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THE FARMER'S ADVOCATE

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AND HOME MAGAZINE

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

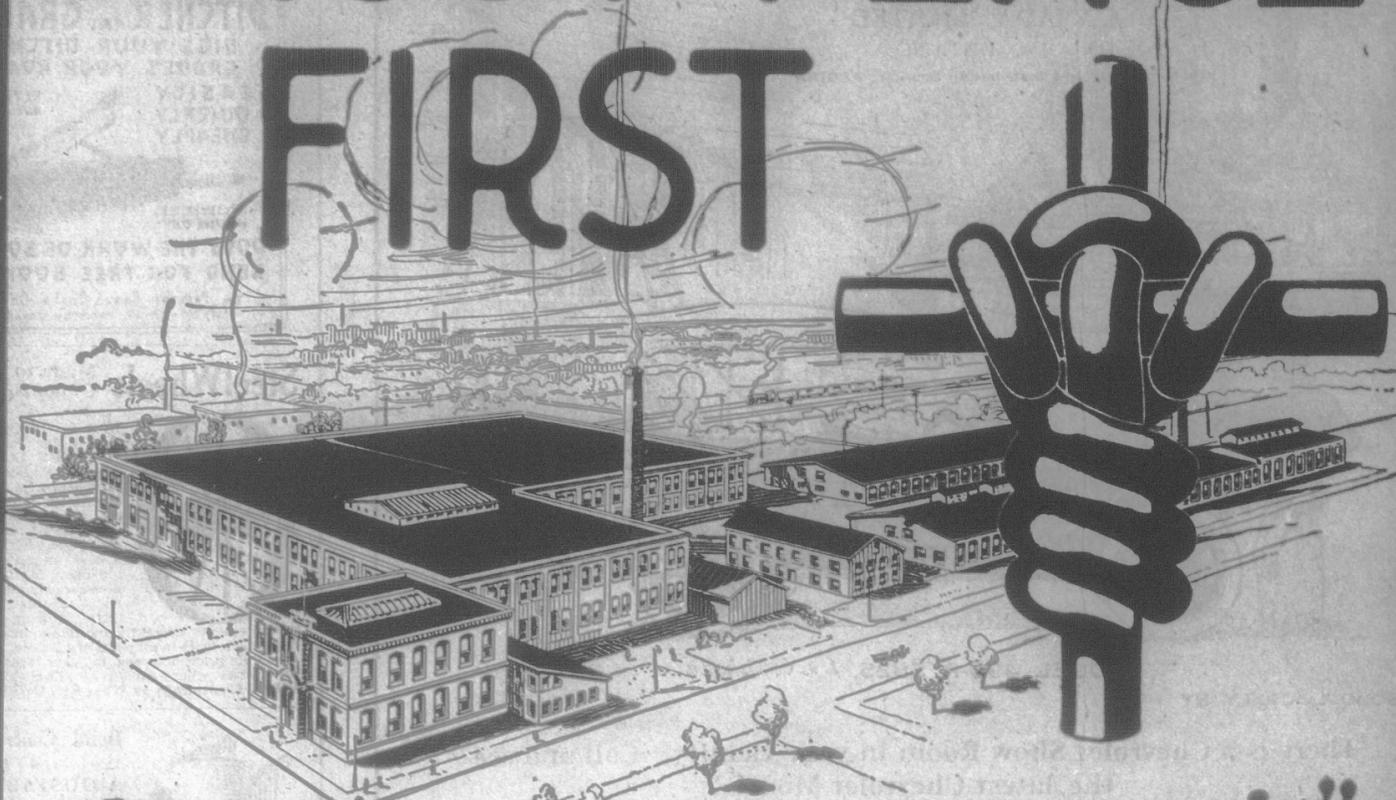
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Vol. LIII.

LONDON, ONTARIO, APRIL 11, 1918.

No. 1333

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Security

"It pays to use it"

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THE Chevrolet 490 is an investment, not an expense or luxury. Doctors, business men, farmers, salesmen and ladies—all should use the Chevrolet Four-Ninety and crowd more energy, activity and business into the busy day.

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QUICKLY
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REVERSIBLE
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A horse and buggy do a third of the work one Overland

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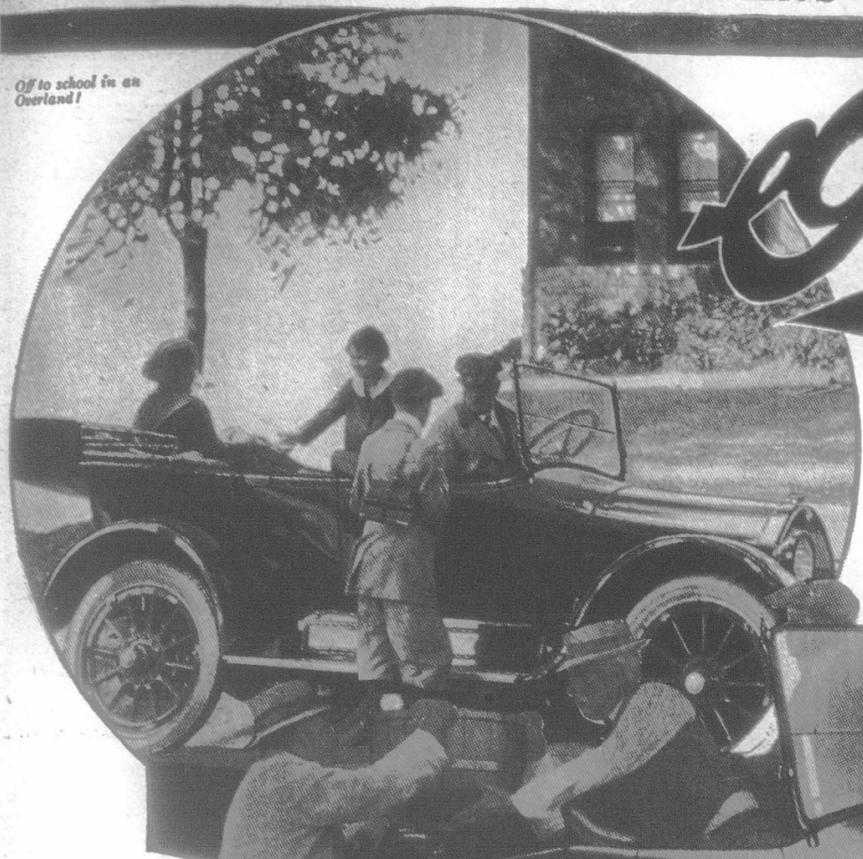
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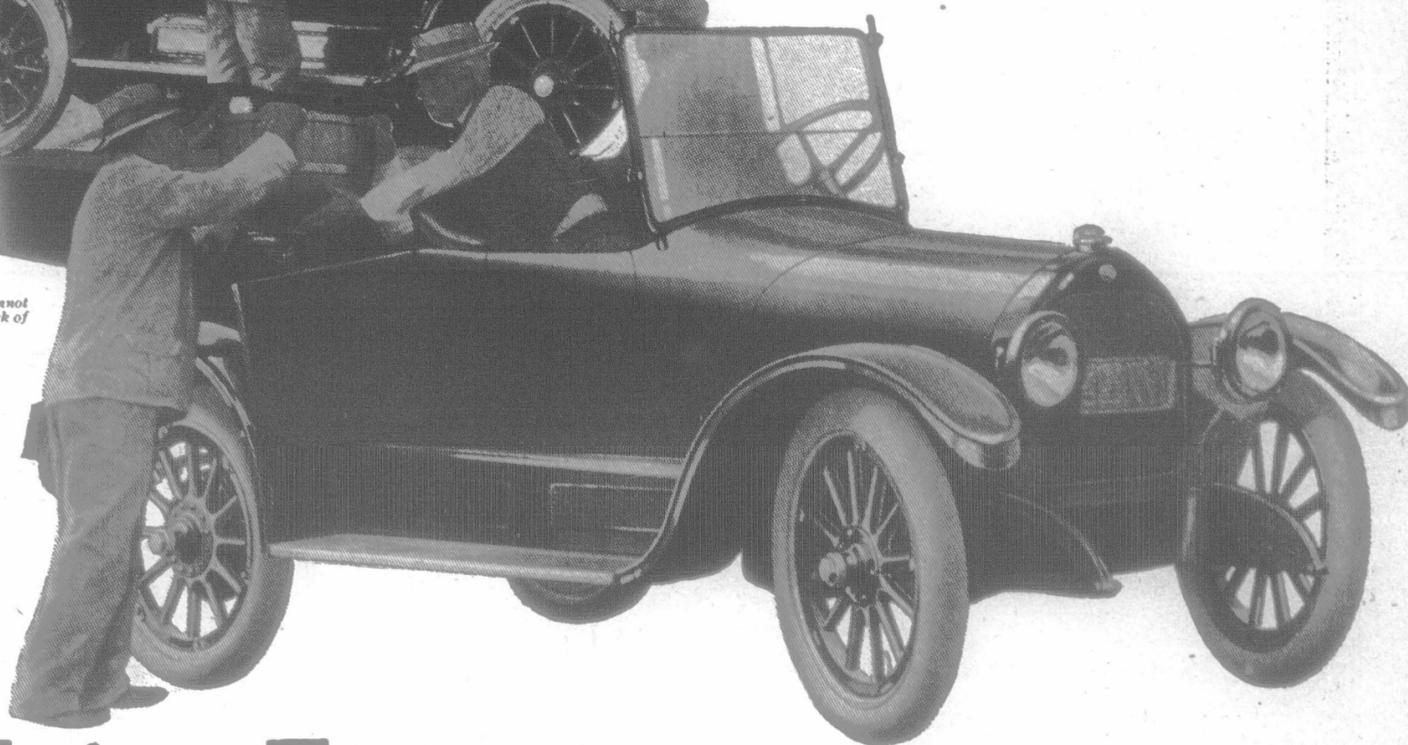
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The Thrift Car

Light Four Model 90 Touring Car

Appearance, Performance,
Comfort, Service and Price

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That more than half of the Overland output is taken by farmers.

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Now that motor cars are such a factor in business, men look for that particular make of car representing highest value for the amount involved. McLaughlin cars give uninterrupted service due to their efficiency.

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the best use of high priced seed.
Means \$5 to \$25 extra profit per acre.
Every seed piece in its place
and only one. Saves 1 to 2
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form depth even
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a full line of potato
machinery. Send
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You can exercise your preference—oval or square—in four different sizes.

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*Be sure that this trade mark
is stamped on the pouch*



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THE RIGHT PAINT TO PAINT RIGHT

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Thousands of farmers have responded to the call of this fertile country, and are being made comfortable and rich. Here, right at the door of Old Ontario, a home awaits you.

For full particulars as to terms, regulations and settlers' rates, write to:

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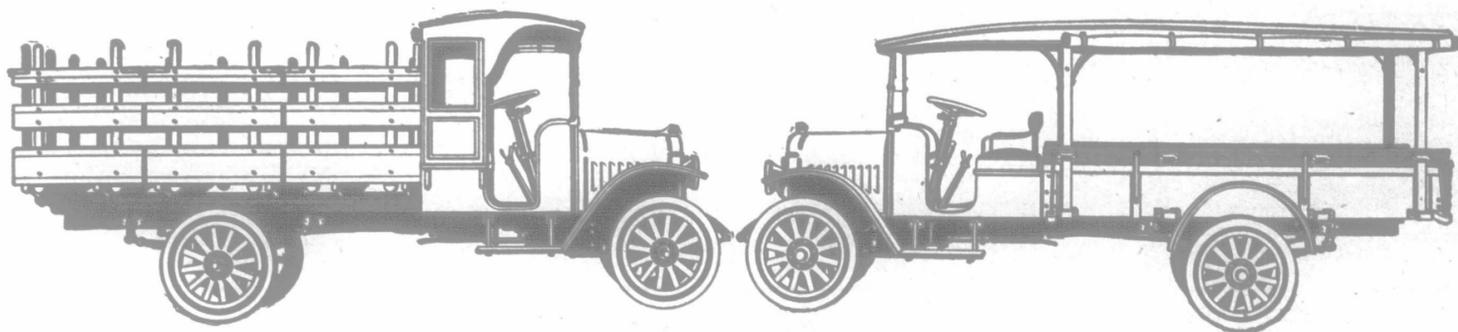
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*More Brains
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MAXWELL TRUCK

This truck costs little more than a first class team, wagon and harness. Costs less when you figure up-keep. Eats only when it works. Requires one-twenty-fifth the care and attention horses do. Travels the 7 or 12 or 16 miles to market, under load, in one-fourth the time.

