. Brooklin, G.T.R.; Myrtle C.P.R.; Oshawa, C.N.R.

SHORTHORNS (PURE SCOTCH)

Richly-bred bulls of A1 quality, by Escana Ringleader =95963=. Cows with calves at foot by Escana Ringleader. Write you wants.
F. W. EWING, - - - - - **R. R. 1, Elora, Ontario**

Cedar Dale Scotch Shorthorns—Pleasing Cattle and Pleasing Pedigrees—Senior Sire, Excel-sior by Gainford Marquis (imp.). Junior sire, Matchless Duke by Gainford Matchless, the \$12,000 son of Gainford Marquis (imp.). I have a number of choice bred heifers, and must sell a few to make room. Also have a couple of Scotch-bred bulls. Prices right at all times.
FRED. J. CURRY, Markdale, Ont.

she refuses food and water, fluid runs from the eyes and mouth and the skin becomes scruvy. When any of these symptoms become marked, cease giving the drug.

Poison Ivy.

We have a field in which there is some poison ivy. Will it do calves any harm to turn them in this pasture?
Mrs. J. B.

Ans.—It will be unsafe to do so, as if they come in direct contact with or consume some of the ivy it will cause trouble.

Fence Rails.

After repairing a fence, has the tenant a right to use the rails not suitable for fencing purposes for firewood, if nothing is mentioned in the lease?
Ontario. A. P.

Ans.—Not without first obtaining the landlord's permission to do so.

Qualification for Reeve—Municipal Elections.

1. Does a man have to own \$4,000 or property to that value in order to hold the office of Reeve of a township?
2. Is it legal for a young man to act as poll-clerk who is not qualified to vote at municipal election?
3. Could election be contested if he did so?

4. Could Election Act of 1913 be used at polls by Deputy Returning Officer in Jan., 1920?

5. Does a candidate in municipal elections render himself liable by asking people to vote, who are not renters or tenants but whose names have been placed on voter's list?

6. Can a man who moved out of the township years ago vote, simply because his name has not been removed from the voter's lists?
Ontario. J. A.

Ans.—1. No.
2. Yes.
3. Not successfully.
4. Not properly.
5. No.
6. It is possible.

Maple Shade
SHORTHORNS

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

W. A. DRYDEN
Brooklin - - Ontario

IMPORTED DUAL-PURPOSE
Shorthorns

If you require a bull bred on the English system for milk and beef, we can sell you one of choice breeding, and in every way a good individual—one which will add value to your herd. We have a fine selection of young bulls at present, also English Large Black pigs.

CALL OR WRITE.
LYNNORE STOCK FARM
F. W. COCKSHUTT, Brantford Ont.

FEEDS FEEDS

We can quote inducing prices on all kinds of feed including Linseed Oilcake Meal, Cottonseed Meal, Gluten Feed, Distillers Grains, Oats, American Corn, Mill Feeds, Feeding Molasses, &c. (Carlots or less).

WE BUY: Hay, Straw, Potatoes, Oats, Buckwheat, Barley, Peas, Beans, &c.

Write us to-day.
Allen - Kelley Company
214 Board of Trade Bldg., Toronto

DUAL-PURPOSE
SHORTHORNS

Present offering: Six young bulls, Reds and Roans, also a number of females. They have size, quality and breeding from good milking dams. Prices moderate. Satisfaction guaranteed.

GHAS. GRAHAM - Port Perry, Ontario

Buy Glenfoyle Shorthorns

9 bulls, all ages; 25 heifers and cows. Herd bull 2,400 pound quality kind, which sire's dam and three nearest dam's milk records average over 9,000 pounds; also high-class yearling Clyde stallion. Come and see them.

Stewart M. Graham - Lindsay, Ont.

Mardella Dual-purpose Shorthorns

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

DR. BARNARDO'S HOMES

A party of boys and girls under the auspices of the above Homes will arrive in Ontario middle of March, 1920. Applications for service, as well as boarded-out children, may be sent for boys to

Mr. John W. Hobday, Manager, 50-52 Peter Street, Toronto, and for girls to Miss Taylor, Secretary, Girls' Home, "Hazelbrae," Peterborough.

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.

Evergreen Hill Farm—R.O.P. Shorthorns

Present offering: Two 12-month bulls by the R.O.P. bull St. Clare =84573 =, also a few heifers and heifer calves.

S. W. JACKSON, Woodstock, Ont.

LABELS

Live-stock Labels for cattle, sheep and hogs. Manufactured by the Kelchum Manufacturing Co., Ltd., Box 501 Ottawa, Ont. Write for samples and prices

DUAL-PURPOSE SHORTHORNS

Herd headed by Darlington Major Maude 101212, son of Darlington Major 91279—114994. For sale: a number of young bulls and females. Choice reds and roans. **R. H. & WALTER S. SCOTT, Tillsonburg, Ont. - Box 231**

PATENTS Canadian, Foreign, Booklets Free

Egerton R. Case, 10 Adelaide East, Toronto

Questions and Answers.
Miscellaneous.

Lease.

1. Can there be a verbal lease for a longer period than one year?
2. If so, for how long? J. G.

Ans.—1. Yes.
2. Three years.

Fencing Farm.

I have a wood lot bordering on boundary between two counties. There is a road allowance but it never was fenced or opened. There is a driveway across this wood lot to avoid a hill and low place on boundary and it has been used by parties driving stock across for 15 or 20 years. Now the wood is cut off and I want to fence it for pasture.

1. Can I go on and fence lot and stop them crossing it? If not what steps would I have to take to get road opened?
2. Can I force the two counties to open the road, and would I have to leave driveway open until boundary road is opened? R. W.

Ans.—1 and 2. We think that you should eventually do the proposed fencing. But before doing so it might be well to write the clerks of the two municipalities (without prejudice) stating your intention to fence your lot, now that it is cleared, and suggesting that the road be now opened.

Miscellaneous.

1. I want to make a brooder for a hoover that will hold 100 chicks. How should it be made and what size should it be? How should it be ventilated?
2. Last spring I hatched 30 chicks and they all died. They seemed to have diarrhoea. How should I feed them to prevent this trouble?
3. How should goose eggs be cared for from the time they are laid until set?
4. What ration should I feed a cow that is giving about 70 lbs. of milk a day? I have been feeding straw, silage, mixed hay, oats, bran and oil cake. H. H.

Ans.—1. Some put the hoover in a colony house which may be about six feet square. This gives the chicks plenty of scratching space and if there is a large window in the colony house they have the advantage of the sunlight. If you want to make a smaller brooder, it may be about four feet wide, five feet long, eighteen inches high at the front and two feet at the back. Small screened openings may be placed in either end to give ventilation. There should be a small yard in connection with a brooder of this kind.

2. White diarrhoea is a common disease of young chicks and is responsible for heavy loss. Thorough disinfection of the brooder is essential, and it is also important that the incubator be thoroughly disinfected if the chicks are hatched artificially. Improper feeding and brooding very often results in weakened chicks, thus laying the foundation for the attacks of parasitic organisms. It is advisable not to feed the young chicks for the first forty-eight hours. The chicks may then be given some chick grit, a drink of clear water and bread which has been soaked in sour milk and squeezed dry. Sour milk has a beneficial influence on the growth of the chicks and may be fed quite liberally. Hard boiled eggs, bread, onion tops or dandelions may be chopped, mixed together and fed at intervals of three or four hours for the first two or three days. Oatmeal is frequently fed, and when the chicks are a week old they will commence picking at cracked grain. Some of the commercial feeds on the market have proven very beneficial when fed to young chicks.

3. The eggs should not be allowed to become chilled. Pack them in a box of oats or bran and turn them every second day.

4. The feeds mentioned, if fed in the proper proportion, should give results. The straw and silage should be mixed, and the cow requires all the roughage she will consume. Equal parts of oats and bran, with about 2 lbs. of oil cake per day, make a very good concentrate ration. The amount of concentrates to feed will depend considerably on the size of the cow. A very safe guide is a pound of concentrates to four pounds milk per day.

11th Annual Sale of Pure-Bred Stock
Lindsay, Ont., March 2nd, 1920
Sale at 1 o'clock sharp

For the eleventh time in eleven years the VICTORIA COUNTY PURE-BRED STOCK ASSOCIATION offers to the public a choice consignment of Shorthorns from among the best herds of the County.

34 Bulls Shorthorns 13 Heifers and Cows
1 Aberdeen-Angus Bull

Among the herds represented are the following herd sires: Augusta Prince 4th —114677—, Balaclava —109964—, Rosebud King —109197—, Chief Link (imp.) —101803, Representative —117445—, and others. This is the chance of the year to buy good, useful cattle at your own price; cattle for the farmer, rancher and breeder. Swat the scrub bull by buying a good pure-bred.

Stock will be loaded on cars free. Sale in Jas. Isaacs' Garage, York St.

President, A. E. Swain, Valentia. Secretary, A. A. Knight, Lindsay
Auctioneer, GEO. JACKSON.
Apply to Secretary for catalogue.

Bruce County Breeders' Club
FIFTH SEMI-ANNUAL SALE
SCOTCH AND SCOTCH-TOPPED

SHORTHORNS

Walkerton, Ont., Tuesday, March 2nd, 1920
THIRTY-FIVE HEAD

Heifers bred and open, and a choice lot of bulls from 6 to 18 months old. Scotch families represented: Rachael's, Tulips, English Ladies and Countess. Bulls from plainer families topped with splendid bulls of outstanding merit and Scotch breeding.

Write Secretary for catalogue.

W. A. Tolton, Walkerton, Ont. President
N. C. MacKay, Walkerton, Ont. Secretary

Shorthorn Bulls for Sale at Bargains for Quick Sale

Having purchased the \$3,100 bull, **Augusta Emblem**, at the Dryden-Miller sale, I am offering my 4-year-old herd bull, **Imp. Marigold King** (108395), sire **British Consul**, dam **Marigold Ruby**, for sale at the low price of \$500. **Marigold King** is a red, and has type to burn, he is a sure sire and a good producer, as my young stock will prove in the near future. I also offer the red 15-month **Missie** bull, **Lord Beaverbrook** 132565, sired by **Marigold King**, dam **Dymment's Missie** 131299, at the low price of \$700. He is a grandson of **Missie** 166th (imported) 34299, and his pedigree contains such great bulls as **Missie Champion**, **Captain Inglewood**, **Scottish Archer**, **Athabasca**, etc. **Lord Beaverbrook** is a winner and a show bull of no mean quality, and will prove himself a bargain to the purchaser, his breeding alone is worth more than the price asked. I also have 2 young red bulls, 8 months quality at bargain prices, and I advise you to act quickly, as these bulls have to be sold at once, and the prices quoted are away below the value of the animals offered. Farm 10 minutes' drive from Barrie station. Apply to

HAROLD M. DYMENT :: Barrie, Ontario

Burnbrae Shorthorns

Eighty-three years without change we have been breeding Scotch Shorthorns. The foundations of many of the best herds in America were laid from our farms.

I am in a position to furnish you now with the BEST IN FORM and in BREEDING that can be found any place. Twenty-five young heifers, every one of them bred right, not a plain-looking one in the lot; every animal that I have sold in two years has been satisfied in what you want at a price that will give you a chance, and I will pay the freight to your station. I can satisfy you with the will of a Grand Champion at head of the herd.

Post Office, Telegraph, Telephone and Station is Stouffville, Ont.

ROBERT MILLER :: Stouffville, Ont.

BRAEBURN SCOTCH SHORTHORNS
150 Head

Herd headed by **Nero of Cluny (Imp.)**

I have at present twelve young bulls that are now nearing serviceable age. The majority are sired by my present imported herd sire, and we guarantee them as good individually as the get of any other one sire in Canada. They are nearly all roans, and are priced to sell. Can also spare some breeding cows in calf to **Nero of Cluny (Imp.)**.

Brantford 7 miles. Oakland 1 mile. **CHARLES MCINTYRE, Scotland, Ontario**
L. E. N. Electric R.R. Cars every hour.

SHORTHORN BULLS BY KING DORA (IMP.)

We have several young bulls by the above sire and from good milking dams. Also a few females bred to this sire. A choice lot throughout, and priced right. We have one Clyde mare, **Lady Kinloch** (imp.) 12248, safe in foal.

SOCKETT BROS., ROCKWOOD, ONT.

e-Bred Stock
nd, 1920

CTORIA COUNTY
Offers to the
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, and others.
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Swat the scrub bull by

saacs' Garage, York St.

A. A. Knight, Lindsay

ers' Club
SALE

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m 6 to 18 months old.
English Ladies and
splendid bulls of out-

Kay, Walkerton, Ont.
Secretary

for Quick Sale

Dryden-Miller sale, I
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Barrie, Ontario

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RTHORNS
Breeding Females

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RE, Scotland, Ontario
every hour.

RA (IMP.)

ma. Also a few females bred
Clyde mare, Lady Kinloch

, ROCKWOOD, ONT.

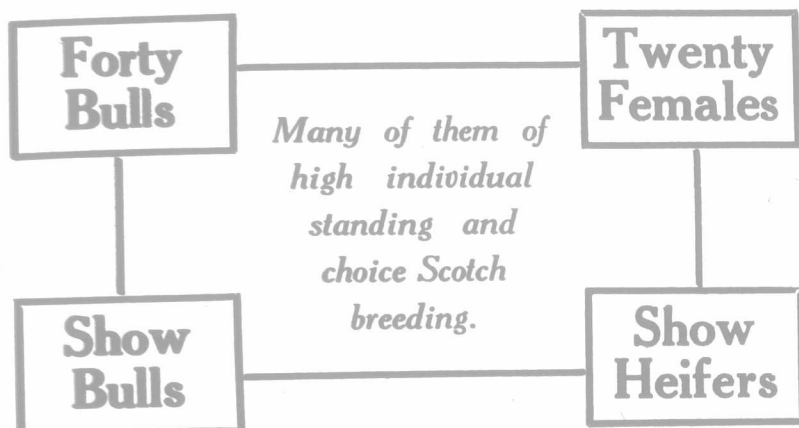
A Great Shorthorn Collection

To be sold in the

Winter Fair Buildings at Guelph

Under the management of the FAT STOCK CLUB, on

Wednesday, March 3rd, 1920



Some proven sires and farmers' bulls, cows with calves, heifers in calf and younger heifers of the following families: Nonpariel, Golden Drop, Butterfly, Wedding Gift, Rosebud, Roan Lady, Broadhooks, Mysie, Lady Dorothy, Mina, Matchless and others. The most valuable collection ever offered at this annual sale.

For catalogues, apply to the Secretary.

C. L. Nelles,
President.

J. M. Duff, Sec'y.
Guelph, Ont.

PUSLINCH PLAINS SHORTHORNS

Five bulls for sale by Burnbrae Sultan =80325=.

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

SHORTHORNS SHROPSHIRE COTSWOLDS

BLAIRGOWRIE STOCK FARM

Cows in calf and calf by side. Also heifers in calf and others ready to breed. Bulls of serviceable age. JOHN MILLER (Myrtle Stations, C.P.R., G.T.R.) ASHBURN, ONTARIO.

Spring Valley Shorthorns

Herd headed by Sea Gem Pride =96385=. Present offering includes two real herd headers. One imported in dam, the other by Sea Gem's Pride and from a show winning stock. Pair of registered Clydesdale fillies rising 8. Write for particulars. KYLE BROS., R. 1, Drumbo, Ont.

DUAL-PURPOSE SHORTHORNS

Herd headed by Dominator 106224, whose two nearest dams average 12,112 pounds of milk in a year. Inspection of herd solicited. WELWOOD FARM, - - - Farmer's Advocate, - - - London, Ont.

Questions and Answers. Veterinary.

Lump in Udder.

Last year when cow freshened she had a lump in the right hind quarter of the udder. The lump is about the size of a ball. The vein to the teat seems like a hard string when pressed upon. The quarter had milk the same as the others, but the lump seemed to block the teat and the milk could not be extracted. She is now dry but will soon be due to freshen. The lump is still there, just above the teat. The quarter is not inflamed or swollen.

Ans.—The symptoms indicate that there is a fibrous growth or cord extending into the milk duct, which prevents the escape of milk. It is probable that the lump may be reduced considerably in time by the use of an absorbent, as by rubbing well once or twice daily with an ointment made of 2 drams each of iodine and iodide of potassium mixed with 2 oz. vaseline, but it is not probable that this would remove the obstruction in the milk duct. It is possible that a veterinarian might be able to dissect the growth out, or might operate on the teat with an instrument especially designed for treating obstruction in the ducts, but where the obstruction is so high up in the teat this operation is often unsuccessful,

Newcastle Herd of Shorthorns and Tamworths for sale—Several young bulls ready for service; several heifers bred to Primrose Duke =10754=, and several young things of nice quality and breeding. Two young cows with heifer calves at foot, all of a good milking strain. A choice lot of Tamworths of both sex, and various ages, from noted prize-winning stock. Pair of registered Clydesdale fillies rising 8. Long-distance Phone. A. A. COLWILL, R.R. No. 2, Newcastle, Ont.

Cedarbrook Farm

Holstein bull ready for service, a fine individual, sired by a 34-lb. son of the great cow, Jenny Bonerges Ormsby, from her two-year-old granddaughter. Price \$125. Apply B. MISENER, Belfountain, Ontario

Ten Holstein Cows For Sale

Fresh and freshening in February, with good R.O.P. and R.O.M. records, all young. The cows to freshen are in calf to a 31-lb. sire. Hoping to hear from you, I remain, Fred Ormiston, R.R. 2, Burketon, Ont.

"Advocate" advts. Pay.

Cedar Dale Farm—The Home of Lakeview Johanna Lestrang, the \$15,000 sire—He is the son of the 38.06-lb. cow, Lakeview Lestrang, and is our chief sire in service. We are offering a few females bred to him and also have a few bull calves sired by him at right prices. Other older bulls, sired by our former herd sire, Prince Segis Walker, son of King Segis Walker. A. J. TAMBLYN, Cedar Dale Holsteins - (C.N.R. station one mile) - Orono, Ontario

ROWAN RIVER STOCK FARM
At present we have 3 bulls of serviceable age, sired by a 31-lb. sire from R. O. M. and R. O. P. dams. Younger ones sired by a grandson of May Echo Sylvia; his two nearest dams average 832 lbs. milk, 33½ lbs. butter for 7 days. Priced to sell. PETER B. FICK, PORT ROWAN, ONT.

PIONEER FARM HOLSTEINS
My present sales' list includes only bull calves born after Jan. 1st, 1919. These are priced right. WALBURN RIVERS & SONS R.R. No. 2, Ingersoll, Ontario

Evergreen Stock Farm Registered Holsteins
Our Motto: Choice individuals—the profitable producing kind. Nothing for sale now, but get in line early for your next herd sire. A. E. HULET, - - - Oxford Co., G.T.R. - - - NORWICH, ONTARIO

OXFORD COUNTY HOLSTEINS

ANNUAL SPRING SALE

Sixty-Four Females | 80--HEAD--80 | Sixteen Young Bulls

WOODSTOCK, ONT.

Wednesday, March 17th, 1920

Listing the greatest number of fresh cows we have ever offered

MORE HIGHER RECORD BULLS

Eighty Breeding Cattle Consigned by Oxford's Leading Breeders

We have catalogued for this sale 64 choice females and 16 of the best young bulls of the year. Among the former are 16,000-lb. three-year-olds; three-year-olds that have produced 707 lbs. of butter in the year; 25-lb. cows in calf to 30-lb bulls; 20-lb. cows in numbers and dozens that on private have milked up to and beyond 60 lbs. per day. In young bulls we have 16, all of the herd sire sort, with the records of their dams running up to 30 lbs. of butter in 7 days—a choice lot of youngsters, well grown and well bred.

The Place to Buy the Best is where they Breed the Best
COME TO WOODSTOCK

For catalogues address:

ANDREW DUNN, President

GEO. C. CURRIE, Secretary
Ingersoll, Ont.

Auctioneers:
MOORE, DEAN & PULLIN

Scotch Shorthorn Bulls and Females—I have a nice offering of Scotch-bred females and one or two young bulls still on hand. The pedigrees are choice, the individuality is good—and the prices are right. If you want one Shorthorn female or a carload, come to Markdale. THOS. MERCER, Markdale, 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 year old. Would consider exchanging an imported bull for Scotch females. R. M. MITCHELL, - - - R. R. No. 1, - - - FREEMAN, 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., Ontario.

Maple Hall Shorthorns—We have on hand at present, four young bulls ready for service (two reds, two roans), that are just the herd sire sort; they are all got by that great sire, Flower King, No. 90447, and from our Good Crimson Flower and Butterfly dams. Stations: Claremont C.P.R., Greenburn C.N.R., Pickering G.T.R. D. BIRELL & SON, Claremont, Ont.

and in some cases causes serious complications. An examination by a veterinarian is necessary in order to be able to give an opinion as to the probability of successful treatment. From the symptoms given our opinion is that it would be well to do the best you can after this calving and not breed her again. In order to prevent udder trouble it may be necessary to draw some milk off by the use of a teat syphon for a while after calving, until the quarter becomes practically inactive. As the cow is a valuable one it might be well to have the case examined by your veterinarian.

Unthrifty Fox.

Silver black fox was beautifully furred last year, but since November, 1919, he has reduced in flesh, and is now very light in weight. He did not fur out, and did not shed his old coat. He seems smart and lively. S. E. C.

Ans.—While he may be suffering from some chronic disease of the intestines, for which nothing can be done, the symptoms indicate worms. Allow nothing to eat for 12 to 16 hours and then give him 1½ grains of areca nut for each pound of his weight. Keep him confined for a few hours, and if he passes any worms, either tape worms or round worms, burn them. You might repeat treatment in about 2 weeks.

DISPERSION SALE OF 15 R.O.M. Bred Holsteins

AT HALL'S FEED BARN

Dunnville, March 3rd, 1920

Sale commences 2 p.m.

In this herd are 11 cows and heifers fresh and due to freshen soon after sale; the herd sire, "Johanna Bonerges Lad" (whose dam has a record 29.11 lbs. butter in 7 days); also three young bulls (ready for service), sired by the herd sire and out of good R.O.M. dams.