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Bruce's Giant Feeding Beet—In two colors, white and rose, a cross between Sugar Beet and Mangel, splendid croppers and keepers, and unequalled for feeding, easily harvested. ¼ lb. 30c; ½ lb. 55c; 1 lb. \$1.00; 5 lbs. \$4.75 postpaid.

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Does your manufacturer print on the fertilizer bag the per cent of immediately available nitrogen (viz., Nitrates) in it?

Many do not.

Home mixing is the safe method. Mix your own fertilizers and know what you get.

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Answer the farmer's big questions. How can I get my crops sprayed when help is scarce? How protect my crops against bugs and blight?

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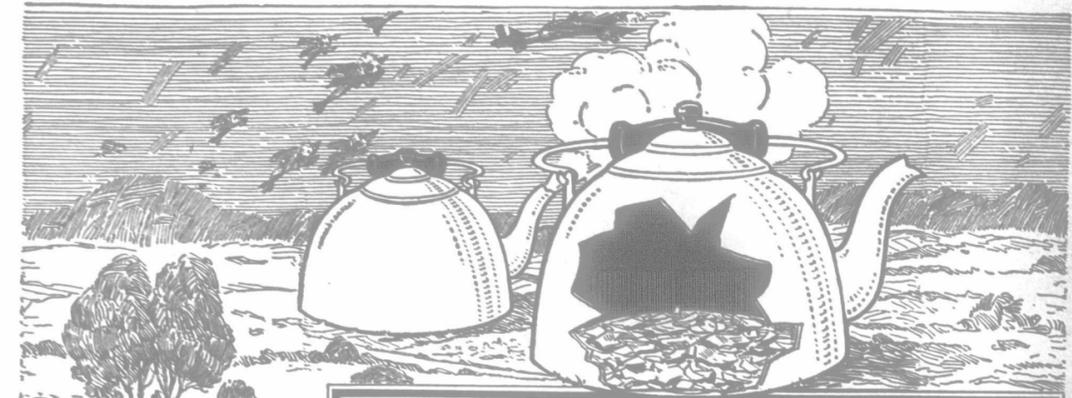


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FARMERS! SAVE REPAIR BILLS & VALUABLE TIME. ONE OF OUR BLACKSMITHING OUTFITS WILL PAY FOR ITSELF. CATALOG FREE

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STEAM that escapes through a tea-kettle spout, if caught and condensed, would be pure water—distilled water. Distilling removes all impurities, leaving a scale or residue along the sides and bottom of the kettle.

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Now imagine a huge tea-kettle that will hold 25,000 gallons of crude oil. Picture an intense heat applied and the vapor that would arise, then you have some idea of our modern oil stills—the scientific process of making En-ar-co National Motor Oil. The vapor is condensed, further refined and then filtered. The result is a clear, clean motor oil that will perform its function properly in any motor.

En-ar-co National Motor Oil

For automobiles, tractors, motor trucks, motorcycles, motor boats, aeroplanes and every type of motor. Clean, clear, pure. Free from excess carbon. Has the "right" body.

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One grease for all uses, all around the motor car, tractor or gas engine. Gives perfect lubrication in differentials, compression cups, transmissions and every other grease point.

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A pure, dry, uniform gasoline that insures utmost satisfaction in continuous, responsive power.

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A bright burning lamp oil. Does not char the wick or chimney. No disagreeable odors or poisonous fumes. Best also for oil heaters, oil cook stoves, incubators, brooders and oil burning tractors.



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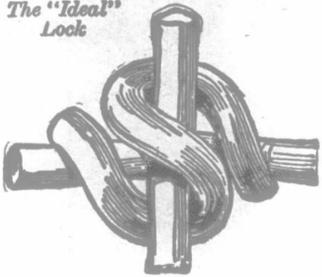
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FREIGHT PAID TO YOUR STATION

Below we give the freight-paid prices to any station (except Electric) in Old Ontario on orders of \$15.00 or over. Prices for New Ontario quoted on request.

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

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

HEAVY "IDEAL" FENCING

MADE THROUGHOUT OF FULL GAUGE No. 9 EVENLY GALVANIZED HARD STEEL WIRE, CARRIED IN 20, 30 AND 40 ROD ROLLS.

No. 5380 5-line wires, 38 inches apart, spacing 9, 9, 10, 10. Per rod.....	37c	No. 847 8-line wires, 48 inches high, uprights 16 1/2 inches apart, spacing 4, 5, 6, 7, 8, 8, 9. Per rod..	63c	No. 1054 10-line wires, 54 inches high, uprights 16 1/2 ins. apart, spacing 3 1/2, 3 1/2, 4, 5, 6, 7, 8, 8, 9. Per rod.....	80c
No. 6390 6-line wires, 39 inches high uprights 22 inches apart, spacing 7, 7, 8, 8, 9. Per rod.....	43c	No. 8470 8-line wires, 48 inches high uprights 22 inches apart, spacing 4, 5, 6, 7, 8, 8, 9. Per rod..	58c	No. 10540 10-line wires, 54 ins. high, uprights 22 ins. apart, spacing 3 1/2, 3 1/2, 4, 5, 6, 7, 8, 8, 9. Per rod.....	73c
No. 7400 7-line wires, 40 inches high, uprights 22 inches apart, spacing, 5, 6, 6, 7, 7 1/2, 8 1/2. Per rod.....	50c	No. 951 9-line wires, 51 ins. high, uprights 16 1/2 ins. apart, spacing 4, 4, 5, 6, 7, 8, 8, 9. Per rod.....	70c	No. 1157 11-line wires, 57 inches high, uprights 16 1/2 ins. apart, spacing 3, 3 1/2, 3 1/2, 4, 5, 6, 7, 8, 8, 9. Per rod.....	85c
No. 7480 7-line wires, 48 inches high, uprights 22 inches apart, spacing 5, 6 1/2, 7 1/2, 9, 10, 10. Per rod.....	51c	No. 9510 9-line wires, 51 inches high, uprights 22 inches apart, spacing 4, 4, 5, 6, 7, 8, 8, 9. Per rod.....	64c	No. 11570 11-line wires, 57 ins. high, uprights 22 ins. apart, spacing 3, 3 1/2, 3 1/2, 4, 5, 6, 7, 8, 8, 9. Per rod.....	77c
No. 841 8-line wires, 41 inches high, uprights 16 1/2 ins. apart, spacing 4, 4, 5, 6, 7, 7, 8. Per rod..	62c	No. 1048 10-line wires, 48 inches high, uprights 16 1/2 ins. apart, spacing 3, 3, 3 1/2, 4, 5, 6, 7, 8, 8 1/2. Per rod.....	75c	No. 831 8-line wires, 31 ins. high, uprights 16 1/2 ins. apart, spacing 3, 3, 3, 4, 5, 6, 7. Per rod.....	60c
No. 8410 8-line wires, 41 inches high, uprights 22 inches apart, spacing 4, 4, 5, 6, 7, 7, 8. Per rod....	57c	No. 10480 10-line wires, 48 ins. high, uprights 22 ins. apart, spacing 3, 3, 3 1/2, 4, 5, 6, 7, 8, 8 1/2. Per rod.....	70c	No. 939 9-line wires, 39 inches high, uprights 16 1/2 inches apart, spacing 3, 3, 3, 4, 5, 6, 7, 8. Per rod..	67c

MEDIUM HEAVY "IDEAL" FENCING

TOP AND BOTTOM WIRES No. 9; OTHER WIRES No. 12; CARRIED IN 20, 30 AND 40 ROD ROLLS.

No. 640 6-line wires, 40 ins. high, uprights 16 1/2 ins. apart, spacing 7, 7, 8, 9, 9. Per rod.....	33c	No. 726 7-line wires, 26 ins. high, uprights 13 inches apart, spacing 3, 3 1/2, 4, 4 1/2, 5, 6. Per rod.....	35c	No. 930 9-line wires, 30 ins. high, uprights 13 ins. apart, spacing 3, 3, 3, 3, 4, 5, 6. Per rod.....	43c
No. 6400 6-line wires, 40 ins. high, uprights 22 inches apart, spacing 7, 7, 8, 9, 9. Per rod.....	30c	No. 7261 7-line wires, 26 inches high, uprights 8 inches apart, spacing 3, 3 1/2, 4, 4 1/2, 5, 6. Per rod.....	41c	No. 9301 9-line wires, 30 inches apart, uprights 8 inches apart, spacing 3, 3, 3, 3, 4, 5, 6. Per rod.....	50c
No. 950 9-line wires, 50 ins. high, uprights 13 inches apart, spacing 4, 4, 5, 6, 7, 7, 8, 9. Per rod.....	48c	No. 1150 11-line wires, 50 inches high, uprights 13 inches apart, spacing 3, 3, 3, 4, 4, 5, 6, 7, 7, 8. Per rod.....	55c	No. 1448 14-line wires, 48 inches high, uprights 13 ins. apart, spacing 2 1/2, 2 1/2, 2 1/2, 2 1/2, 2 1/2, 3, 3, 3 1/2, 4, 5, 5 1/2, 5 1/2, 6. Per rod.....	64c

"IDEAL" POULTRY FENCING

TOP AND BOTTOM WIRES ARE MADE OF No. 9, ALL OTHER WIRES No. 13. MADE IN TWO STYLES ONLY. CARRIED IN 10 AND 20 ROD ROLLS.

No. 1848 18-line wires, 48 inches high, uprights 8 1/4 inches apart, spacing 1 1/8, 1 1/8, 1 1/8, 1 1/8, 1 1/8, 1 1/8, 2 1/4, 2 1/4, 2 1/4, 3, 3, 3 1/2, 3 1/2, 4, 4 1/2, 5. Per rod.....	85c	No. 2060 20-line wires, 60 inches high, uprights 8 1/4 inches apart, spacing 1 1/8, 1 1/8, 1 1/8, 1 1/8, 1 1/8, 1 1/8, 2 1/4, 2 1/4, 2 1/4, 3, 3, 3 1/2, 3 1/2, 4, 4 1/2, 5, 6, 6. Per rod.....	90c
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Improved "Ideal" Stock Gates—Open Mesh

Made in the following sizes only:

12 feet long, 51 inches high, each.....	\$6.00
13 feet long, 51 inches high, each.....	6.25
14 feet long, 51 inches high, each.....	6.50

Improved "Ideal" Farm Gates—Close Mesh

3 feet long, 48 inches high, each.....	\$3.00
3 1/2 feet long, 48 inches high, each.....	3.25
4 feet long, 48 inches high, each.....	3.50
4 feet long, 48 inches high, each.....	3.50
10 feet long, 48 inches high, each.....	6.25
12 feet long, 48 inches high, each.....	7.00
13 feet long, 48 inches high, each.....	7.25
14 feet long, 48 inches high, each.....	7.50
16 feet long, 48 inches high, each.....	8.00

Supplies for "Ideal" Fence

Ideal Fence Stretcher, each.....	\$10.00
Hand Stretcher for Single Wire, each.....	1.00
Universal Post-Hole Digger, each.....	2.75
Ideal Steel Fence Posts, 1 1/2 in. x 1 1/2 in. angle by 7 1/2 ft. long, each.....	.55

Brace Wire, Staples and Barb Wire

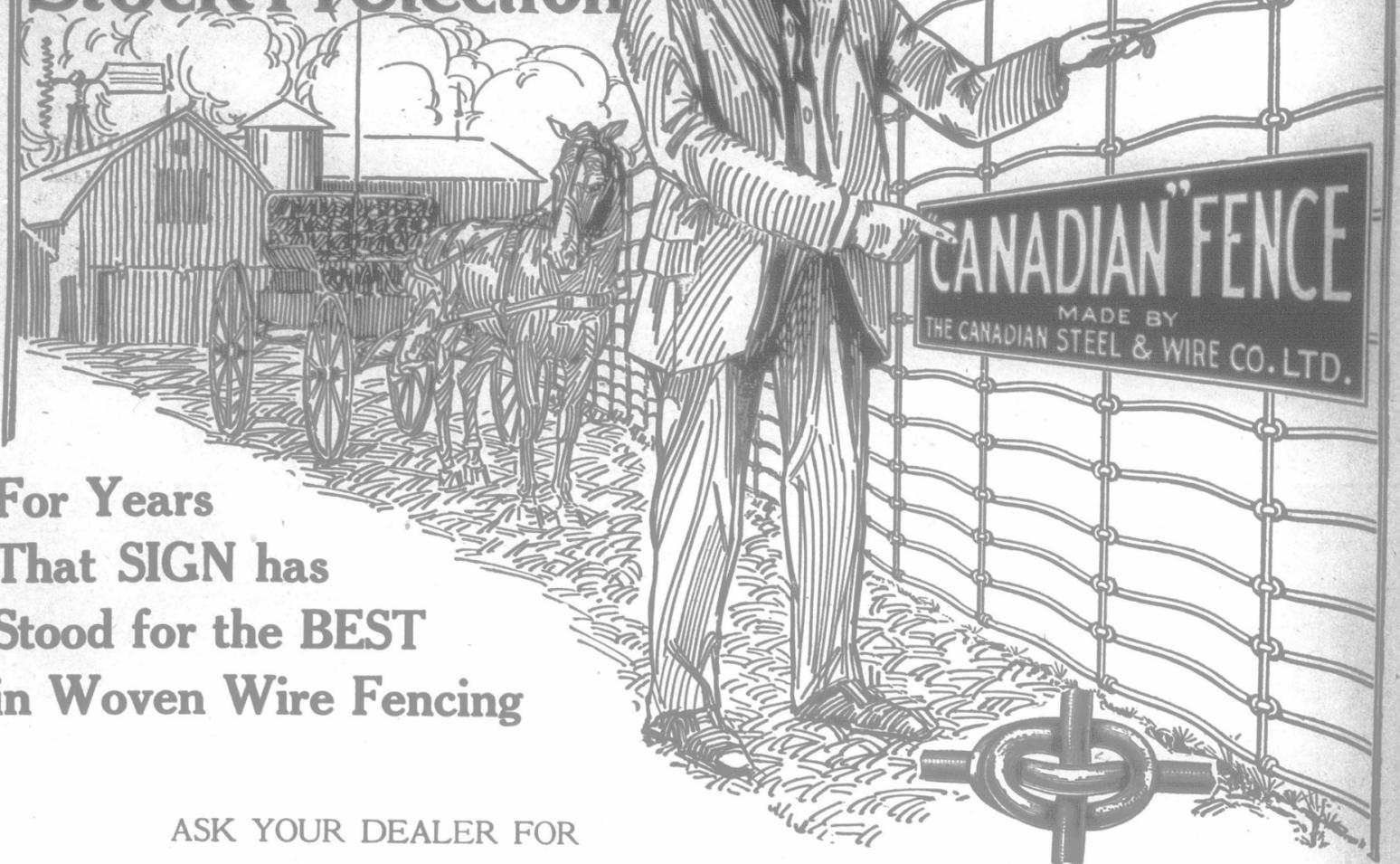
Galvanized Staples in 25-lb. Boxes.....	\$1.85
Galvanized Staples in 100-lb. Boxes.....	7.00
Galvanized Fence Hooks, per 100 lbs.....	7.00
No. 12 Brace Wire, per 100 lbs.....	6.50
No. 9 Brace Wire, per 25 lbs.....	1.60
No. 9 Brace Wire, per 100 lbs.....	6.00
No. 9 Coiled Spring Wire, per 100 lbs.....	6.10
4 pt. 4" Galv. Cabled Barbed Wire, per 100 lbs. (about 95 rods).....	6.75
4 pt. 6" Galv. Cabled Barbed Wire, per 80 rod spool.....	5.50
2 pt. 5" Galv. Cabled Barbed Wire, per 80 rod spool.....	5.25
"Ideal" Single Strand Barbed Wire, per 80 rod spool.....	3.75

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The Farmer's Advocate and Home Magazine

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LIII.

LONDON, ONTARIO, APRIL 11, 1918.

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EDITORIAL.

Save the pig crop this spring.

Those who save, without skimping, serve.

Seed that goes in early has the best chance.

Like the big fish, the big banks swallow up the little ones.

To ensure that too many days are not meatless, organize a beef ring.

Hindenburg was not in Paris April 1, but countless thousands of his men were in eternity.

The more feed the farm grows the less will be the trouble in feeding the live stock next winter.

No matter how the clock may be changed, we can only make use of the daylight Old Sol sees fit to give us.

Those who place obstruction in the way when the country is at stake deserve to be summarily dealt with.

Every job has its drawbacks, but the most unhappy man on earth is the man with nothing to do. There should be no idlers this year.

The man who advised those who didn't know anything about growing any crop to leave the seed for someone who did, had some common sense.

In every scheme of rehabilitation of returned soldiers the men themselves must be consulted individually. Farm land should go only to men who will farm it.

The man who breeds and develops the better class of live stock is doing work of more than community service. It has an important bearing on the national welfare.

From the favorable comment coming from correspondents and which has appeared in these columns, it would seem that the Government would be justified in going farther with the proposal of gang threshing in Ontario.

There is more than one good breed of all the various classes of farm live stock. Do not forget that the other fellow's cattle have a place in the live-stock industry of this country—that is, if they are creditable representatives of any of the recognized breeds.

Sometimes we are told that Governments always do what they think public opinion demands, but they do not always hit it right. For instance, the recent increase in railway rates is not popular with the people and the decision made does not solve Canada's railway problem.

The man who defined "chores" as a term invented in America to enable the farmer to squeeze two or three hours more work each day out of his hired help without pay, evidently started as a hired man in the old days. Hours will be longer than usual this year because of the scarcity of men and the need of heavy production.

If your wife and daughters are going to help you outside, give them the advantage of a few labor-savers in the house. All the hard work on the farm is not done by the men. Farm women have had a heavy burden to bear. Running water with its added conveniences would lift a heavy load.

Quality First in Pure-bred Live Stock.

Canada is undoubtedly only on the threshold of the great development, which is sure to take place agriculturally. Vast numbers of pure-bred live stock will be required to improve and build up the herds of the now pioneer farmers in the new districts of the North and West. In their buying they will not concern themselves much about pedigrees. They will demand good type, conformation and quality, so as to distinguish them from the ordinary stock already on their farms. A farmer from a newly-settled district in Western Canada recently made a tour of Ontario in search of pure-bred stock for his district. In regard to some young bulls he said: "I am not particularly interested in their pedigrees; what I want is something I can turn out in the field and we shall know they are pure-bred without branding them as such." Farmers are more and more looking for the reality and laying less stress on the promise of something good if the living evidence is itself a condition. So long as development is steady and healthy a fashionable pedigree will not be considered compensation for a lack of merit in type and quality. If like begets like then one should breed from the type he wishes to propagate. Breeders would be unwise to ignore pedigrees, for they are the foundation of the whole industry. What is wanted is an elimination of the scrub pure-bred so more farmers will cast aside their prejudices and improve their stocks with pedigreed sires of good quality. Maintain the business on a good basis in this way and the development of this country will absorb all the breeder's surpluses to the advantage of the industry at large.

Fruit Growers out for Standardization.

The Dominion Fruit Growers' Conference, held in Ottawa on March 26 and 27, marked the beginning of a new era in Canadian fruit-growing affairs. Too long we have had differences of opinion in regard to packages and grades, but the delegates met on that occasion with their minds centred on uniformity and a Canadian standard, in so far as the widely varying conditions of this country will permit. Owing to the adaptability of Nova Scotia, Ontario and British Columbia to the production of fruit, and the development in this line which has taken place there, they were most deeply concerned, but the other Provinces were represented and listened to with interest. The Conference at Grimsby, Ontario, in 1914, was well attended but the spirit of compromise did not manifest itself to the same extent, neither did the Canadian viewpoint prevail as it did at Ottawa on this recent occasion. Few who are not publicly interested in the administration of the Inspection and Sales Act, or who have given little study to the conditions under which fruit is grown and marketed outside their own Province, can appreciate the necessity of standardization and uniformity in grades and packages, and the difficulties which must be overcome in the realization of the same. At the Conference held in Grimsby, almost four years ago, the sentiments expressed were more or less Provincial but localisms were swept aside, and only matters of Dominion-wide importance were allowed to influence the resolutions or recommendations adopted at Ottawa. Further, contentious questions which have been debated for years were settled with the utmost dispatch.

The compromise between the Nova Scotia small apple barrel and the Ontario container, with a thirty-inch stave, ended a long, protracted controversy and will tend to standardize the Canadian apple barrel on the markets of this country and the United States. Ontario representatives considered that they made a concession here, but they did so with the determination to prevent so many sizes, which the wording of the Act

permits, and thus put an end to a condition which is inimical to trade. Boxes were also standardized and the proposed dimensions for all such containers seemed reasonable indeed. Chiefly in depth does the difference occur, for they are practically all eighteen inches long and eleven and a half inches wide. The tops and bottoms are thus the same in all cases, as well as the length of the sides. Growers and box manufacturers alike will welcome this agreement. Specific dimensions were also laid down for standard six and eleven-quart baskets, which are very popular packages but which have been giving producer and shipper an immense amount of trouble, largely on account of their inferior quality and variation in size.

Considerable improvement was made in the grades of apples. The fancy grade was eliminated, owing to the fact that it is not used commercially. The No. 1 was left as it was, but the No. 2 was improved and the wording of the Act made more definite. It was also suggested that a Domestic grade be legalized, while still retaining the No. 3. The Nova Scotia delegates, particularly, desired that the last-mentioned grade be retained since they have established a considerable market for it. In quality the Domestic holds precedence over the No. 3, and we believe the apple trade would be healthier over a term of years if the No. 3 had been dispensed with altogether. The marketing of low-grade fruit is detrimental to the industry, and growers would profit in the long run, we believe, if they would limit their product to something ordinary and better. Anything inferior in quality tends to drag down the price of the good article, and the Domestic grade is pretty well adapted to looking after everything fit for sale, but not good enough to go in a No. 1 or No. 2 barrel. The growing scarcity of barrel stock, transportation difficulties, and insufficient labor combined, seem to pronounce the No. 3, as now defined, an economic mistake.

Why Not a Demonstration Farmer?

At Summerland, in the Okanagan Valley, British Columbia, a fruit and vegetable grower was retained by the Provincial Government at an annual salary of \$1,000 to demonstrate what a good fruit plantation looked like, and what the proceeds from such a farm would likely be. He was not responsible to the Government in any way except for a sworn statement concerning gross receipts and expenditures. He was, however, expected to show visitors over his farm and explain matters of interest to them. This grower, J. H. Hilborn, formerly of Leamington, Ont., but who several years ago settled in the Okanagan Valley, conducted his plantation without Government subsidy and without Government dictation. Neighbors or visitors were unable to say "It is easy enough to do that with the Government treasury behind him." The farm was his own, the crops were his own, and the revenue was his own. He was simply compensated for exposing his methods to the public, and telling exactly what his receipts and expenditures were. Authorities have stated that the Province of British Columbia never spent a thousand dollars to any better advantage. It is just possible that this principle or feature of agricultural education might be adapted to other circumstances, and instead of having a Government demonstration farm we could have a demonstration farmer, moderately subsidized by the Government.

Mr. Hilborn's farm in British Columbia comprises about nine and three-quarter acres. From this the gross returns in 1917 were \$7,195.10; the expenses were \$2,237.85, leaving a net revenue of \$4,957.25. Fifteen different crops, including fruit and vegetables, were produced and the above figures, indicating receipts and expenses, were included in the sworn statement furnished the Department of Agriculture. All crops grown were not necessarily profitable. One season melons were the money-makers, and on another occasion cucum-

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DOMINION.