In addition to the foregoing there will be sold nine cows, fresh and soon to freshen, consigned by

J. ALEX. WALLACE, Simcoe, Ont. J. W. MOOTE, Canboro, Ont.,
and P. S. MOOTE, Dunnville, Ont.

Send for catalogue. Trains G.T.R. and T.H. & B.

WARREN STRINGER, Proprietor, DUNNVILLE, ONTARIO
T. MERRITT MOORE, Auctioneer.

Dispersion Sale of

35
HEAD

Holstein-Friesian Cattle

35
HEAD

Entire herd, 35 head, will be sold at the farm
(5 miles south of London) by auction on

Tuesday, March 9th, 1920

No old cows, mostly young stuff; also the young herd sire, "King Alcartra De Kol," whose three nearest dams have official records averaging over 29 lbs. butter. Every animal in the herd has good backing, and most of the young stuff have officially-tested dams; a good lot the result of 27 years' careful breeding. Write for catalogue. Sale at 1.30 p.m.

Robt. Willis, Proprietor, R.R. No. 1, London, Ont.

Lindsay & Pound, J. W. Laidlaw, Auctioneers.

DISPERSION SALE OF Forty-three Head Registered Holstein-Friesian Cattle

Consisting of forty-two females and one male

At Meadow Park Stock Farm, Lot 6, Con. 12, Metcalfe, on
Thursday, March 11th, 1920
At one o'clock

Owing to shortage of help I am offering my entire herd of much-prized Holstein-Friesian cattle, the foundation of which were all from high-record stock, and purchased from some of the best herds in Ontario, regardless of price.

Included in the offering are three daughters of the great bull, Judge Hengerveld De Kol 8th (17163), from a 32.92-lb. cow, and whose three nearest dams averaged 29.75 lbs. Six daughters and twelve granddaughters of Francy King Ormsby (14030), a 29.10-lb. bull; seven daughters of King Burke (22991), another 29.08 bull, and other good ones. The cows and heifers which are old enough have calved or are in calf to present herd sire, King Nicolo Korndyke (33441), a grandson of the great cow, Lulu Keyes, butter 36.05, milk in one day, 122.80 lbs. She has been pronounced by experts as the most perfect individual ever seen. This characteristic is still holding good, as his offspring are the best assortment we have ever had.

This will be a splendid opportunity to purchase high-grade stock, and at your own price. The stock is all young and in good condition, and will be sold to the highest bidder. Morning trains will be met at Strathroy, G.T.R., and North Appin, C.P.R. Lunch served at noon to those coming from a distance.

TERMS:—Cash, or time up to one year on bankable paper, with interest at six per cent. Write for catalogue.

T. MERRITT MOORE,
Auctioneer

Russell Bryant, Proprietor

MONTROSE HOLSTEIN - FRIESIAN FARMS

(The Home of 20,000-lb. Cows)

Present offering (at right prices), four young bulls out of R.O.P. cows with records of 20,000 lbs. milk and over. See this herd and our young bulls in particular before buying elsewhere. Visitors always welcome.

R. J. GRAHAM, - Montrose House Farms - BELLEVILLE, ONTARIO

Bulls advertised in Christmas Number are both sold

We are offering a bull calf sired by Hill Crest Rauwerd Vale, out of a 23-lb. jr. 4-year-old dam. Price \$300. Bull calf by same sire, out of a two-year-old heifer. Price \$100.

W. FRED FALLIS, - R. R. 3, - MILLBROOK, ONT.

CHOICE HOLSTEIN FEMALES!!

I could spare ten or twelve two and three-year heifers, daughters of Baron Colantha Fays and Louis Prilly Rouble Hartog. All are bred to freshen early to our 34-lb. sire. Also have a few young bulls, one from a 29.95-lb. cow that has milked 105 lbs. per day. Don't delay, this offering is priced right.

T. W. McQUEEN, Tillsonburg Ont.

Questions and Answers.

Miscellaneous.

Book on Gardening.

Where can I secure a book on market gardening? G. B.

Ans.—"Vegetable Gardening," by Green, is a very good book, which may be secured through this office at \$1.25.

Amount of Hay in a Mow.

How is the tonnage of hay in a mow estimated? G. L.

Ans.—For hay that is well settled, it is generally figured that 450 cubic feet will make a ton.

Damage for Cows Not Freshening.

In December, A purchased two cows from B, which B guaranteed would freshen by the end of December. Neither one has freshened yet, and they do not look any more like freshening than they did when A purchased them. Can A collect damages from B? J. R. W.

Ans.—If B guaranteed the cows to freshen at a certain time, A has a claim against him for at least the cost of keep for the time during which the cows are not producing, as undoubtedly A would not have paid so much had he known that he would have to keep the cows for three or four months before they commenced to milk.

Apoplexy.

Pigs two and a half months old are acting strangely. Sometimes they eat very little feed, and at other times they stagger around the pen and then fall over. At times they have a cough. E. S. J.

Ans.—Plenty of exercise and feeding well within the appetite of the pigs would be the shortest road to recovery. The symptoms mentioned are very much like those of apoplexy, which is generally due to too high feeding and lack of exercise. Feed so that the pigs will be hungry at each meal time, and if they will not take exercise of their own accord make it a point to chase them around the pen for a while each day. If you have roots, feed quite liberally. Also, throw ashes and dirt from the roothouse into the pen for the pigs to work in.

Hospital for Insane, Hamilton

Holsteins, yes! All bulls of serviceable age are sold, but several of six months and younger, from one of the best sons of King Segis Alcartra Spofford, and our best dams will be sold at reasonable prices.

APPLY TO SUPERINTENDENT

HOLSTEIN HERD AVERAGES 18,812 LBS. MILK

A herd of 13 pure-bred Holsteins last year averaged 18,812 lbs. milk and 638.57 lbs. fat. Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in HOLSTEIN CATTLE send for booklets—they contain much valuable information.

HOLSTEIN-FRIESIAN ASSOCIATION OF CANADA
W. A. CLEMONS, Secretary, ST. GEORGE, ONT.

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

Hamilton House Holstein Herd Sires

Our highest record bull for sale at present is a 4 months calf from Lulu Darkness 30.33 lbs. and sired by a son of Lulu Keyes 36.56 lbs. His two nearest dams therefore average 33.44 lbs. and both have over 100 lbs. of milk per day. We have several older bulls by the same sire and from two and three-year-old heifers with records up to 27.24 lbs. All are priced to sell.

D. B. TRACY, Hamilton House, COBOURG, ONT.

"Premier" Holstein Bulls Ready for Service—I have several young bulls from dams 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.

SUNNYBROOK FARM HOLSTEINS

We are offering for quick sale one 24-lb. bull and one 26-lb. bull ready for service. Both are sired by a 33-lb. son of the great King Segis.

JOSEPH KILGOUR, NORTH TORONTO, ONT.

HOLSTEIN 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.

CLOVERLEA HOLSTEIN FRIESIANS

We are offering this week two choice bulls, one ready for service, from a 25-lb. dam. Priced right for a quick sale. For price and particulars, apply to

GRIESBACH BROS., R. R. No. 1, COLLINGWOOD, ONT.

Questions and Answers.

Miscellaneous.

Crippled Pigs.

About 3 weeks ago a sow became sick, stood around, grunted and acted stupid. She did not eat well. She went lame on one hind leg, then on one fore. She can hardly move now, but is eating better. Two others are beginning to show similar symptoms.

Ans.—There is some local cause for the trouble. Sleeping on damp or cold floors, or want of exercise is liable to cause trouble of this nature. Give each a purgative of 2 to 4 oz. Epsom salt, according to size. Keep in well-ventilated, thoroughly dry, comfortable quarters. Provide an elevated wooden platform with wooden floor for sleeping quarters. Feed on milk, shorts, chopped oats and raw roots, and so soon as they are able to walk, see that they get daily exercise. If any swellings appear on legs or joints, bathe frequently with hot water, and after bathing rub well with hot camphorated oil.

Hens Crippling.

I have a flock of 100 hens. They are in a pen 20 by 60 feet. I feed them wheat, buckwheat and barley, and at noon I give them a warm chop. It is a dry house and the hens have lots of light, but yet they become crippled.

W. C. W.

Ans.—Crippling may result from a number of causes. Their feet may be injured from jumping off high roosts, or there may be lack of sufficient ventilation in the pen, which might cause a sort of rheumatism. From the description given, it is rather difficult to diagnose the case. In a house 60 feet long, there should be two solid partitions come out as far as the roosts extend, which will tend to prevent draft over the birds. Solid partitions should also extend across the pen to a height of 18 inches. The front of the pen facing south might advisedly be one-third glass and one-third cotton. It is a good plan to bury the grain in about a foot of straw, so as to compel the birds to take exercise in getting their feed. Without knowing how the birds act, we cannot give any more definite treatment.

Important Dispersion Sale

**Thirty-five
Pure-bred
Holsteins**

The entire high-testing Glenroe Holstein Herd, selling at the farm, one and a half miles east of

**Thirty-five
Pure-bred
Holsteins**

INGERSOLL, ONTARIO

Thursday, March 18th, 1920

35 HIGH-TESTING HOLSTEINS

All bred on the farm

The Glenroe herd is one of the select small herds of Oxford County—with two exceptions, every animal bred on the farm. The females are all young and have never been forced. The records, although not large, were each made under strictly commercial conditions, and only one was made at full age. There is not a two-year-old, three-year-old or a four-year-old but what should increase their record materially at this freshening. If you like to make your selections from a breeders' herd, you should attend this sale. There will be no reserve.

CATALOGUES READY MARCH 5th.

Fred. V. Heeney, GLENROE FARM Ingersoll, Ontario

(This sale follows the Oxford County Holstein Club Sale at Woodstock, March 17.)

**Seven
Registered
Clydesdales**

GREAT

**Forty-five
Registered
Holsteins**

CLEARING SALE

The entire farm stock, implements, etc. belonging to R. M. Holmes and selling at the farm, near

OTTERVILLE, ONTARIO

Wednesday, March 10th, 1920

HOLSTEINS

15 young cows, fresh or in full flow of milk.
5 young cows near calving.
16 one and two-year heifers sired by a son of Grace Fayne 2nd, Sir Colantha.
8 cows calving in early summer.
A number of 1920 calves sired by the present herd sire Colantha Fayne Abbekerk No. 32239.

CLYDESDALES

2 seven-year old stallions guaranteed right.
5 registered brood mares, all under six years of age and supposed to be in foal.

Sale commences 9.30 a.m. sharp. Lunch at noon.

Cattle will be sold immediately after arrival of noon train. As the farm is sold there will be no reserve.

Auctioneers:
MOORE, DEAN & LONGWORTH

Sales Manager:
M. L. HALEY

Write for Catalogue

R. M. HOLMES, - Otterville, Ontario

(Watch these columns for further particulars.)

Questions and Answers.

Miscellaneous.

Liquid Smoke.

Where can liquid smoke be secured?
C. H.

Ans.—Most of the drug stores keep liquid smoke in stock. If your local druggist does not keep it, he should be able to secure it for you.

Size of Chimney.

What is the best size for a chimney on a new house? Would you advise using tile?
H. O. W.