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bers proved good. However, the aim was to show that with a diversity of crops the annual revenue from the entire farm would be reasonably satisfactory. It was also desired to inculcate up-to-date methods and reveal them to the public. Few other growers were able to show such good returns, but they were at liberty to make full enquiry and pattern their operations after what they saw and learned.

This suggests how we might be able to get away from the Government demonstration farm. On such an institution, labor is seldom more than seventy-five per cent. efficient, taking the well-run, privately-owned farm as a basis of comparison. As a general thing, too, farmers do not look with sympathy on the State-controlled farm, nor do they place as much confidence as they should in the results and recommendations given to the public. Who has not heard the remark: "Oh, it is easy enough to do things with Government money." We would not advocate replacing the Central Experimental Farms system, or the Provincial College Farms. They are particularly adapted to special lines of work which must be carried on. However, where districts ask for demonstration farms which will exert a more or less local influence the British Columbia idea might advantageously be put into execution. The farmer in this case would necessarily be a good one, and capable of adapting modern ideas to the management of his 100 or 150-acre farm. Government money would not enter into consideration, or influence the operations. Details, such as a record of all crops grown, receipts, expenditures, etc., should be returned in a sworn statement, and the farm laid open to visitors for inspection. It is the adaptation of modern teaching to the management of the ordinary farm that people now desire to see tested and proven. It has been suggested that the District Representatives of the various Departments of Agriculture should operate a farm in connection with their work. We believe the scheme just outlined would be vastly superior and productive of more good to the community.

Spray Thoroughly at the Right Time.

In this issue of "The Farmer's Advocate" will be found the Spray Calendar revised and up-to-date. Equipment and spraying materials are high in price and labor is scarce, but fruit should also be in good demand under such conditions. In the report of the Ontario Fruit Growers' Convention, published in the issue of February 21, mention was made of economical sprays or how expenses might be reduced without militating against good results. These should be reviewed and an effort made to do as good work as possible. Not only should the spraying be thoroughly done but it should be done at the right time, which the Spray Calendar will reveal. There is a feeling in fruit-growing circles that we are now approaching an era when growers will experience a greater degree of prosperity, and the well-cared-for plantations will, of course, respond more liberally to any such conditions than those allowed to suffer neglect. The Spray Calendar, prepared and revised by Prof. Lawson Caesar, after years of experience, is a splendid guide, and should be posted in a convenient place or kept available for ready reference.

"The Collar Makes the Man"

BY ALLAN MCDIARMID.

What we hear when we are young generally makes a good deal of an impression on us and I recall an instance of this in my own experience that goes to prove the point. One of the boys with whom I went to school, who was a rather old-fashioned youngster, said one day: "The collar makes the man," and whether true or not the remark has stayed with me ever since. It was an old proverb that he had picked up somewhere and like a good many proverbs it can't be made to fit under all circumstances. At the same time there is enough truth in it to make us pay it some respect. I had this impressed on me shortly after I heard it first in a way that gave me an uncomfortable feeling whenever I thought of it afterwards for some years. The boys of our school were challenged to play a game of base-ball with the boys of a neighboring community and without giving the matter much thought we accepted. On the day appointed we went over to the grounds near the other school, dressed in our ordinary clothes which we wore every day in the week but Sunday. When we got there we found the team we were matched against all dressed up in their uniforms, with belts and caps and everything to match. We were beaten before a ball was pitched. The unfavorable appearance which we felt we made, compared with our opponents, took the sand clean out of every one of us. We hadn't the heart to put up a decent fight and came pretty nearly being whitewashed. The lesson wasn't lost on us however, and when the return match was played we were there with our caps and belts like the rest of them and we won the game, "without half trying", as we said afterwards. It was a case of what I heard later called "the reflex action of clothes."

The secret of the thing is that being well dressed gives us a feeling of self-respect and confidence that is the only condition of mind in which we can do our best work. The old Scotch weaver used to pray every day that the Lord would give him a "guid conceit o' himself" and there have been a good many prayers offered that hadn't as much to recommend them as had that. A proverb that some of the old folks used to have was: "Be a friend to yersel' and others will". What is gained by going round, as I heard one man say, "with an air of perpetual apology for the unpardonable sin of being in the world?" And nine times out of ten it is the man of poor appearance, the badly dressed man, who carries about with him this hang-dog manner.

As a different example of this effect of clothes on character take the case of our soldiers. The man who "dons the khaki" almost invariably straightens up and gets the military air of self-confidence and apparent purpose in life. The change has been so great in some of our round-shouldered, awkward young fellows, after getting into their "soldier's rig", that their best girls hardly knew them. The old manner went with the old clothes. The soldiers uniform stands for the ideal of manly courage and although he may hardly be aware of it, it is molding him to that ideal. This war has proved that there is a good deal of the hero in almost every man and if his uniform hasn't been the main thing in bringing it out it is pretty evident that it has helped.

I was reading the other day what a city business man said on this subject of clothes. It was this: "Clothes may not make the man but they've got many a man a good job. Better to spend your last twenty-five dollars in a suit of clothes, a pair of shoes, a clean collar and a shave, if you're looking for a situation, than to go in a shabby outfit with the twenty-five dollars in your pocket."

It seems as though people took our appearance as a sort of an advertisement of what we are ourselves. A clean collar and a clean conscience will take a man almost anywhere he wants to go in this world. So, as a merchant told one of his clerks "don't dispense with the laundry bill, it may cost you less to pay it."

Farmers as a class, have a reputation for being a little careless, to say the least, as to their clothes and their general appearance, not only on the farm but when they go to town on business matters. Some say that

one can't keep clean and respectable looking and do the work that has to be done on many occasions, but we all know farmers that do keep themselves decent looking at all times, and good farmers too. If we were sure that it paid from a money standpoint, as well as from several other points besides, most of us would be apt to do a little "sprucing" up. It takes a few minutes to shave and to put on a second-best suit of clothes before going to town, but when you have done it you don't have the same inclination to take off your hat to the bank manager when you go in to get a check cashed. If you have any business deals to put through you will find that they will come along more satisfactorily if your clothes make you appear as good a man as you are. A pair of patent leather boots will make you feel more than a couple of inches taller than a pair of beef-skin moccasins.

I've often wondered why men are not expected to dress as decently as their wives or sisters when they go out where they will meet others in a business or social way. I suppose for the same reason that makes it customary for a man to use tobacco and maybe drink and swear, when at the same time he would apply for a divorce if his wife did any of these things. We have a higher standard for our women-folk than we have for ourselves. We give ourselves more liberty than we are willing to give to them. But when this liberty takes the form of a patched pair of blue overalls and a checked flannel shirt upon all occasions, special and otherwise, then, as the temperance orator says, "liberty becomes license", and it's time to call a halt. Of course we admit it's not a very serious crime, this free-and-easy habit. As we said, we lose nothing more than money and self-respect by it, but the many cases of curvature of the spine that I've seen cured in the last three years by means of a suit of khaki has given me the idea that there might be some medicine of a like nature that would cure a similar complaint among us farmers.

Nature's Diary.

A. B. KLUGH, M.A.



Song Sparrow.

Spring! Spring! At last! The vernal season is ever welcome, but never more welcome than after such a winter as the past—I use the word "past" with a good deal of satisfaction—a winter which if it really was one of the old-fashioned kind makes us think that we prefer something modern in winters.

Spring! The season of re-awakening. To feel once more the carpet of sod beneath one's feet, to catch again the scent of good old mother earth, to greet each bird as it arrives and each flower as it raises its head to the sunshine.

The year of the naturalist does not begin on January the first; it begins with the opening of spring. Then the nature-lover, whose finger is ever on the pulse of life, feels the quickening beat of the heart of nature. The life of forest and field, of lake and marsh and stream, is gently stirring, soon to manifest itself in myriad activities. Each year the student of nature witnesses a grand opera; the prelude is softly warbled by the returning Robin and Bluebird; then the curtain goes up on the great drama of life, with action and music most wonderful and varied; the climax is reached in autumn when the results of the parts played by the actors on nature's stage become evident; then winter rings down the curtain.

The lover of nature is in a position to get far more out of life than those to whom the world of nature is a closed book, who have eyes to see but see not, and ears to hear but hear not. On every hand he finds the wonderful and the beautiful. Every walk, every drive, every journey is fraught with interest. Every year there is something new to find out, for his field of interest is illimitable. He may grow old in years but not in spirit, for every spring he renews his life. It has been my privilege to know three of Canada's oldest naturalists, and though when I first met them they were up to, or past, the three score and ten, they were as interested in their latest discoveries as any eager youth. Kind and generous to the tyro they were, ever ready with advice and encouragement, and though they have handed the torch to those who follow them.

The cheery ditty of the Song Sparrow is heard once more in the land. From his perch on the willow beside the stream, on the old apple tree in the orchard, or on the shade-tree beside the house, he sends forth his merry refrain. He sings in no faint or apologetic way but most whole-heartedly, and is not the least niggardly with his music.

The songs of all, or practically all, Song Sparrows are sufficiently alike to enable anyone to recognize the song of the species. Yet, when we come to study the matter closely we find an infinite variation. We find that each individual has his own particular song, that there is some quality about it which enables us to differentiate it from the song of any other Song Sparrow. This is also true of the songs of other species of birds, and this individual variation is brought to our notice more and more prominently the closer we study any animal, whether bird, mammal or insect. Occasionally we come across some individual which varies very greatly, such as the Song Sparrow which lived in a peat bog near Guelph and whose song had the characteristic three-high opening notes, but in place of the usual complicated warbling trill had a low trill on two notes.

The Song Sparrow has other claims upon our affection besides its cheerful song as it is a decidedly beneficial species. It does no harm to any agricultural pro-

ducts, but destroys food consists of being caterpillars, grasshoppers, crickets, beetles and worms and other total food destroying pests. species which would eat large are beneficial as a matter of insects and none valuable.

During July such as raspberries, black cherries. food is weed-seed being knot-grass, plantain, purslane, sunflower and do left on the field.

The Song Sparrow winters from the Gulf States. O winter in Southern

THE Veterinary

Astringents are For local application raw surfaces, as cracked heels, "Lotion," already as it is astringent cases, as thrush, leaking navel, etc. required. For results. This is be used too freely applied too freely it can be diluted can be weakened acid is an active given internally are indicated in gleet, etc. For details:

Powdered Prepared Powdered

This is a reason or cow; smaller or more, according to of drugs of marked astringent and prevent discharge is not astringent. an agent that can is neither astringent of all the glands. As all these actions intestines less fluidity of the drugs is mixed with water as a drench, and diarrhoea ceases. a case of diarrhoea of lime water to the In cases of chronic catarrh, cavities of the skin specific. It should three times daily, caused. Sulphate lead, and many other drugs mentioned purposes named.

Styptics are also styptics are also of coagulating causing contraction vessels and by co thereby causing a severed vessels allow a stream of the force of the local action of the must be checked vessels or the application of iron, sulphate zinc or alum act well advantage of being same agents as styptics but as for local application the hemorrhage is of bloody urine, the lungs, etc. Fe gives better results ordinary horse, it is of cold water to appear.

Stimulants are to increase nervous

ducts, but destroys many insects and quantities of weed-seed. During the spring and summer over half of its food consists of insects, those most frequently eaten being caterpillars, midges, leaf-bugs, spittle-insects, grasshoppers, crickets, ground-beetles, leaf-beetles, click-beetles and weevils. It has a great partiality for cut-worms and during May and June over one-quarter of its total food consists of these most troublesome and destructive pests. One would naturally expect that this species which feeds practically exclusively on the ground, would eat large numbers of the ground-beetles, which are beneficial because they feed upon other insects, but as a matter of fact it takes comparatively few of these insects and none of the larger species which are the most valuable.

During July the Song Sparrow eats some wild fruits such as raspberries, blackberries, blueberries, and wild black cherries. In the late summer and fall its main food is weed-seed, the species most frequently eaten being knot-grass, pig-weed, lamb's quarters, gromwell, plantain, purslane, spurge, dandelion, chickweed, wild sunflower and dock. It also picks up some waste grain left on the field after harvest.

The Song Sparrow leaves about October 20th and winters from Illinois and Massachusetts south to the Gulf States. Occasionally individuals remain over winter in Southern or Central Ontario.

THE HORSE.

Veterinary Prescriptions For Farm Use.