Ans.—Glazed tile make a very good lining for a chimney. There should be freer draft as there are no rough particles for soot to clog on. A six by eight inch chimney, inside measurement, is a very good size.

Material for Building.

How much cement and gravel will it take to put a foundation 52 feet by 22 feet, with an 11-inch wall 1½ feet high, leaving out 26 feet for shed front? I wish to combine granary and drive shed under one roof.

2. How many 2 by 4 and 2 by 8 pieces would I need in a building this size?

3. Which would you prefer, corrugated iron or clap-boards for siding?

4. Would a cement floor be better than boards?
H. B.

Ans.—1. It will require about 7 cubic yards of gravel and 6 barrels of cement to erect the walls.
2. It is not stated whether it is to be a one or two-story building. We presume that the 2 by 4's are for studding and the 2 by 8's for joists. These should be placed not more than 3 feet apart.

3. Either form of siding would be satisfactory. We do not know which would be the cheaper at the present time.

4. Concrete would be the more permanent, and there would be less chance for vermin to work. As you wish to have a granary in one end, you would find that rats would make a good deal of trouble if you had a board floor.

The Annual Spring Sale of the London District Holstein Breeders' Club



WESTERN FAIR GROUNDS, on

Tuesday, March 16th, 1920

FIFTY-FIVE HEAD OF CHOICE

Pure-bred Holstein Cattle

Consisting of new milkers, springers and heifers; also a number of young bulls ready for service. A number of these cows are bred to high-class sires. Fuller announcement given in next week's issue.

H. C. HOLTBY, Glanworth J. McMILLAN, Glanworth
President Secretary

30-lb. Bull for sale.—Lord Lyons Hengerveld, his 5 nearest dams average 30.94 lbs. of butter in 7 days. Sir, King Lyons Hengerveld whose 5 nearest dams average 31.31. Dam Madoline Dolly Dekol, a 25-lb. daughter of Baroness Madoline R.O.M. 34.48. R.O.P. Butter in 1 year 1,043.75. Individually as good as his breeding; coming 3 years old in April; must sell to avoid in-breeding. Priced right, if interested write at once. We also have a few young bulls left. **Jacob Mogk & Son, R.R.1, Tavistock, Ont. Innerkip Phone 1 on 34**

Summer Hill Holsteins—We have the best bunch of Holstein Bulls ever offered at our farm. Their dams have records up to over 34 lbs. of butter in 7 days. All are sired by a bull with a Grand Champion bull at Toronto this year. Prices reasonable. **D. C. FLATT & SON, R.R. No. 2, Hamilton, Ont.**

Dividing Property.

If a father had three sons, could he make a will leaving his property all to one son, or could the other two come in for a share as well?
A. C.

Ans.—A person has a right to will his property to whomsoever he wishes. In a case where there was no will, the sons would share alike.

Poll Evil.

What is the cause of a horse having a running sore on the top of his head, just back of the left ear? It has been this way for six months. I have washed it with creolin and used peroxide. Is this poll evil?
J. B.

2. Can a man compel his neighbor to cut a strip of timber along the line fence between the two parties, the full length of the wood-lot, in order to let the sun shine on his land?
J. B.

Ans.—1. The symptoms are those of poll evil, and a frequent cause is a bruise. It is difficult to treat poll evil as the abscesses are usually deep-seated. Surgical treatment is usually necessary in order to open up the bottom of the abscess cavities and to permit complete drainage for the pus. This trouble requires a veterinarian to treat.

2. No.

Difficult Churning.

I have only one cow and for three weeks I couldn't make any butter. I can churn for three days without any signs of butter gathering? What can I do?
A. S.

Ans.—This condition very often occurs when a person has one or two cows that have been milking for some time. Difficult churning is very often caused by having too much cream in the churn, cream too poor in fat, and at too low a temperature. Try heating your cream to about 80 degrees. If the cream foams badly, a handful of salt in a little water will very often settle it. Sometimes the trouble is overcome by adding water at 70 degrees to the cream. The foaming is sometimes the result of an yeast germ, which can only be rectified by pasteurizing the cream. It is quite possible that you will have difficulty until you get a fresh cow in your herd.

Complete Clearing Sale

At Maple Farm, near Putnam

The entire farm stock, machinery, grains, hay, hogs cattle, etc.
The latter includes upwards of 30 grade and 20 pure-bred

Ayrshires

SELLING AT

Putnam, Ont., Wednesday March 10th, 1920

These twenty pure-bred Ayrshire cattle, which comprise the entire registered Maple Farm herd, were, with the exception of the herd sire, all bred on the farm, and nearly all are descended from the great 10-year-old cow, Juno York, which is also selling. This cow, as will be seen on sale day, is one of the outstanding matrons of the breed, and her sire was a son of the noted old-time breeding sire, White Prince of Elm Shade. Juno York has six daughters in the breeding herd, and the remaining females are, as mentioned above, nearly all granddaughters or great granddaughters of this cow. On the sires' side, these young cows are got by such bulls as Annie Laurie 2nd's Fortune, a son of Garlaugh Prince Fortune; Advance's King, by Advance, the great son of Jean Armour, and last, the young R.O.P. bred sire, Prince of Fernbrook. The females are all in bred to Selwood Champion, the present herd sire, which is a grandson of the 8,404-lb. R.O.P. two-year-old, White Lass of Trout Run.

The general farm stock consists of 30 grade cattle, 11 horses, 30 high-grade Shropshire ewes, etc.

Write for catalogue. The farm is sold and there is no reserve.

A. G. McNIVEN, Putnam, Ontario

C.P.R. station 1/2 mile from farm.

Gossip.

Heeney's Sale at Ingersoll

Holstein breeders, who have been in the habit of visiting Oxford County breeders, when making purchases of breeding cattle, will be interested to learn of the dispersion sale of thirty-five pure-bred Holsteins to be held at Glenroe Farm near Ingersoll, on March 18th, the day following the Oxford County Club sale, at Woodstock. The Glenroe herd, although one of the smaller herds of Oxford County, comprises nearly all officially tested females and while none of the records are large, they are nevertheless, worthy, especially when it is known that even though while on test, the herd is run on a commercial basis only. Many of the records in fact were made while the cows were at pasture, and as the pasture farm is in the neighborhood of a mile and a half from the home farm where the cows are stabled, the cows on test in many instances, were under the handicap of walking this distance twice daily. These records as listed, however, are noteworthy, and as there is only one cow in the stables above five years old, it is quite probable that they may be increased with very little effort in nearly every case. Christabella Snowball now four years old has a 14.88-lb. record as a junior two-year old. Floss De Kol Segis at just two years has 16.03 lbs. of butter and 347 lbs. of milk for the seven days; Daisy De Kol Keyes, still another two-year old, has 15.54 lbs. and Johanna Dew Drop Keyes, at one year and eleven months, has 15.49 lbs. of butter and 339.08 lbs. of milk, while Grace DeKol Colantha, has 467 lbs. of milk and 17.01 lbs. of butter at three years. Centre View Gray De Kol a five year old cow, and the only cow of full age in the stables which is tested, has a 21.39-lb. seven-day record, but she has also three daughters in the sale, all of which are choice and will be appreciated on sale day. In listing these along with other young cows selling, we understand that fifteen will be near freshing or in full flow of milk at sale date, the sire to which they are now bred being King Marion Midnight, a son of Sir Midnight Lyons Walker, and

Sell all your milk—Raise all your calves



INTERNATIONAL GROFAST CALF MEAL

will do this thoroughly and successfully, yet at an extremely low cost. It enables you to raise the well-bred calf whether it be for beef or milk production, with the same degree of success as though it were allowed to run with its mother. Thousands of testimonials from successful users everywhere.

TRY IT! Put up in 25, 50 and 100 pound bags.

For guaranteed results demand GROFAST and refuse substitutes

Your dealer sells GROFAST CALF MEAL Or write us

International Stock Food Co., Ltd. Toronto, Canada

Choice Ayrshire Bulls

One bull, 15 months old; dam's average test, 4.7 butter-fat; price, \$150.
One bull, 16 months old; dam's average test, 4.8 butter-fat; price, \$175.
One bull, 14 months old; dam's average test, 5.8 butter-fat; price, \$175.
Also male calves, two and three months old—same dams.

Thomas A. Low, Elm Valley Stock Farm, Renfrew, Ont.

WESTSIDE AYRSHIRES AND YORKSHIRES

I have one young bull, 10 months old, from high testing dam and would sell my herd bull, 3 years old—St. Nicholas of Orkney—57087—, whose dam gave 11,140 lbs. milk, 394 lbs. fat as a 3-year-old, and whose sire's dam is the famous Milkmaid of Orkney—39834—with 3-year-old record of 14,060 lbs. milk, 534 lbs. fat. Write **DAVID A. ASHWORTH, Denfield, Ont.** (Middlesex Co.).

Homestead Farm R.O.P. Ayrshires—At the head of our herd at present we have a used on the daughters of our former sire, Garlaugh Prince Fortune (imp.). Young cows freshen this fall and winter.

McVICAR BROS., 'phone 2253 Harrietsville. Belmont, R.R. No. 1, Ont.

SPRINGBANK R. O. P. AYRSHIRES

Our Ayrshires win in the show ring and they fill the pail. We hold more present R. O. P. champion records than any other herd in Canada. Present offering, 9 young bulls seven months and under, all from high record dams.

A. S. Turner & Son, Railway Station, Hamilton Ryckman's Corners, Ont.

Glenhurst Ayrshires

headed by Mansfield Mains Sir Douglas Hague No. 16163 Imp. have been noted for their depth and size, good tests and smoothness of conformation. If you are looking for a combination of size, type and production—plus high butterfat—write me or visit the farm. Males and females of all ages for sale.

JAMES BENNING, Summerdown Sta., G. T. R. Williamstown, C.P.R. Bell Telephone 78-3 Cornwall

CITY VIEW AYRSHIRES

Three bulls ready for service. One two-year-old heifer, bred. Bull calves, all have several direct crosses of R.O.P. blood.

James Begg & Son, St. Thomas, Ont.

Auctioneers' School of Experience

2112 Farnum St., Leavenport, Ia.—Teaches all branches. You learn at home. Students now selling in 17 States. Write to-day.

22 HEAD

W. G. STRONG & SONS

22 HEAD

: : WALNUT HILL FARM : :

Will sell by PUBLIC AUCTION at 1 o'clock P.M.

Thursday, March 4th, 1920

OUR ENTIRE HERD OF

AYRSHIRES 19 FEMALES and 3 MALES

The present herd sire is "Senator of Inglewood" (64528), sired by "Briery Boy" of Springbank, by "Netherton King Theodore" Imp.

The foundation cow is "Daffodil of Lakeside," (25126), with record in R.O.P. test, at 9 years old, of 16,275 lbs. milk, 621 lbs. fat, and the year following 15,677 lbs. milk, 671 lbs. fat. The rest are all daughters and grand-daughters of the above. One cow from "Bercheskie Cheerful Boy" Imp., first sire used was a son of "Auchenbrain Abram" Imp. (28333), and "Monkland Snowdrop" Imp. (21360), the next "Success of Hickory Hill" (38203), by "Haysmure Milk Record" Imp. (24822); dam, "Snowdrop of Hickory Hill" "23599".

These cattle are in good condition and all will be sold without reserve as we are going out of the dairy business. Write for Catalogue.

W. G. STRONG & SONS, Proprietors G. W. WALKER, Auctioneer, GORRIE, ONT.

Important Auction Sale

THE ENTIRE FERNBROOK HERD OF

R. O. P. AYRSHIRES

Tuesday, March 9th, 1920

(General Sale 10 a.m., Ayrshire Sale 2 p.m.)

Having disposed of one of our farms, which calls for a division of the estate, we are offering our entire herd of R.O.P. Ayrshires by public auction, to be sold without reserve on the above-mentioned date. These comprise 30 choice selections, all bred on the farm and all have semi-official records or semi-official backing—the best producing families of the breed.

All other farm stock and implements will also be sold. No reserve.

Apply for catalogue.

Collier Bros., (Oxford County Jno. McKee, Sales Mgr.) Beachville, Ont.

Marion De Kol Ormsby. The latter is a 22-lb. daughter of the 29-lb. cow, Marion De Kol 2nd. When visiting the farm recently, there were then only three or four calves in the stables which were sired by King Marion Midnight, but they were without exaggeration promising youngsters, as were also the older calves which were sired by the former sire, King Segis Alcartra Calamity 3rd. There are nine daughters of this bull all of which are 1918 and 1919 calves, and they will add greatly to the worth of the offering on sale day. In reviewing the catalogue, breeders should note that with the exception of the herd sire, and one mature cow, every lot listed was bred on the farm on which they are being sold. For further particulars see advertisement or write at once for catalogues and mention this paper. Address Fred. V. Heeney, Ingersoll, Ont.

Attention is drawn to the Holstein sale of R. Willis, advertised in another column of this issue. For a number of years Mr. Willis has been keeping individual records and has built up a valuable herd. Sires from dams with high records have always been used, with the result that the average milk yield has been gradually increasing from year to year. In the sale will be thirty-five head, nineteen of which are young cows that are in condition to go ahead and make high records. Some seven-day work has been done, and among the records obtained are: Sarcastic Lady Oyama has a record of 72 lbs. per day and 16.52 lbs. butter as a four-year-old; Williscroft Lady has a 23.29-lb. record; Snow Queen Oyama as a senior two-year-old has 11.40 lbs. milk; Sarcastic Lady as a senior four-year-old made 22 lbs. butter, and reached as high as 91.5 lbs. milk in a day; Alpha Oyama De Kol as a junior three-year-old has a 17.68-lb. record. These are but a few of the individuals which have been tested, but they give an idea of the quality of animals being offered. There are a number of daughters from these cows in the sale. For full particulars, write R. Willis, R. R. No. 1, London, for a catalogue, mentioning "The Farmer's Advocate." The farm is about five miles from London, on the Longwoods Road.

Bone Spavin

No matter how old the blemish, how lame the horse, or how many doctors have tried and failed, use **Fleming's Spavin and Ringbone Paste**. Use it under our guarantee—your money refunded if it doesn't make the horse go sound. Most cases cured by a single 46-minute application—occasionally two required. Cures Bone Spavin, Ringbone and Sidebone, new and old cases alike. Write for detailed information and a free copy of **Fleming's Vest-Pocket Veterinary Adviser**. Ninety-six pages, durably bound, indexed and illustrated. Covers over one hundred veterinary subjects. Read this book before you treat any kind of lameness in horses.

FLEMING BROS., Chemists
75 Church Street Toronto, Ont.

Maple Shade Farm

Imported Shropshire ewes served by best imported rams, very desirable for foundation flocks.

W. A. DRYDEN

Brooklin - - - Ontario

Faster Shearing

Shear with a machine—save time and money. You can shear at least one-half faster. Get 15% more of longer, better wool and not scar the sheep. Get a Stewart No. 9 Ball Bearing Shearing Machine. Fine for flocks up to 300 head. Insist on a Stewart—the only machine that always satisfies. Write for catalogue.

CHICAGO FLEXIBLE SHAFT COMPANY
Dept. B 161, 12th St. and Central Avenue, Chicago, Ill.

Shropshire Yearling Ewes bred to Bibby's 84 (imp.) ram and ewe lambs sired by him. Two Shorthorn bulls Two Clydesdale stallions.
W. H. PUGH, Myrtle Station, Ont.

YORKSHIRES

We are now booking orders for Fall pigs, both sexes, 6 weeks to 4 months old. Several large litters to choose from.

WELDWOOD FARM
Farmer's Advocate, London, Ontario

Berkshires—Boars ready for service and boar pigs, rich in the blood of Lord Premier's Successor 161500, Grand Champion, 1914, Champion Sire of 1915, 1916, 1917. His descendants have won Grand Champion honors at the largest and strongest shows of 1919. The Champion Berkshire barrows of 1918 International were double grandsons of Lord Premier's Successor. We have shipped many Berkshires to Canada with satisfaction to customers. Prices on request.

HOOD FARM, INC., Lowell, Mass.

TAMWORTHS

Young sows bred for May and June farrow, and boars for sale. Write or phone.
JOHN W. TODD - Corinth, Ontario

Big Type Chester Whites—We cleaned up at London and Toronto Exhibitions, 1919. Now offering pigs from our 895-lb. sows, and sows bred to our 1,005-lb. boar
JOHN ANNESSER, Tilbury, Ont.

DUROC JERSEYS

My herd of Durocs have won more firsts and championships in four years showing at Toronto than all other herds combined. Write me for prices on bred sows.
GILBERT MALOTT R.R. 2, Wheatley, Ont.

Sunnyside Chester Whites and Dorsets—In Chester Whites, both sexes, any age, bred from our champions. In Dorset ram and ewe lambs, by our Toronto and Ottawa champions, and out of Toronto, London and Guelph winners.
W. E. WRIGHT & Son, Glanworth, Ont.

Invergie Tamworths—Sows carrying second litters for March farrow, a few choice 200-lb. boars, gilts bred for April farrow; a splendid lot, either sex, 3 to 5 months old. Wee lads and lassies just weaned.
L. Hadden, Box 264, Sunderland, Ont.

Prospect Hill Berkshires—Young stock, either sex, for sale, from our imported sows and boars; also some from our show herd, headed by our stock boar, Ringleader. Terms and prices right.
JOHN WEIR & SON, R.R. 1, Paris, Ont.

Choice Yorkshires—One sow due to farrow first week in March, one boar one year old, choice litter of pigs ready to wean, both sex; priced to sell.
L. M. STEVENSON, Science Hill, Ont.

Meadow Brook Registered Yorkshires
Ten choice young boars fit for service, from prize-winning stock. Prices reasonable for quick sale.
G. W. MINERS, R.R. No. 3, Exeter, Ontario

Gossip.

In mentioning George Davis & Sons' Aberdeen-Angus cattle, in a recent issue, the age of the bulls for sale should have read from six months up to fourteen months. We understand that there are a number of choice young herd headers within the range of age mentioned.

Important Ayrshire Dispersal.

Attention is here directed to the advertisement of the dispersion of Maple Farm Ayrshire herd appearing elsewhere in this issue. As will be noted, the herd is small but it enjoys the distinction of every animal, with the exception of the herd sires, having been bred on the farm. In nearly every instance, each lot listed is descended from the old foundation cow, Juno York. This cow, although now ten years old, is also selling and will, despite her age be appreciated on sale day. Reviewing the catalogue furnished, it will be found that the herd sires used in the past, include some of the most popular breeding of the day. Annie Laurie's 2nd's Fortune, that is the sire of many of the older daughters of the old cow, was a son of the great breeding bull, Garcaugh Prince Fortune, following him comes Advance's King, by Advance, the great son of Jean Armour, and last the young R. O. P. bred sire, Prince of Fernbrook. The latter is the sire of all the 1919 calves. The present sire, and the one to which the females are bred at present, is Selwood Champion, whose sire was a son of the 8,404-lb. R. O. P. two-year old, White Lass of Trout Run. In addition to the registered Ayrshires, there are also upwards of thirty grade Ayrshires selling and added to these are the horses, sheep, hogs, hay, grains, etc. The farm is sold and there will be no reserve. For catalogues of sale address A. G. Mc-Niven, Maple Farm, Putnam, Ont.

The Salem Herd at Elora.

In this day of high priced Shorthorns, but few herds are better known to "Advocate" readers than the Salem herd owned by J. A. Watt of Elora, Ont. Many of the better herds throughout the Dominion, have at some time in the past been strengthened by one or more purchases from the Salem herd, either in the way of breeding females or a herd sire. Visiting the farm recently we found not only a number of good things in the stables, but also almost a dozen head of real choice cattle just being shipped to various breeders throughout the United States and Canada. The largest order being filled was a Gainford Marquis bull and a half dozen heifers which were going to Wm. Beeby of Iowa. The heifers were all 1918 and 1919 calves and two were also sired by Gainford Marquis. The bull as mentioned was got by Gainford Marquis and from the noted Kiblean Beauty show cow, Countess Thelma. He was an exceptional thick, smooth calf, and had been used to some extent in the herd during the past three months. This lot is undoubtedly one of the strongest shipments made by a Canadian breeder to the United States this season. Gainford Marquis, of which very little need here be said, is the only sire in service at present. After years of successful showing, winning championships at the largest shows in two countries, he is still active and the half dozen young bulls all under six months of age and sired by him make up the strongest offering of bulls ever seen in the Salem stables. With one exception, that of a white calf, all are nice solid roans and showing much the same characteristics as their illustrious sire. The families represented by these calves are Brawath Bud, Stamford, Cruickshank Fragrance, Shepherd Rosemary Duchess of Gloucester, Lady Fanny, etc.

At present Mr. Watt has only three bulls of serviceable age listed, the oldest of the three is a fifteen months' Orange Blossom calf, sired by Gainford Marquis, and the other two are both eleven months' calves, one being got by a son of Gainford Marquis from a Village Girl dam, and the other is a roan and a nice, smooth calf of the Emaline family. A full sales' list will be sent on application. See advertisement elsewhere in this issue

Carrots For Feed

Less than a cent per pound

NO WASTE

NO DIRT

We have a quantity of dried shredded carrots for sale. The ideal cattle feed. 200 lbs. of these dried carrots equal a ton of fresh carrots. Just soak in water, and they come back with the same appearance and flavor and other properties of the fresh article. Frost cannot hurt them. You add the water. Try a sample bag.

Graham's Limited

Belleville

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Ontario

FEEDS

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

Car lots or less—Prices on application.

Kelley Seed & Feed Co.
Successors to
CRAMPSEY & KELLEY
776 Dovercourt Road, Toronto

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

LONDON LIMITED ONTARIO

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

Laurentian Producing Jerseys—The oldest bull we have at present is a year old youngster, sired by our herd sire, Broadview Bright Villa, No. 5930, 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.
Farm at Morin Heights - **F. J. WATSON, Manager**

Edgeley Bright Prince—a son of Sunbeam of Edgeley, R. O. P champion, sired by a son of Viola's Bright Prince, is for sale. He is 3 years old, sure and active. Won third prize in aged class at Toronto and London, 1919. Write for price.
JAMES BAGG & SONS (Woodbridge C.P.R., Concord G.T.R.) EDGELEY, ONT.