Astringents.

Astringents are agents that contract living tissue. For local application astringents are useful in cases of raw surfaces, as sore shoulders, sore backs, wounds, cracked heels, etc. For such purposes the "White Lotion," already noted in this series gives good results, as it is astringent, antiseptic, and cooling. For other cases, as thrush in horses' feet, foul in the feet of cattle, leaking navel in foals, etc., more active astringents are required. For such purposes formalin gives good results. This is a very active astringent and must not be used too freely, as it causes considerable distress if applied too freely. For ordinary astringent purposes it can be diluted with water in any proportions, hence can be weakened until it no longer irritates. Tannic acid is an active astringent. The action of astringents given internally is to check mucous discharges. These are indicated in cases of diarrhoea, dysentery, nasal gleet, etc. For diarrhoea or dysentery the following acts well:

Powdered Catechu $\frac{1}{2}$ ounce.
Prepared Chalk $\frac{1}{2}$ ounce.
Powdered Opium $1\frac{1}{2}$ drams.

This is a reasonable dose for an ordinary sized horse or cow; smaller or larger animals should be given less or more, according to size. The mixture is a combination of drugs of different actions. Catechu is a well marked astringent, hence tends to contract the tissues and prevent discharge from the mucous glands. Chalk is not astringent. It is called a "dessicant", which means an agent that causes a drying of the parts. Opium is neither astringent nor dessicant, but it checks secretions of all the glands of the body, except those of the skin. As all these actions tend to render the contents of the intestines less fluid, we can readily see that the combination of the drugs should give good results. The dose is mixed with about a pint of water and administered as a drench, and repeated every four or five hours until diarrhoea ceases. It is also excellent practice, in treating a case of diarrhoea, to add to the drinking water one part of lime water to three or four parts of water.

In cases of nasal discharge, due to nasal gleet or chronic catarrh, when the mucous discharge is from the cavities of the skull, sulphate of copper is considered a specific. It should be given in one to two-dram doses three times daily, until the desired results have been caused. Sulphate of iron, sulphate of zinc, acetate of lead, and many other drugs are also astringents, but the drugs mentioned are probably more effective for the purposes named.

Styptics.

Styptics are agents that arrest bleeding. Most styptics are also astringents and also have the action of coagulating albumen. They check bleeding by causing contraction of the tissues and the bleeding vessels and by coagulating the albumen of the blood, thereby causing a plugging of the open ends of the vessels. Bleeding can be checked in this way only when the severed vessels are not large; when large enough to allow a stream of blood of considerable size to escape, the force of the stream is so great that it prevents the local action of the astringents applied, hence hemorrhage must be checked by ligating the ends of the severed vessels or the application of pressure to them. Tincture of iron, sulphate of iron, acetate of lead, sulphate of zinc or alum act well as local styptics. These all have the advantage of being antiseptic as well as styptic. The same agents act as styptics when administered internally, but as for local application will be effective only when the hemorrhage is from quite small vessels, as in case of bloody urine, bloody milk, slight hemorrhage from the lungs, etc. For such purposes the tincture of iron gives better results than any of the others. For an ordinary horse, it is given in doses of one ounce in a pint of cold water two or three times daily until blood ceases to appear.

Stimulants.

Stimulants are agents that promptly but temporarily increase nervous energy, and thus exalt the heart's

action and other functions. They are serviceable in cases of exhaustion from over-exertion, loss of blood, or the ravages of long-continued disease, in cases of chill or weakness of the heart's action from any cause. Alcohol and the ethers are the principal diffusible stimulants used; of the latter, either sulphuric ether or nitrous ether (sweet spirits of nitre) is used in one to two-ounce doses in a little cold water, given as a drench, and repeated every two or three hours, as indicated by the condition of the patient, as long as needed. The different alcoholic liquors, as whiskey, brandy, rum and gin, are given in four to six-ounce doses, diluted with water, at about the same intervals. So soon as the heart regains tone, the administration of stimulants should be ceased. Digitalis is a heart stimulant and tonic. It is indicated in enfeebled action of the heart, especially when the pulse is intermittent. Of the powdered digitalis the dose is twenty to thirty grains, and as the action is long continued, full doses

should be given only once daily; smaller doses can be given with safety two or three times daily, as indicated.

Sedatives.

Sedatives are agents that depress both the nervous and circulatory systems, hence should be administered only in cases where the heart's action is both full and frequent; a condition that seldom exists except in the early stages of the acute inflammations. It is unsafe to administer sedatives in any other cases, as they decrease both the number and force of the heart's beats, except in cases of a full, strong, frequent pulse they are strongly contra-indicated, hence should be used only by those who are well versed in the normal conditions of the circulation. Blood-letting is the most rapid acting sedative. Aconite is the most active medicinal sedative, and as it is given in very small doses, and should be administered only by those who have had special training, we consider it unsafe for use by the amateur. **WHIP.**

The Foot and How to Shoe It

The old adage, "No foot, no horse," grows more significant with the passing of the years. If these four words were more generally understood, it would mean thousands of dollars to the horse industry of this country.

The Perfect Foot.

The perfect foot is not often seen. It is wide at the heel and of medium depth. The depth at the heel should be about one-half the length down the toe when the foot is in normal shape. The coronet should be round on the front feet and as nearly that shape as possible behind. A big round foot indicates that the sensitive tissues covered by the hoof wall are healthy. The contracted foot, narrow at the heel, always means just the opposite. A full frog is a great asset to a big horse. It is the cushion which takes off the jars. Horses with extremely low heels are likely to go prematurely lame because of a lack of frog. The inner part of the foot is not well enough protected from the wear and tear to which a draft-horse foot is subjected to remain free from soreness long. However, there is less trouble with a thin-heeled horse going lame than a high-heeled one. Some people have an idea that a Percheron foot doesn't look well unless it is high in the heel. They forget how a foot must be shaped to last well. Boxy feet, high at the heels, are sure to result in lameness sooner or later. They cause a horse to stand up on his pasterns too much and they always contract and sometimes pretty quickly. High heels and poor frogs always go together, for with such a shaped foot the weight of the horse comes on the hoof wall instead of on the frog. A frog is much like muscle tissue in that it never develops well without constant use. If one wants to grow a good frog, he has to take off the heel and let the frog down to the ground. Then the foot will widen out and grow a good, springy frog. The slope of the hoof in front should be about 45 degrees, the same as the set of the pastern. If kept at more than that angle, a horse cannot set down properly on his pastern. To give a horse a good elastic step his pasterns must set at such an angle that they will move up and down freely. There must not be a stilted step which comes with short, stubby pasterns and upright hoofwalls.

How to Avoid Foot Troubles.

The majority of all foot troubles are due to negligence. Few horses have bad feet from inheritance. Thirty minutes a week will keep the average farm horse's feet in perfect order. What farmer is there who does anything to his horses' feet unless they become so long that his

horse can't walk easily, or unless they break off badly and cause lameness? Many good pure-breds are permanently ruined by letting their feet grow without attention. The foot is like a sponge, very porous and sensitive to water. It will not stay in perfect order without moisture. Keep a horse in a stall and his feet will dry up and contract. Never put oil on the feet, as that prevents water from entering the hoof wall. Pack damp clay in the bottom of the foot to hold moisture. If I can get it, I prefer white rock clay. This can be secured at most drug stores. Get the horse in the mud occasionally, so as to soften up his feet. Where it is impossible to get a stallion out into a paddock, he should be walked out of doors and especially when the ground is wet. Riding a stallion through meadows or pastures when heavy dew is on is excellent for the hoofs.

Always keep the foot as nearly level as possible. This rule applies to horses of all ages, and particularly to the young, growing colt. Side-bones are frequently caused by allowing one side of the hoof to wear off short. Then the weight is shifted to the short side, which almost invariably sets up inflammation, causing a sidebone sooner or later. Use a rasp and pinchers to trim a horse's feet, but not a chisel. One cannot use the latter and be certain that he is trimming the foot level.

Growing a Hoof Prior to Shoeing.

Use the rasp sparingly on the hoof walls of a show horse, for if one wears away the glossy appearance, the hoof texture soon becomes dry and brittle and the feet go to pieces. There is no danger, however, from rasping the feet of the ordinary farm horse, if it is done only when he is shod, for usually he is not shod more than twice a year. Better keep very light plates on the show horse all the time to protect the hoof wall and allow it to grow. I always take a very light plate shoe and hammer it out until it is extremely thin at the heel. Then when one gets ready to shoe for show, he has a foot to work on. Too many people think that if they get a good horse-shoer a few days before starting out to the fairs that he can fix up the feet. That oftentimes proves a sad mistake. In many cases it takes months of careful work to get feet in the proper shape, and sometimes a year. Nobody can shoe a draft horse perfectly unless there is plenty of toe, and if not, it takes time to grow it. A heel that is too high cannot be cut down as it should be all at once. The work must be gradual or else soreness will result. It usually takes two or three trimmings to correct a high heel. If the quarter is lacking, keep the toe short, and that will throw more wear on the toe, less on the heel, and con-



The Spring Drive.

Following his faithful favorites across the furrowed field.

requently the quarters will have a better chance to grow. Of course, if a foot is naturally well shaped and properly set, it doesn't take much of an effort to keep it that way. Always allow the frog to grow as long as it will. A great many people think that a horse isn't neatly shod unless the frog, bar and sole are pared away closely. No worse mistake was ever made, and any horse-shoer who will do that to please his customer is doing nothing short of cruelty to animals. Never under any circumstances cut away the bar or sole unless it is diseased. Then it is necessary in order to treat the affected tissue with medicine and cure it. Nature has provided the frog, bar and sole to protect the inner and very tender parts of the foot.

The Colt's Feet.

The colt should have his feet carefully watched, always keeping them trimmed level. There is very little that can be done to readjust the set of feet and pasterns on a mature horse, but the young colt is easily susceptible to such changes. The set of feet and pasterns can be thrown one way or the other if it is done while the bones and joints are still young and flexible. If the colt stands too close behind or in front, keep the inside toe of the hoof a bit shorter than the outside, and have the inside quarter a trifle higher. To throw the feet closer together, lengthen the inside of the toe and keep the outside quarter slightly higher than the inside. The mature horse that toes out badly in front, nigger-heel fashion, is hard to help with shoes, for his legs do not set straight under him. The growing colt can be helped considerably by proper shoeing because his joints are still capable of being twisted slightly. Beware of the stallion with this fault, for there is no characteristic which draft horses transmit to their offspring with as much certainty as nigger heels.

How to Shoe Show Horses.