CANADA'S MOST BEAUTIFUL JERSEY HERD
The **Woodview Farm JERSEYS** Herd headed by Imported Champion Rower, winner of first prize with five of his daughters on the Island of Jersey, 1914, second in 1916, and again first in 1917. We are now offering for sale some very choice bull calves, ready for service, sired by imported bulls and from Record of Performance imported prize-winning cows. Also some cows and heifers. Prices right. We work our show cows and show our work cows.
JNO. PRINGLE, Prop.

Berkshires—At the great Smithfield Show, London, England, in December, the Berkshires won the Grand Championship for fairs, and made the remarkable showing in the four classes of the Carcass Competitions for pigs of all breeds by winning all the four prizes in the four classes; all sixteen pigs being pure-bred except one. We have over eighty head of splendid stock. Come and see them, or send for our breeding list.
J. B. PEARSON, Manager. CREDIT GRANGE FARM, Meadowvale, Ont.

ELMHURST LARGE ENGLISH BERKSHIRES
From our recent importation of sows, together with the stock boar, Sudden Torredor, we can supply select breeding stock all ages. Satisfaction and safe delivery guaranteed.
H. M. VANDERLIP, Breeder and Importer, R. R. 1, BRANTFORD, ONTARIO
Langford Station on Brantford and Hamilton Radial.

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Its Intrinsic goodness in Tea
Quality - makes it the most
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Coal Oil Light TEN DAYS FREE TRIAL

BEATS GAS OR ELECTRICITY

BURNS 9-4% AIR

Make your home bright and cheerful, saving one-half on oil. Government and leading University tests prove this wonderful new Aladdin nearly five times as efficient as best round wick open-flame lamps. Burns 70 hours on one gallon common kerosene (coal oil). No odor, smoke or noise, no pumping up, easy to operate, won't explode. WON GOLD MEDAL. GUARANTEED. Prove for yourself, without risk, by

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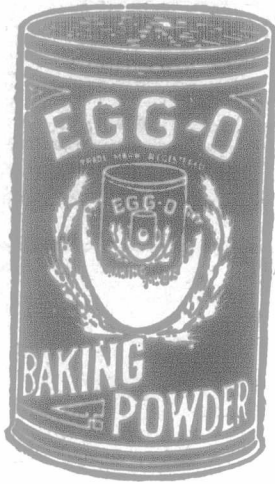
that Aladdin has no equal as a white light. If not satisfied, return at our expense. \$1000 given anyone showing us an oil lamp equal in every way to this NEW MODEL ALADDIN.

GET YOURS FREE We want one user in each locality to whom customers can be referred. In that way you may get your own without cost. Be the fortunate one to write first for 10 DAY FREE TRIAL OFFER and learn how to get one FREE.

MANTLE LAMP CO., 234 Aladdin Bldg., MONTREAL or WINNIPEG

Make big money spare or full time. Our easy selling plan makes experience unnecessary. We start you without money. Sample sent for 10 days trial and GIVEN FREE when you become a distributor.

Agents Wanted



Take your Time—No need
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**EGG-O
Baking Powder**

Egg-O Baking Powder Co., Limited, Hamilton, Canada

**Crippled By
Infantile
Paralysis**



The result of a few months' treatment at the McLain Sanitarium is seen by comparing the pictures. This patient's mother writes:

Our daughter had Infantile Paralysis. We tried everything and finally took her to the McLain Sanitarium. She stayed seven months and came home with such a wonderful cure that words cannot express the thanks we owe the McLain Sanitarium.

Anyone with a crippled child should take it to this institution.

Mrs. A. L. Sparks,
Lusk, Wyoming

For Crippled Children

The McLain Sanitarium is a thoroughly equipped private institution devoted exclusively to the treatment of Club Feet, Infantile Paralysis, Spinal Diseases and Deformities, Hip Disease, Wry Neck, etc., especially as found in children and young adults. Our Book, "Deformities and Paralysis"; also "Book of References", free. Write today.

McLain Orthopedic Sanitarium
949B Aubert Ave. St. Louis, Mo.]

When writing advertisers please mention "Advocate."

Our School Department.

School Garden Suggestions.

BY GEO. S. JOHNSON, B.A., WHITBY HIGH SCHOOL.

This is the season of the year when the teachers of agriculture are beginning to make plans for their school garden, and I would like to pass on a few suggestions that have found favor among the teachers of the inspectorate of South Ontario County.

In the regulations the suggestion is that the school garden be of a certain size, and tradition has it that this garden shall be planted with vegetables and flowers. This is a simple way of getting around the school garden proposition, and too many are always ready to take the easiest method of conforming to the regulations as set down in the blue book. Any teacher can do what has been done in other centres, but it is the exceptional teacher, the teacher with initiative, that will formulate her own plans and get away from the beaten path.

The school garden has, in the past, meant a small patch of land in one corner of the school grounds, and often this little patch has been splendidly kept, and has reflected credit to the teacher and pupils concerned. But with this idea of a school garden I think that we have been acting upon a too narrow viewpoint. To my mind the school garden should begin at the school gate and should take in the whole of the school grounds, the lawn, the trees, the shrubbery, as well as the plot of vegetables and the flower beds. The school grounds should present a model for the school district to copy.

If nothing has ever been done along the line of beautifying the school grounds plans should be laid now. It may be that the teacher does not wish to undertake the responsibility of making planting plans. If this is the case the Horticultural Department of the O.A.C., stands ready to give any assistance in their power along this line. I have before me a letter from this Department in which they state that if the teacher will send in an outline of the school grounds with certain data marked they will be pleased to give all details as to the location of plots, and the best varieties for planting. When we consider that a portion, if not all, of this improvement will be paid for out of the agricultural grant to the school, we will realize what a wonderful opportunity there is for the schools to make their grounds among the beauty spots of rural Ontario.

In order to further this idea it is proposed to offer prizes for the most beautiful school grounds in this inspectorate. The prizes of, say, \$25.00, \$15.00 and \$10.00 will be sufficient to warrant a little extra effort along this line. This will necessitate several inspections at different times during the season, but we believe that the time will be well spent and will ultimately result in the best kept and most beautiful school grounds of any part of the Province.

THE GARDEN.

As mentioned above the school garden too often is planted with the regulation carrots, beets, beans, corn, etc. This is all right as far as it goes, and we do not intend for a moment to belittle this part of the garden, but it does not go far enough.

Small fruits are seldom grown in the school garden, and for this there are several excuses offered. One of the most common excuses is that the children will pick the berries as soon as they are formed. If the school gardens were operated for commercial purposes then this excuse would have some force, but fortunately this is not the case. The school garden should be the laboratory or work shop of the agricultural classes of the school, and should be used as such.

Each school garden should have a section set apart for small fruits. There should be currants, raspberries, blackberries, gooseberries, strawberries, and, where practicable, grapes. The bushes here will furnish splendid material for the class work on propagation, pruning, the study of the flowers and how they develop into the fruit.

The varieties of the different fruits for this section should not be selected at haphazard. Care should be taken to choose only the best varieties of each

fruit, and in this way the plot may be used as a demonstration plot for the school district as well as for the practical work of the class. In too many of the home gardens the berries grown are of inferior varieties. The berry patch, in all probability, has been in existence for a long time, and no attention has been paid to the introduction of new varieties.

Considerable attention should be given to the propagation of the bushes. If the school garden is of sufficient size, set apart a portion of it for a nursery and make cuttings from the various varieties, set them out, and when of sufficient size distribute them among the pupils. Of course, this is not the most rapid method of introducing the new varieties into the neighborhood, but if the children do the work of making the cuttings and the work in the nursery the new plants that they take home will mean many times more to them than if they had purchased them direct from some large nursery.

Judging Potatoes.

If potatoes were fed exclusively to live stock, farmers would not need to worry much about the quality of the tuber produced—the yield would be the main thing to consider. Such, however, is not the case. Consumers of potatoes are very particular. Hotels, restaurants, and other public eating establishments must have good potatoes, and the people who live in towns and cities don't care to pay good money for poor products. They like to have potatoes all one size so they will cook evenly; they don't like large, rough potatoes for then there is much waste, and above all they want them of good quality.

Where school lunches are served an interesting lesson on potatoes could be carried on during the noon hour, and if teacher or pupils should desire all the latest information on potatoes they could obtain it from Justus Miller, Parliament Buildings, Toronto; from Dr. C. A. Zavitz, O. A. C., Guelph, Ont.; from Provincial Departments of Agriculture, or from the Central Experimental Farm, Ottawa. From these sources bulletins and other literature may be procured telling all about potatoes.

In brief, the trade in Ontario calls for a white, mealy, flaky potato of good flavor and of good appearance. The tuber should be smooth; deep eyes are objectionable. When potatoes are tested at the O. A. C., the following score card is used to compare them. The tubers are steamed or cooked and then judged according to the following points:

Mealiness.....	40 points
Flavor.....	40 points
Appearance.....	20 points
Total.....	100 points

It would not be a difficult task to cook potatoes at the school and carry on a little judging contest during the lunch hour. Several samples of potatoes could be brought by the pupils and used for the lesson.

The following scale of points may be used in judging potatoes in large or small lots, when the cooking process is not resorted to:

Purity of variety.....	10 points
Uniformity.....	10 "
Size.....	10 "
Smoothness.....	10 "
Shape.....	5 "
Nature of Skin.....	5 "
Color.....	10 "
Freedom from Disease.....	15 "
Quality.....	25 "
Total.....	100 points

When small patches or whole fields of potatoes are being judged, the following scale of points is frequently used:

General Appearance.....	15 points
Freedom from blight and insects.....	17 "
Method and Thoroughness of Cultivation.....	20 "
Purity of Variety.....	10 "
Apparent Yield.....	38 "
Total.....	100 points

Sawdust as a Litter.

(Experimental Farms Note.)

The amount and value of manure produced on the farm is in a measure dependent on the nature and supply of the litter used. For the purpose of a litter is not only to act as a bedding material, to keep the animal warm, dry and comfortable, but also to serve as an absorbent to take up and hold all the liquid excreta—the most valuable part of the manure.

Straw is the universal litter and there are few better but there are seasons in which the supply is short and it may then be advantageously supplemented with sawdust. Indeed used alone dry sawdust is quite satisfactory. It is clean and easily handled but is particularly valuable for its high absorbent power for liquids, which is two to three times that of ordinary straw, it is not rich in plant food constituents but its subsequent decomposition in the soil gives rise to much humus—forming material. It should be used in sufficient quantity to absorb completely all the urine.

There is a more or less general impression among farmers that manure from stables and cowbarns in which sawdust had been used as a litter is injurious to the land. While we would not say that this suspicion may not have some foundation we have never been able to discover a single instance of such injury and enquiry has been made both in Canada and the United States in this matter. Such injury could only occur on very light soils following very heavy applications. Most satisfactory evidence has been obtained from many farms upon which sawdust has been used as a bedding material for a number of years and upon which the soil is light and sandy. Naturally it is on heavy soils that this class of manure proves most effective.

One word of caution is necessary, horse manure from stables using sawdust heats very rapidly, especially if left in the pile, and the excessive fermentation that may take place will seriously injure the manure. Such manure should be mixed with that from the cowbarn, which can readily be managed when manure carriers are installed and a manure spreader used. Mixed manure (horse and cow) may be handled in the same manner as that made with straw. The saturation of the sawdust with the liquid excreta promotes the ready decomposition of the litter under favorable conditions of temperature and the best place for this to take place, in order that the full manurial effect may be obtained, is in the soil. If the manure cannot be spread at once, the heap should be kept moist and compact, as in the case of manure made with straw.

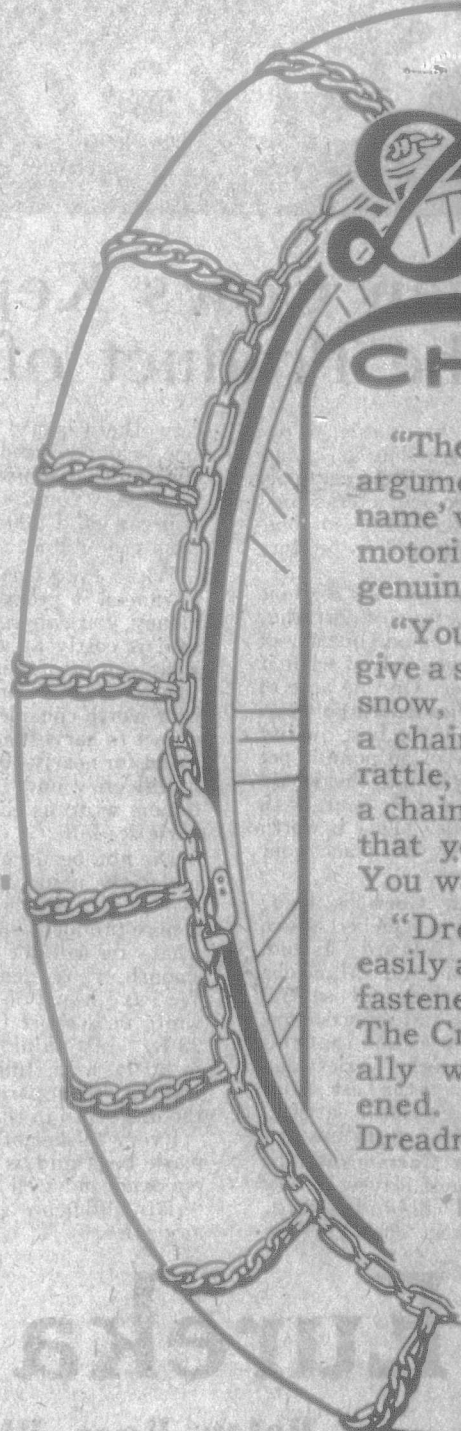
The sawdust of hardwoods, decomposes more readily and further is richer in potash and phosphoric acid than that of pines and conifers generally, but no harm due to resistance to decay need be feared from the use of the latter provided that it is not employed in larger quantity than is sufficient to absorb and retain the liquid excreta.—FRANK T. SAUITT, Dominion Chemist.

Sire Purchase Policy.

The Dominion Live-Stock Branch announces a new policy to be known as the "Sire Purchase Policy," which will become effective in the different provinces as announced later.

Under the terms of this policy bulls, boars, and rams will be purchased on order by competent employees of the Branch, and will be sold to applicants at the original cost price plus the freight. A deposit of \$50.00 with the order will be required in the case of bulls, and of \$10.00 in the case of boars or rams. An applicant will be required to remit the balance of the purchase price either direct or through his bank before delivery is made.

In the event of a considerable number of applications being received from any one territory, exchange stables will be provided by the Branch for the assembly of the sires with a view to executing orders more promptly, and for the purpose of giving applicants an opportunity of making their own selection out of the number on hand.



"I Want Genuine

Dreadnaught

CHAINS

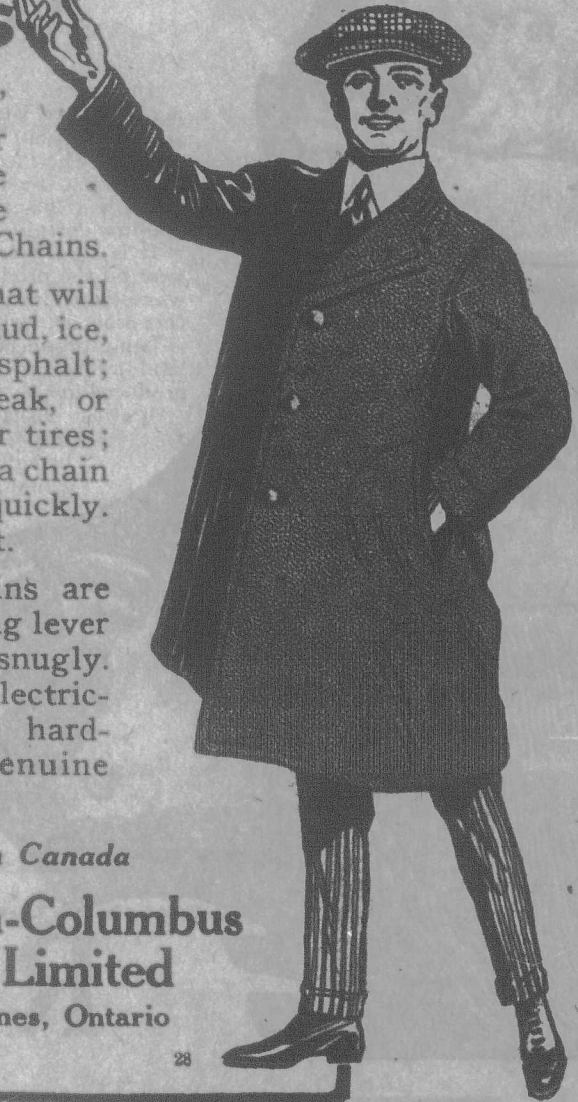
"The 'Just as Good' argument and a 'similar name' will not do for the motorist who knows the genuine Dreadnaught Chains.

"You want a Chain that will give a sure traction in mud, ice, snow, or on slippery asphalt; a chain that won't break, or rattle, or wear out your tires; a chain that won't rust, a chain that you can put on quickly. You want Dreadnaught.

"Dreadnaught Chains are easily adjusted with long lever fastener, and fit tires snugly. The Cross Chains are electrically welded and case hardened. Insist upon genuine Dreadnaught Chains."

Made in Canada

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Gunns SHUR-GAIN Fertilizers

Bring Bumper Crops

Farm products will fetch good prices in 1920---fertilize freely!

Gunns high-grade SHUR-GAIN fertilizers will give you bumper crops to cash in on. Grow more dollars and cents. Order your SHUR-GAIN now.

Don't Delay—Our Stock is Going Fast

SHUR-GAIN users often report \$3 or \$4 gain for every \$1 spent on it. Why not get this yourself?

Use SHUR-GAIN—a formula for every crop. Interesting literature gladly sent on request.

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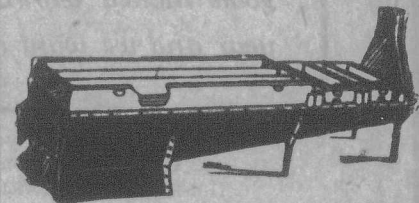
Strawberry Plants

The best strains of standard varieties: Williams' Improved, Senator Dunlap, Glen Mary, Arnout, Parsons' Beauty, Stephens' Champion. Sample, etc.: \$5 per 1,000 or \$1 per 100. Superb and Progressive, everbearing varieties, \$10 per 1,000 or \$1.50 per 100.

WM. WALKER 11 Fort Burwell, Ontario

Bill's Sugar and Syrup
Wasn't Up To Much

That's what his neighbors said, they were right too, but there were reasons, this sap was not fresh enough or clean enough, his boiling outfit was out of date and he scorched the whole batch. He did a lot of hard work with poor results. It is all a question of proper outfit. With a



GRIMM CHAMPION
Outfit

In your maple grove you are sure of making the best possible syrup and sugar. Do it cleanly and quickly and get more money out of it. Scrap your old outfit and make something worth while out of your sugar bush. We can help you a lot if you write us.

The Grimm Mfg. Co.
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SEED CORN

White Cap, Dent
Price and sample on application.
A. McALEECE, - Blenheim, Ont.

Does God Have a Plan for Your Life?

Find a vital answer in McCotkey's little booklet, "The God-Planned Life." Entirely free. Address **SILVER PUBLISHING CO.** Dept. Y, Bessemer Building, Pittsburg, Pa.

ment.

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ing Potatoes.

were fed exclusively to live would not need to worry the quality of the tuber yield would be the main er. Such, however, is not nsurers of potatoes are . Hotels, restaurants, and ating establishments must atoes, and the people who nd cities don't care to pay for poor products. They potatoes all one size so they ly; they don't like large, s for then there is much ve all they want them of

of lunches are served an on potatoes could be ing the noon hour, and if pils should desire all the ion on potatoes they t from Justus Miller, ildings, Toronto; from z, O. A. C., Guelph, Ont.; al Departments of Agri- om the Central Exper- Ottawa. From these ins and other literature d telling all about potatoes. trade in Ontario calls for a flaky potato of good good appearance. The e smooth; deep eyes are . When potatoes are teat , the following score card pare them. The tubers r cooked and then judged e following points:

-40 points
-40 points
-20 points
-100 points

be a difficult task to cook e school and carry on a contest during the lunch- samples of potatoes could e the pupils and used for the

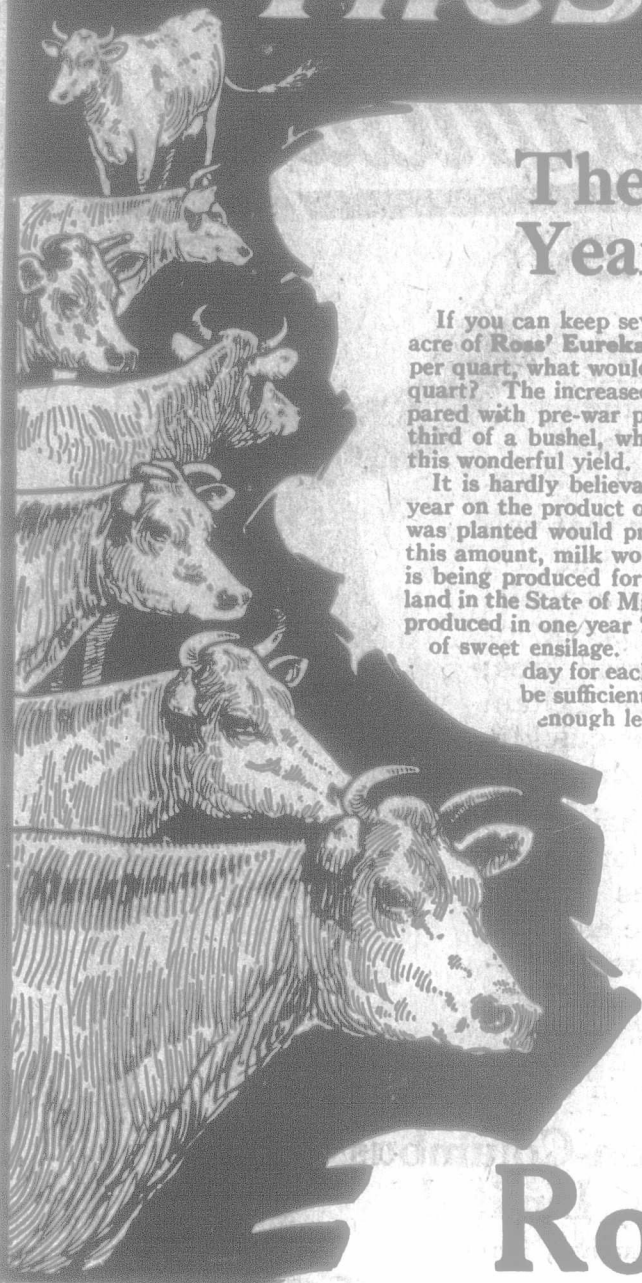
g scale of points may be potatoes in large or small cooking process is not