Horse-shoers and showmen disagree many times on the kind of shoes to use to show a big horse to the best advantage. My 30 years' experience as a fitter and shoer of all breeds of draft horses, besides several years spent in Scotland in the same work, have thoroughly convinced me that more horses have their action ruined by heavy shoes than are ever helped by them. One should vary the weight of the shoe with the size of the horse. A two-pound shoe is heavy enough for a yearling stallion, whereas I sometimes use as much as three pounds in a shoe for an aged horse. If a horse is a bad goer, a heavy shoe will frequently make him worse. More can be done to perfect a horse's action by correcting as nearly as possible the shape and set of his feet than by loading him with heavy shoes. I always use medium weight shoes, particularly on young horses. One is much surer of getting true action with light shoes on a well-formed foot than he is to try to balance up an ill-shaped foot by weight in the shoe. In most cases the well-shaped foot can be grown in time, and ordinarily a horse will go pretty nearly right if his feet have been properly taken care of since a foal. It is useless to expect that a horse-shoer can put weight into a shoe so that it will serve the place of the properly turned foot. If the hoof isn't there on which to nail the shoe, it is impossible to balance the foot perfectly, because the weight will not come in the right place. That is why one sees so little uniformity in action as he looks at a string of draft horses at a show. Each horse has been equipped with a pair of shoes which it was thought would perfect his action. Nobody ever saw a good-going horse barefooted that didn't have the right kind of action when shod unless it wasn't done properly. Shoes in front should be perfectly round whereas those behind should be slightly oval shaped. There should be no toes either on the front shoes or the hind ones. The heels should be blunt and hammered down so that they are very low. A heel on a shoe has no particular value to a show horse except it may save him from slipping. The outer edge of the shoe should be made to fit the foot neatly, with the heel extending only a very little beyond the back edge on the front foot. The hind feet will stand more of a heel to the shoe than the front ones. In fact, I usually make the outside heel on the shoe for the hind feet quite a little longer than on the inside. That shaped shoe in the heel will help to throw a horse's hocks together. A similar shoe at the heel in front will, of course, help a horse to toe out. It is particularly advantageous to shoe a horse so that his hocks will stay together a bit. It gives him better stifle movement and makes him stouter to keep his heels together military fashion. Try yourself and see whether you can lift a heavier load with your feet standing apart or when your heels are close together and your toes out a bit. The same rule applies to the pulling power of a draft horse. The shoes should always be creased in the line of the nail holes, as that helps a horse to grip the ground. The toe clip should not be over an inch wide and an inch and a quarter high. It should be hammered out very thin, so that if a horse pulls a shoe and steps on it the clip will bend and not run into the foot. I have seen some very bad cases develop from a horse stepping on a shoe with a big stiff clip on it. Furthermore, a wide clip doesn't look well, as it gives the appearance of too much metal on the feet. If I want to do a fancy job, I weld this clip on, but more frequently I turn it up from the shoe. A very important feature about a shoe which many blacksmiths forget is to have the inside edge next to the foot lower than the outside. Most shoes on sees are made higher on the inside than on the outside. The reason for having the outside on the shoe higher is that the weight of the animal should come on the wall and not on the sole of the foot. If the sole must bear the jars, the horse will soon go lame, and particularly when he has to stand on a hard floor or be trotted on hard pavements. Frequently, if there isn't any toe to spare, I take a pair

knife and remove just enough of the sole before putting the shoe on so that I am sure the shoe will not touch the sole. If a horse goes sore in front after he has been on the fair circuit for a while, it is likely due to his feet drying out, or else to a slight touch of founder from a draft. To pack clay in the bottom of the feet will help, but the best remedy I ever found was to stand the horse in a tub of hot water. Heat will take down inflammation and there is no other way of keeping the water so uniformly hot. To stand a horse in a tub of hot water several hours per day will usually remove the soreness in a short time. If the foot is contracting and causing inflammation inside the hoof walls, the hot water will soak up the hoofs faster than anything else. There should only be four nails on a side and they should be driven high up. The last nail toward the rear side of the foot should not be driven farther back than the quarter which is about the middle of the side from front to back. Both the holes and the crease in the shoe should be set at an angle so that the nail can be driven parallel with the slope of the hoof wall. Then, by punching the holes slightly to the inside of the centre of the shoe, the nails can be driven high up on the hoof with no danger of pricking. They hold better if nailed on this way. If set near the outer edge and at right angles to the shoe, it is impossible to drive nails high enough to hold well. If a shoe is nailed tightly in the heel, it will likely cause lameness. The reason is evident, for anyone knows that if a shoe is nailed on when the foot is dry and a horse goes out into the mud and soaks up his feet, the shoes are bound to draw very tightly because the foot has expanded with the moisture. Pressure for any length of time will cause inflammation of the sensitive tissues inside the foot wall.

How to Correct Faults in Gait by Shoeing.

To shoe a draft horse to improve his gait requires a good deal of skill. One can shift the weight in a light horse and in that way alter his method of going considerably. No one cares whether a race horse goes square or not, if he has the speed. On the other hand, we require that a draft horse move true. The front foot should be picked up and set down straight ahead without any side motion one way or the other. Besides, the hind feet must be brought forward and set down in the same track made by the front ones. The appearance of the set of a foot can be changed wonderfully by shifting the clip a little to one side or the other. That does not, however, improve the action at the trot. A paddler can only be helped by shortening the toe on the outside and growing it slightly longer on the inside. The shoe should not be nailed on exactly with the set of the foot, but should be shifted slightly with the toe a bit toward the inside. An attempt should be made to grow the foot so that it stand directly in line with the body, so that when the horse picks up his foot he will carry it forward in as nearly a straight line as possible.

Percheron breeders, there is nothing that will pay you better than to take the right care of your horses' feet beginning with them as foals.

Note.—This excellent article was prepared by George MacLeod of Geneseo, Ill., after 30 years' experience as a fitter and shoer of all breeds of draft horses, and was recently published in the Percheron Review, under the heading, "A Percheron Foot and How to Shoe it." The information is valuable to all horse breeders.—EDITOR.

LIVE STOCK.

Our Scottish Letter.

The fortnight closing has been an eventful one in stock-breeding circles. We have had great sales of Shorthorns at Birmingham and Penrith, and great shows of horses at Newmarket and at Glasgow. The Shire Horse Show and the kindred events which were usually held in the Royal Agricultural Hall at Islington, London, in spring had, this year, to be transferred to Newmarket. The Hall in London has been requisitioned for War purposes, and for the first time in their history Shire horsemen have, like Clydesdale men, had to hold their Spring Show in the open. The shows of all breeds have, this year, been restricted to stallions—no mares or fillies being shown. The champion of the Shire show was Messrs. Forshaw's Rickford Coming King, a great draft horse which more than once in the past had stood reserve for champion honors, and now has justified his name. A Scotsman who knows draft horses as well as most has been giving his candid opinion of the Shire horses at the show. He is a N. C. O. in the Lovat Scouts, at present in camp in East Anglia, and he got a day off to attend the show. He was much impressed with the uniformly good hard colors of the exhibits. This is one of the first things which will strike the visitor to a show of Shire horses now—especially if he was a visitor to like events during the two closing decades of the nineteenth century. We have been in the way of attending the Shire Horse Show, not every year—but pretty frequently, since about the year 1886 or thereby, and two things are unmistakable. One, the remarkable improvement in the breed in respect of soundness and, what our soldier friend remarked, the extraordinary advance in securing uniformity of colors and markings. In those earlier days chestnuts, sorrels, roans, greys and blacks were as common as bays and browns, now scarcely any color can be seen but bays and browns, and there are no unsightly white markings. The improvement in soundness has been due to the rigid veterinary examination carried out in connection with the show. In the early days many a breeder felt sore at the result of the veterinary examination. We have known cases in which very high prices had been paid for horses which, in respect of merit,

seemed sure to win, but the veterinary bench said, "not so," and there was nothing for it but to accept their fiat with as good a grace as possible. The veterinary bench was so constituted that no horse could be condemned without the signed declaration of at least three thoroughly qualified men. We now have alike in England, Scotland and Ireland, Government Registers of sound horses, but good as these are, so far as they go, they are based on the verdict of one veterinary surgeon as to the soundness of a horse. The verdict of three is better than the verdict of one, and we prefer the Shire Horse Society's method.

Another point noted by our soldier friend was the fact that the action of the Food Controller seemed to have a good effect in preventing overfeeding, and the Shire stallions seemed to be all the better of their restricted rations. No doubt a Shire lends himself to overfeeding more than a Clydesdale, and his activity would be improved when not overloaded with flesh. We cannot say that we noticed much difference in this respect at the Glasgow Show of Clydesdale stallions, which was held this week. As a matter of fact, a great change came over the methods of feeding Clydesdale stallions perhaps during the past twenty years. When we first knew the Glasgow Show, now almost 40 years ago, it was quite a common thing for horses to be so overfed that many of them became affected with laminitis, or as it was popularly expressed, "they became foundered." Such a thing as a "foundered" Clydesdale stallion is nowadays rarely seen, in fact we do not remember when we last saw one that, as it is expressed, "put down his heels." A horse affected with laminitis puts down his heels first. The results of the rationing of stock were not much in evidence, we are told, at the Bull Sales. Still, although these spring gatherings of horses and cattle have shown the stock to be in healthy, thriving condition, there has been a reduced use of highly concentrated feeding stuffs. This could not but be as the food cannot be obtained.

The Glasgow show of Clydesdale stallions was held on Wednesday and Thursday, and on Tuesday William Montgomery's 25 Clydesdale stallions were sold at auction at Lanark by Messrs. Lawrie and Symington (Ltd.). The sale attracted an enormous crowd, and the result was an average of £557 19s. 5d. for the 25 entire horses. Seven of the horses were purchased by A. M. Montgomery, of Netherhall, Castle Douglas, who is to carry on the great tradition of the Montgomery family, in connection with Clydesdales. As a compliment to William Montgomery on his retirement from the stallion and export trade, he has been elected President of the Clydesdale Horse Society for 1918-19. For a third time James Kilpatrick, Craigie Mains, Kilmarnock, who paid 5,000 gs. for Bonnie Buchlyvie 14032, at the Seaham Harbour dispersion, has been appointed Vice-President. No doubt this presages the time when he will go a step higher. To return to the Montgomery sale—the highest price was 1,550 gs. or £1,627 10s., paid by William Kerr, Old Graitney, Greta, for the eight-year-old Dresel 16548—a thick, good stamp of horse with beautiful feet and pasterns which won third prize at the H. & A.'s show at Howick in 1914. He was got by the Cawdor Cup champion Revelanta 11876, a son of Baron's Pride, and his dam was by Labori 10791, a son of Hiawatha, and the first horse to win the Brydon Challenge Shield. To see how an investment of this kind may work out, it may be worth figuring a little. Dresel is hired for 1918 and 1919. His terms for 1918 are £3 10s. at service, and £5 10s. additional if the mare proves in foal. If he serves 80 mares his owner receives money in hand amounting to £280. Assuming that of the 80 mares 60 prove to be in foal this will bring in an additional revenue of £330. The first season, therefore, may be estimated to yield £610. Of course, the horse may serve 100 mares, and as he is a sure stock-getter 80 of these may prove to be in foal. In that case the revenue yielded in the first year would be £790. For 1919 the terms on which Dresel is hired are £4 at service, and £5 additional when the mare proves in foal. Again, assume the 80 mares as the season's service and the result is £620, or assume 100 mares and the result is £800. Take it either way and it appears that the price of Dresel has been two years purchase. We believe Mr. Kilpatrick's big investment of 5,000 gs. in Bonnie Buchlyvie is all recouped in less than two seasons. There can be no doubt that one of the safest investments in stock is a successful stock-getting Clydesdale stallion. Granted that the horse is a sure foal getter and lives for say ten years, there is no surer way of making money. Of course, an indifferent stock-getter or a horse which leaves no stock is one of the worst investments a man can face. The second highest price of the Montgomery sale was 1,400 gs., paid by A. M. Montgomery for the young horse Imperial. This works out at £1,470, and the horse is hired for 1918 and 1919. His terms for this year are £3 at service and £5 additional for each mare proving in foal. This again yields, with 60 mares served and say 50 of them proving in foal—a revenue in the first season of £430. For next year the terms for Imperial are £4 and £5. As a four-year-old horse he will then be able for at least 80 mares, and the revenue for the season should be not less than \$620. In two seasons, therefore, the horse should bring in over £1,000, and having all his career before him he should prove quite a sound investment. Other good prices at the sale were 1,020 gs. for the black horse Coronation 15780, a grand draft horse type, and 1,350 gs. for Merlin 10716. Both of these horses are hired for 1918 and 1919. The former was bought by A. M. Montgomery, and the latter by Geo. A. Ferguson, Surradale, Elgin, who now owns one of the greatest Clydesdale studs in Scotland.

At the show on Wednesday and Thursday there was a really splendid show of Clydesdale sires. There

were four class olds and horses great trophies, Brydon Challenge Kilpatrick, with Litigant 19071.

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bulls, cows and heif auctioneers are Mes and the town is a gr horns.