- variety.....10 points
-10 "
-10 "
-10 "
-5 "
-5 "
-10 "
- om Disease.....15 "
-25 "
-100 points

atches or whole fields eing judged, the following s frequently used:

- ance.....15 points
- ight and insects.....17 "
- thoroughness of
-20 "
-10 "
-38 "
-100 points

These Seven Cows



These Seven Cows Kept for One Year on the Product of One Acre

If you can keep seven cows a year on the product of one acre of Ross' Eureka Corn when milk is selling at 7 cents per quart, what would it be worth when milk is 14 cents per quart? The increased cost of the seed for one acre as compared with pre-war prices is not more than \$1.00 for one-third of a bushel, which was all that was used to produce this wonderful yield.

It is hardly believable. Keeping seven cows for a whole year on the product of one acre. If every acre of corn that was planted would produce even one-half or one-quarter of this amount, milk would be produced at one-half of what it is being produced for at the present time. On one acre of land in the State of Michigan, Ross' Eureka Ensilage Corn produced in one year 70 tons, 800 pounds of the best quality of sweet ensilage. Figuring at the rate of 50 pounds per day for each cow, which is very liberal, this would be sufficient to feed 7 cows for one year, with enough left over for 261 feeds. This is worth considering when you place your order for seed corn.

Ross' Eureka Corn is being planted in Ontario, Quebec, Nova Scotia, Prince Edward Island, British Columbia and Manitoba and over 40 states and several foreign countries, and reports come from nearly every section that this corn outyields any other variety and the quality is always the best. Corn that gives such universal satisfaction is the corn for you to buy.

Ross' Eureka Corn grows the tallest, has the most leaves, is very short jointed and will produce more tons of good, sweet ensilage than

any other variety. Four of the heaviest yields of this corn in one year produced 200 tons, 96 pounds or an average of 50 tons and 24 pounds per acre. This is not much over the average. You do not need to plant your whole farm when you can fill a 200-ton silo, or better still, two 100-ton silos from the product of 4 to 6 acres.

While everything is high, Ross' Eureka Corn has not advanced in proportion to other commodities, and the best money you can spend on the farm is for good seed. Poor seed is costly at any price, but good seed is always worth what you pay for it. The cost of the seed as compared with the total cost of producing an acre of corn is so small that it isn't worth considering. If you plant cheap corn, you must expect to harvest accordingly. We have been selling Eureka Corn for nearly 40 years, and we know before we ship it that it will grow under favorable conditions. Many of our customers write us that Eureka corn will grow where all other varieties fail.

Do not be deceived. There is a lot of corn being sold under the name of Eureka that is common southern white dent corn which has a small ear, short narrow leaf and while it may produce as many ears, the yield is not over two-thirds what you will get from Ross' Genuine Eureka which is a smooth, white, dent variety and grows from 14 to 18 ft. tall. We have heard of it over 20 ft. tall. One of our customers wrote us a short time ago he had one stalk that measured 23 ft. Just think of a field of corn that measures from 16 to 20 ft. high, full of wide juicy leaves with a lot of good big ears as compared with other varieties 10 to 12 ft. tall, and the difference in the cost of the seed isn't over 75 cents.

Every bushel of genuine Eureka is put up in our trademark bags and is seed from selected ears, butts and tips removed and well fanned to remove any hull or waste material. You can pay more but you cannot get better seed at any price.

Ross' Eureka Corn

If you have a boy who wants to make some money Saturdays and afternoons after school selling seeds, ask him to write us. Several hundred boys made good money working for us last year and we want more this year.

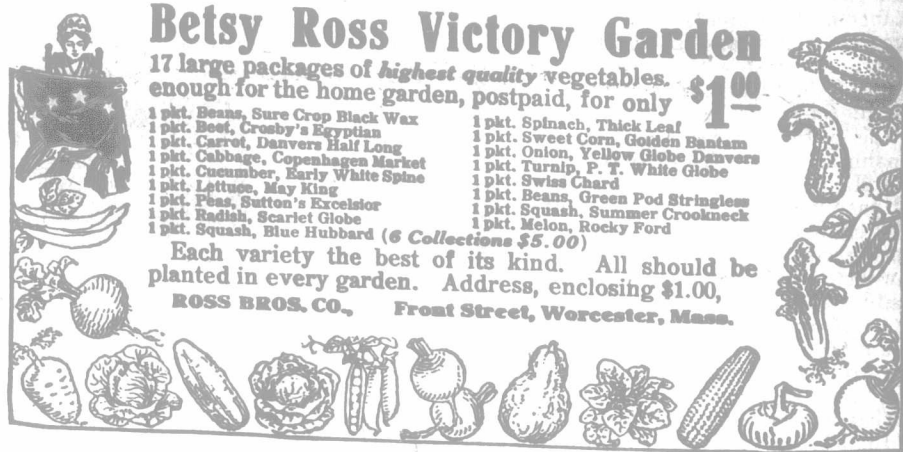
Buy a

Betsy Ross Victory Garden

17 large packages of highest quality vegetables enough for the home garden, postpaid, for only \$1.00

- | | |
|--|------------------------------------|
| 1 pkt. Beans, Sure Crop Black Wax | 1 pkt. Spinach, Thick Leaf |
| 1 pkt. Beet, Crosby's Egyptian | 1 pkt. Sweet Corn, Golden Bantam |
| 1 pkt. Carrot, Danvers Half Long | 1 pkt. Onion, Yellow Globe Danvers |
| 1 pkt. Cabbage, Copenhagen Market | 1 pkt. Turnip, P. T. White Globe |
| 1 pkt. Cucumber, Early White Spine | 1 pkt. Swiss Chard |
| 1 pkt. Lettuce, May King | 1 pkt. Beans, Green Pod Stringless |
| 1 pkt. Peas, Sutton's Excelstor | 1 pkt. Squash, Summer Crookneck |
| 1 pkt. Radish, Scarlet Globe | 1 pkt. Melon, Rocky Ford |
| 1 pkt. Squash, Blue Hubbard (6 Collections \$5.00) | |

Each variety the best of its kind. All should be planted in every garden. Address, enclosing \$1.00, ROSS BROS. CO., Front Street, Worcester, Mass.



We do not ask you to take our word for what Eureka Corn will do, but refer you to the following letters.

DASHWOOD, ONTARIO, CANADA
Gentlemen:—Referring to the seed corn I got last spring I must say I never had anything equal it. I had eight acres of corn besides this of Improved Leaming and Wisconsin No. 7 which was not at all bad, but the Eureka I am sure turned as much again per acre. It grew from 10 to 13 ft. and it had a poor chance, as I did not get my seed until the 3rd of June. If it were sown early and we had favorable weather, I have no doubt it would grow still taller. I can highly recommend Eureka corn for growing far more feed per acre than any other corn I have ever seen. People came from a distance to see it, and every one that saw it said they never saw anything equal it.
Yours truly, ALBERT HENDRICKS.

MONKLAND, ONTARIO
Gentlemen:—As to Eureka corn will say I had 3 1/2 acres Improved Leaming and 1 1/2 acres of Eureka, and I am satisfied I had as much Eureka as Improved Leaming, and the man who filled my silo said that in his fall work filling silos, he saw nothing that would equal your Eureka.
Yours truly, ALEX. J. DANIELS.

Eureka Corn is only one of our specialties. We handle a full line of farm seeds, such as Oats, Barley, Potatoes, Rye, Wheat, Buckwheat, Cowpeas, Vetch, Soy Beans, Essex Rape and other varieties of field and silage corn, Grass Seed, including all kinds of Alfalfa. We also have

TRENTON, ONTARIO

Dear Sirs:—Regarding the Eureka corn received from you last season, would say this corn is the best corn for ensilage I have ever grown, or, in fact, ever seen. The past season has been very bad for corn, but this variety grew 16 ft. high. It was sown late and although the season was very dry it grew rapidly. We sowed it on June 15th, and harvested it September 12th. I would recommend Eureka Corn to any one wanting a heavy-yielding variety.
Respectfully, D. MACDONALD.

CORINTH, ONTARIO

Gentlemen:—I liked the Eureka corn fine. It grew 13 1/2 ft. high. We had a very dry summer for corn, but Eureka was the biggest in my neighborhood. Please send me your seed catalogue for 1920 as soon as you have it ready, and I will want some more and some of my neighbors want some also. I think it is much better to fill the silo with the latest corn you can get and grow the husking corn by itself. Then you can grind the dry corn and give the chaff to the ensilage, which I think will give the best results.
Hoping you will send us your catalogue, I am,
Yours respectfully, JOHN W. TODD

We have hundreds of other similar letters, but there is not room to publish them in this limited space.

QUEENSVILLE, ONTARIO

Sirs:—The Eureka corn purchased from you last spring is the greatest silo filler I have seen. It was the biggest and tallest and contained the most sugar of any variety we used in filling about 25 silos, and would recommend it to any one as a good ensilage corn. I let my brother have 1/2 bushel and have inquiries for about 15 bushels from his neighbors, so I think that is a fair recommend in itself.
Yours truly, T. A. SMITH.

HOLSTEIN, ONTARIO

Gentlemen:—In regard to the Eureka corn which I purchased from you last spring, I must say it did splendid. I tested it against three other kinds, namely, White Cap, Leaming and Southern Sweet, and it grew from 3 to 4 feet taller. It grew about 16 feet tall. It was like some of the testimonials I read last spring. It is very hard to handle as it grew so tall, but, however, it was the corn alongside the road, and as the corn advanced Eureka took the lead and passers-by wondered what kind of corn it was. I was well suited and considered the price of it well-spent money and hope to be able to get some more for the following spring. Also, please send me your 1920 catalogue.
Yours truly, JOHN J. C. QUEEN.

full line of agricultural tools, dairy goods, insecticides, etc. Early Fairmont potatoes give an increased yield over common varieties that will pay for the entire cost of seed and fertilizer. Our 120-page catalogue will be mailed free if you ask for it.

While there are other seeds by the name of Ross, they are not genuine and are in no way what we sell. Address all communications to

ROSS BROS. COMPANY, No. 55 Front Street, Worcester, Mass., U.S.A.

Order copy #100