Great Sheep EDITOR "THE FARM Not many years Scotland had a few sh farmers have any week in February an in Cumberland Cou officials took part in county for sheep rais be a large increase farmers wish to bu there are very few fo The principle rea dog nuisance. Ther successful there mus the sheep industry dog caught worrying

were four classes—yearlings, two-year-olds, three-year-olds and horses four years old and upwards. The two great trophies, the Cawdor Challenge Cup and the Brydon Challenge Shield, were both won by James Kilpatrick, with his first-prize three-year-old Craigie Litigant 19071. This handsomely colored and very gay horse was bred by James Anderson, Pitcarry, Bervie, Kincardineshire. He was got by Baron of Buchlyvie 11263, out of Favourite Queen 32062, by Royal Favorite 10630. He was first last year and is a horse of fine proportions, exceptionally "sweet" of his feet and legs, and every inch a wearer. The reserve for both trophies was George A. Ferguson's Ardendale 18993, a colt built on a more liberal scale. He was second in the three-year-old class, and with his splendid foot and great weight and substance was a prime favorite with many. He was bred by Wm. Young, Thrupwood, Galston, and was got by Bonnie Buchlyvie 14032 out of Bute Lily 27479 by Montrave Ronald 11121. He is hired for 1918, 1919 and 1920, and is certainly one of the grandest colts of his age seen for many a day. The third-prize three-year-old was James Gray's Botha 19026 by Baron Buchlyvie 11263, and bred by his owner. He, too, is let for three seasons, that is 1918, 1919 and 1920, namely, to Inverness, Turriff, and Morayshire, respectively. The first-prize aged horse was Mr. Kilpatrick's Craigie Excelsior 18664, which last year was first as a three-year-old, and stood reserve for both great trophies. He was got by Bonnie Buchlyvie, and his dam, Mayflower of Glenhove 37749, was by the excellent breeding horse Ryecroft 13722, which this season is to travel in Bute. The dam of Craigie Excelsior is also the dam of the colt Imperial, for which A. M. Montgomery gave 1,400 gs. at his uncle's sale. The second aged horse was Mrs. Kinloch's Hiawatha Again 18765, a horse rising five years old, bred by his owner and hired to Inch and Garioch Society for 1918, and to the Scottish Central Society for 1919. This is a first-rate specimen of a draft horse. He is a surestock-getter, and one of the kind that does well both for his owner and the public. George A. Ferguson was third with a splendid specimen of a draft horse in Victor Dale 18148, a six-year-old bred in Ross-shire and got by Pride of Blacon 10837, out of a mare by Sir Hugo 10924. James Relph, Pollat Hill, Penrith, who owns an excellent stud of Clydesdales in Cumberland, was fourth with a true specimen in Blackwood 18626. The first-prize two-year-old was the colt which last year was first as a yearling. He was then known as Doura Elect, but his name has been changed to Dunure Obligation 19426. He was bred by John Young, West Doura, Kilwinning, and his sire was Dunure Footprint 15203, while his dam was Nancy Blacon 24466 by Pride of Blacon. This is a very true specimen of the breed, with a beautiful foot and good legs. He moves well. His owner is Mr. John Johnstone, Carbrook Mains, Larbert. The first-prize yearling was Mr. George A. Ferguson's Passchendale, a very promising, close-moving black colt by his owner's great horse Phillipine 18044, out of Celia by Dunure Footprint 15203. He was bred by Mr. Robert Jackson, Westbank, Macmerry, East Lothian.

With his sweeping victory on Thursday Mr. Kilpatrick has now won the Brydon Challenge Shield outright. It was first competed for in 1904, when it was won by A. B. Matthews with Labori 10791. It has since been won three times by M. Marshall, Stranraer, and three times by William Dunlop, Dunure Mains. It had, however, to be won five times with different horses, and Mr. Kilpatrick has now scored this great triumph. His five victories have been these: with Oyama 13118 in 1907, Perfect Motion 13123 in 1908, St. Clair 14347 in 1909, Bonnie Buchlyvie 14032 in 1916, and Craigie Litigant in 1918.

Time hastens me to close this letter. The Shorthorn bull sales at Birmingham and Penrith have resulted in great surprises. When 3,100 gs. were paid at Perth a month ago for Pride of Millhills it was not expected that the record would be broken, but on the following day at Aberdeen Mr. Duthie gave 3,200 gs. for the Saphock bull Proud Conqueror. This was believed to be a safe record, but at Penrith on Friday both figures were eclipsed. A. J. Marshall, Stranraer, who with his father, Matthew Marshall, is deep in the South American export trade, gave 3,700 gs. or £3,885 for yet a third bull of Cruickshank breeding. He is named Everlasting, and was bred by A. Crombie, Woodend, Newmacher, Aberdeen, who we believe is a nephew of the late Amos Cruickshank. His sire was Collynie Sweepstake, a bull bred by Mr. Duthie, and his dam was Butterfly Queen VI. The Penrith sale was a great success, 359 bulls, cows and heifers drew £41,593 13s. The Penrith auctioneers are Messrs John Thornborrow & Company, and the town is a great centre for first-class dairy Shorthorns.

SCOTLAND YET.

Great Sheep Drive in Nova Scotia.

EDITOR "THE FARMER'S ADVOCATE":
Not many years ago almost every farmer in Nova Scotia had a few sheep, but we find to-day very few farmers have any. Fifteen meetings during the last week in February and the first week in March were held in Cumberland County. Both Provincial and Federal officials took part in these meetings. This is an ideal county for sheep raising and it is expected that there will be a large increase this year in numbers kept. Many farmers wish to buy sheep at the present time, but there are very few for sale in this district.

The principle reason for the decrease has been the dog nuisance. Therefore, if this drive is going to be successful there must be a hard and fast law to protect the sheep industry from dogs. The law to shoot the dog caught worrying sheep is useless, as 90 per cent.

of the farmers would rather do away with their sheep than have trouble with their neighbors. The new dog law in Pennsylvania, which went into effect on January 15th, could be well applied to Canada. It provides that every owner of a dog, 6 months old or more, must obtain a license from his county officials costing \$1 to \$2 for male dogs and from \$2 to \$4 for females. A metal tag accompanies each license and must be worn by the dog at all times. Furthermore all dogs shall, between sunset and sunrise, be confined within an enclosure firmly secured by a collar which will retain them on the premises. Under an effective law such as this farmers will be encouraged to go into the sheep industry for it is profitable at present prices.

When we consider the great need of having our boys overseas well clothed and that we are only raising enough

of paper and cotton as the Germans have; staying at-home and raising wool is doing your bit.

Don't depend on yourself to handle your lamb and wool crop. Become a shareholder in the Canadian Co-operative Wool Growers Ltd., and get the assistance of your fellow sheep raiser; it means protection to your markets in the future.

Ottawa. SHEEP AND GOAT DIVISION.

Self-feeders to Save Labor.

EDITOR "THE FARMER'S ADVOCATE":

With the imperative call for increased food production continually impressed upon us, whilst on the other hand our most efficient labor has been sadly depleted and what remains is higher-priced than ever before, we farmers find ourselves between the devil and the deep sea. Farmers have always been a hard-working class—too hard we have often thought. We exhaust our energies by long hours of severe physical exertion to the point where we cannot use our heads to the best purpose. If in response to the call for increased production we work harder than ever, will the net result be increase or decrease? I believe in doing the utmost possible to feed starving Europe but how can we do it most effectually? I have frequently reflected upon the matter this winter and have come to the conclusion that the way to accomplish more is to do less. A clear head is more effectual than a willing back. Let us aim to keep our heads clear for management by eliminating all dispensable chores and routine, seeking shortcuts whenever practicable. One of these is the self-feeder for hogs.

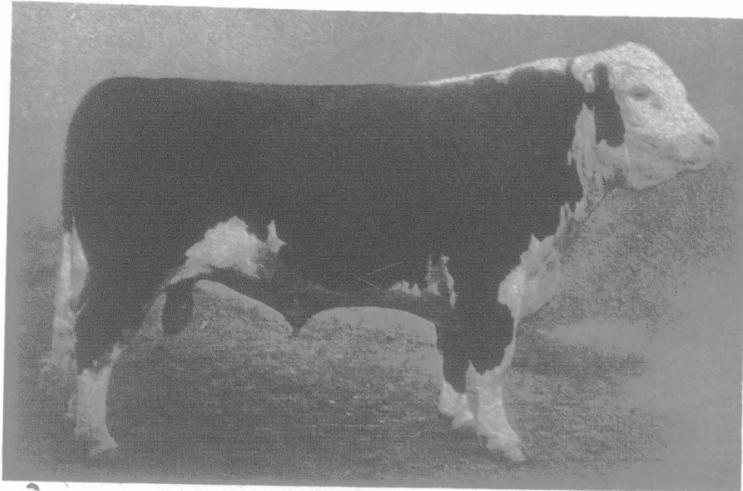
I used to be strongly wedded to the thick-slop method of hog-feeding, the slop being prepared preferably by soaking the meal one or two feeds ahead. I have raised excellent pigs this way, especially when milk or whey was available. In summer it is feasible enough but in cold weather it has decided disadvantages. Even when the liquid is warmed, some of the slop will stick to the trough and gradually fill it up. Then, every little while one must chop out the trough and either waste the frozen chunks or take them to the house or feed room to thaw them out. It is a deal of bother.

Last autumn for the first time I tried self-feeding. A litter of ten grade Berkshires farrowed late in July (the first litter of a young sow) gleaned the stubble fields with their dam until the end of November, rustling rather slow but steady and very economical gains. Up to said date sow and litter consumed a little oat chop, a few hundred weight of shorts and about fifty pounds of tankage. They had very little skim-milk.

December brought us the same brand of severe weather common to all parts of Canada. I borrowed a neighbor's self-feeder, installed it in a box stall in a corner of the hog stable, kept one part of the stall well bedded and filled the hopper with chop composed of about two-thirds oats and one-third barley. The oats were very inferior as Alberta oats go, being from a crop sown about the middle of June and not properly ripened. After a month the proportions were changed to half and half. To each sack of chop dumped into the hopper a few handfuls of tankage were added. In all, the sow and litter had 150 pounds of tankage costing a little over five dollars.

The way those pigs put on weight was a pleasure to see. There was not a runt in the lot. They were a straight glossy-coated, curly-tailed bunch and when sold at five and a half months averaged 143 pounds after a thirty-mile drive to market. Of course this weight is not big, but considering the size of the litter, the fact that the pigs rustled a good part of their early gains and had almost no skim-milk to force them along, while the grain used for fattening was of inferior quality, I felt well satisfied with the results and would not think of returning to the old way, except for breeding stock. There was little waste of grain. For summer feeding, I believe the combination of pasture and self-feeder is the ideal, and with this system one man can look after a large number of head.

Grande Prairie District, Alta. W. D. ALBRIGHT.



A Leading Hereford Sire in Western Canada.

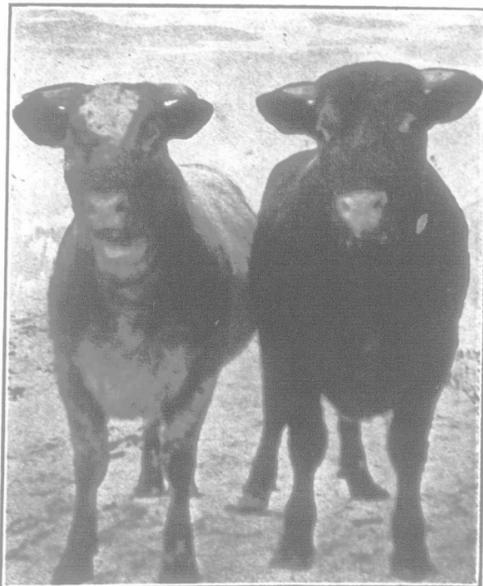
wool to give each of them a pair of pants per year, it is evident they would soon be out of the business if they had to depend on the the wool grown in Canada. To clothe them we have to import approximately 26,000,000 pounds of wool which could be easily raised in this country. It would mean approximately \$15,000,000 to the sheep farmers instead of being sent abroad.

Hints Re Wool.

Don't tubwash your wool; the user does not want it and he can take better care of the washing than you can.

Don't keep the wool in the cellar before marketing for you are sure to lose money by having it damp. Dampness causes the wool to be discolored.

Don't leave the tags on the fleece for they will be taken off when it is graded and more wool with them than you would take off by clipping before shearing.



A Good Pair.

Steer weighed 1,300 lbs. at 18 months, and the heifer 1,210 lbs. at 19 months. Sold for 16 and 13 1/4 cents per lb., respectively, last December. These pair-fed youngsters were raised and finished, on the farm of James McPherson & Sons, Dundalk, Ont.

Don't tie the fleece with sisal twine; use paper twine only. This can be had on application to the Secretary or Manager of the Canadian Co-operative Wool Growers Ltd., 128 Simcoe St., Toronto.

Don't sell your wool to the peddler. If you have not a grading station near you, send it to the nearest Co-operative Wool Association where it will be graded. Remember that the larger the quantity the better the price; 100,000 pounds is worth more per pound than 1,000 pounds to the wool buyer.

Don't have our boys overseas wearing clothes made

Record Shorthorn Sale at London.

The uninterrupted success, over a series of years, of the the Western Ontario Consignment Sale Company in conducting semi-annual Shorthorn sales, at London, Ontario, prompted the Executive to launch out on an even larger scale this spring than ever before, with the result that 129 cattle were put through the ring at a total public appraisal of \$33,875. The selling was divided into two sessions, namely, on the afternoons of April 2 and 3. On the evening of April 2 a complimentary banquet was tendered the contributors and visitors in the Tecumseh House, and a very enjoyable and profitable time was thus spent. T. A. Russell, President of the Canadian National Exhibition Association, presided and short addresses were made by W.A. Dryden, Brooklin; Wade Toole, London; J. M. Mc-

Evoy, London; Robt. Miller, Stouffville, and others. Some of the best musical talent in the city was present and their selections were greatly appreciated. This event seemed very appropriate and was much appreciated by all present.

In the neighborhood of thirty-five contributors throughout Western Ontario brought cattle to London for this, one of the best Shorthorn sales ever held in Eastern Canada. The offering was of an average high quality. It was a breeders' proposition from the viewpoint of both buyer and seller, and both parties to all contracts seemed perfectly satisfied. Inflated prices or frenzied bidding were not indulged in, but the list of prices given herewith will show that the offering was appreciated. Everything exposed sold for \$100 or over, with the exception of one heifer calf and four bull calves. These five brought \$400 in all. Apart from these 84 females sold for \$28,910, or an average of \$344.16, and 40 bulls realized \$9,565, or an average of \$239.13. Several buyers from the United States were present and took four bulls at an average price of \$308.75, and 22 females at an average of \$354.31; their total purchases amounted to \$9,030.

The highest priced female was Athelstane Rosewood 8th, a straight-bred Rosewood heifer contributed by Wm. Waldie, and purchased by Pettit Bros., Freeman, in keen competition with W. A. Dryden, of Brooklin. Another attractive lot was Lady Castremont, a Waterloo Princess cow, four years old, contributed by H. C. Robson. She went to the Salem herd of J. A. Watt at \$1,030. Several other extra good females were passed through the ring and appraised all the way from \$400 up.

Two bulls contributed by Geo. Gier & Son topped the sale in the male department. Both were of showing calibre and splendidly fitted. E. Francis of Sterling, Virginia, took Royal Hero at \$800, while D. Wright, Ariss, purchased Royal Statesman at \$700.

Capt. T. E. Robson of London, did the selling and was assisted in the ring by John Laidlaw, J. K. Lerson and W. E. Huey. This sale, like all the previous ones, was conducted under the management of Harry Smith, Hay, Ont., and much of the success which has attended all the efforts of the Western Ontario Consignment Sale Company along this line must be credited to him. Following is a list of the animals selling for \$100 and over with the names of the purchasers:

Cows and Heifers.

Table listing various cows and heifers with their names, owners, and prices. Includes entries like 'Nonpareil of Lakeview 17th, Griswold Bros., Livingston, Wis. \$ 500' and 'Mina Lass 33rd, Chas. Vandiwater, Foxboro 250'.

Table listing various bulls with their names and prices. Includes entries like 'Arch River Celia, Maurice Winn \$ 425' and 'Lady Doreen, T. McNeagh 200'.

Bulls.

Table listing various bulls with their names and prices. Includes entries like 'Diphthong, Geo. Haas, Paris \$ 500' and 'Majestic, Geo. Matheson, Embro 250'.

THE FARM.

The Compact House.

EDITOR "THE FARMER'S ADVOCATE":

The square or compact house is gaining in popularity every year, and why not? Where can one find a home that requires the minimum in heating, lighting, and plumbing as does the square or nearly square house? The square building gives one the opportunity of using all space to the best possible advantage, and under ordinary conditions can be built very economically.

The house plans here illustrated are nearly square, being twenty-eight by thirty-two feet with a projection five feet long by ten feet. At the front of house is a

porch eight by fourteen feet. This may be screened in if desired for summer days when the flies and mosquitoes persist in paying their unpleasant calls.

At the side there is an entrance to kitchen and office. This will be much appreciated by the busy housewife, as it may be used by the children running in and out or the man of the house coming in to his office, thus doing away with unnecessary cleaning in front hall and living-room.

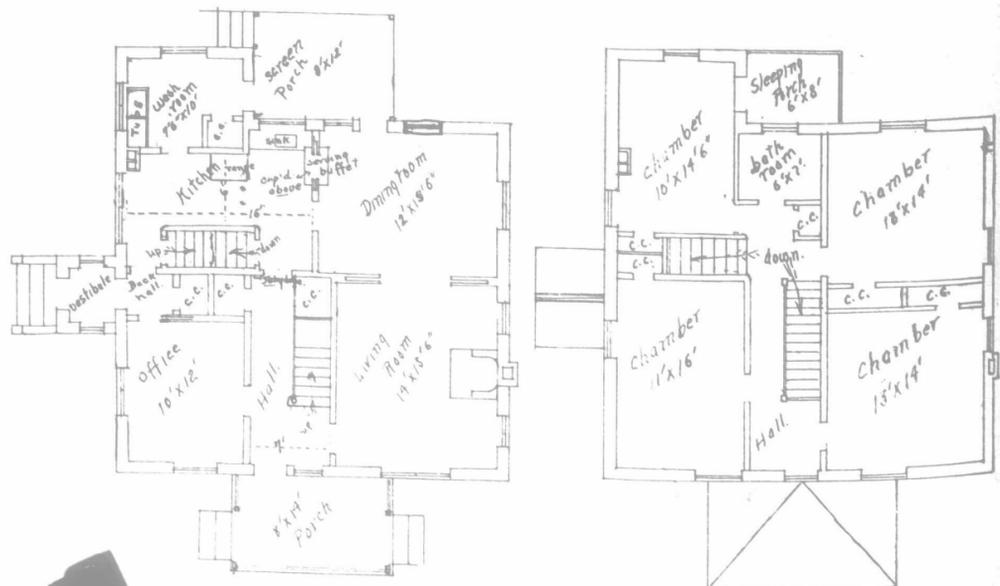
There is a screen porch at the back of house with doors opening on to it from wash-room and dining-room. During hot summer days this porch could be used as a dining place, as it is very convenient to the kitchen.

Upon entering the front door one finds oneself in a hall seven feet wide by fifteen feet six inches in length, out of which doors open into living-room, office and kitchen. Two coat closets open into hall, one being built in under stairway and the other located at the rear of the office. The flooring is of oak, while the woodwork, wainscoting, is of yellow pine, grained in oak. The stairway leading to the upper floor is of mission design; the rails, posts and treads being of oak, while the risers, etc., are of yellow pine grained.

Opening the door on our right hand we enter the living-room. This is a room fourteen feet wide by fifteen feet six inches in length, and has three windows, one large one at front of room and two in the side wall, one at each side of the fireplace. These windows are five feet above floor and are fitted with leaded glass. This room is finished in yellow pine trimming with graining in oak. The fireplace is large enough to permit of burning a good-sized log. The mantel is of high-class oak. A dump grate deposits ashes in cellar.

The living-room and dining-room are connected by large, sliding doors of ample size, permitting free circulation of air and heat at all times, and also of throwing them both into practically one room. The dining-room, in addition to having plenty of windows, also has a door leading to the back screen porch. This door has a leaded glass sash in top half to admit more light. In the wall between kitchen and dining-room is a serving buffet, with sliding doors which may be pushed back out of sight when desired. A unique and rather unusual feature is the mirror panels which are set in these small doors, so that when closed they give the appearance of being a small buffet. The three windows and sash in door provide ample lighting. The floor in dining-room is also of oak, with other woodwork yellow pine grained. A swing door leads to the kitchen. The kitchen is small and compact with no waste space, everything is placed conveniently so that the least labor is required when cooking a meal. A sink is placed under a window four feet wide by five feet two inches in height looking out on to screen porch, thus providing plenty of light when working at sink. The sink and serving buffet are at right angles to one another and will be found very handy when serving meals and afterwards when bringing dishes from table, by eliminating unnecessary steps. The range is conveniently placed in its proximity to sink and serving buffet. The buffet extends to the ceiling on this side of wall and forms a cupboard for holding dishes. A large, double window six feet wide by five feet two inches high at the front of room gives an abundance of light and fresh air to this room. A double chimney passes through kitchen into which pipe from the range runs; the furnace pipe empties into the other side. A stairway leads from this room up to the second floor, while the one going into cellar is placed beneath it. This stairway will save the front stairs and hall, besides saving many steps.

The wash-room is located at the rear of kitchen and contains a set of stationary tubs. These have a wooden cover which may be let down when not in use. One cover is built so as to form a lavatory with plug for drainage. By leaving the plug out of tub below the waste water flows into trap below and from there to cesspool. In one corner of wash-room is a large coat closet in which may be kept the men's working clothes. This will help keep the house clean and tidy also, besides having them out of the way. There is plenty of room for washing machine and small laundry stove if



Ground and Second Floor Plan of the Compact House.

desired. Where might also be used electric iron.

A door from of which a door closet. This contains children's coats, sash in vestibule vestibule is small two windows at t

The door open it has been found door. The office and is well lighted are four feet wide family will all appear quiet place for a case will be a vast this room. The the same as hall.

The stairways middle of the house the second floor, a

The upstairs is Special attention floor plan of the s Each bedroom has

The Session of has been described means that the vote stilled in the desired matters pertaining these troublesome matters affecting foodstuffs, which the Government b House to a practice

As will be seen generous financial ing on of the world and agricultural p these figures do not the Federal Grant Act, Ontario's port per annum. Further for tractors, t or other special production propag ceases provided fo tions which have of activity at the in so far as the insi with all other Dep ceiving less than \$ ceases at the Ont were continued as outside work of th of feeding stuffs an naturally called for ferent branches.

Provision has, ho of work in various Horticultural Societ tions have increased further appropriate means additional pu tural Societies, wh and usefulness in r \$5,000, making a t financial support ma

Under the Live S increase in the num additional \$2,000 ha of the grants of \$5 development of sale kept during the pas has made provision maintain the assista past. Similarly, an take care of the exte stock to the West, v tage to Ontario bree

Under the Institu of \$3,000 has been tutes in carrying on in the matter of med has already found so

Under the Dairy \$500 to the Ontario sociation, which is p growing number of p of milk for human co Under the Fruit B at Vineland Experim has been leased and f for in the form of p employees. These h time past.

District Represent an additional vote of for out of the Provi the neighborhood of l balance being provid Incidentally it may l passed during the S District Representa tives.

The farm survey

desired. Where there is electric power the wash-room might also be used for ironing by having a switch for electric iron.

A door from kitchen opens into the back hall, out of which a door opens into office, vestibule and coat closet. This coat closet makes a fine place for the children's coats, rubber boots, etc. A leaded glass sash in vestibule door supplies light to one hall. The vestibule is small, provided with plenty of light from two windows at the side.

The door opening into office is a sliding door, and it has been found much more convenient than a swing door. The office is ten feet wide by twelve feet long, and is well lighted by two large, double windows. These are four feet wide by five feet two inches high. The family will all appreciate this office, as it furnishes a quiet place for writing or reading. A desk and filing case will be a valuable addition to the furnishings of this room. The floor is of hardwood, with woodwork the same as hall.

The stairways have been located practically in the middle of the house, within easy reach of all doors on the second floor, and will mean a saving in steps.

The upstairs is divided into four good-sized rooms. Special attention is called to the large closet, excellent floor plan of the second flat, also to the large windows. Each bedroom has its large closet, plenty of wall space

for convenient placing of furniture, two windows give light and ventilation in abundance.

If it is desired to finish a portion of the attic it may be easily done. In the plan there is no entrance to the attic, but the extra cost for same would be small, depending entirely upon what is wanted.

The bath-room is easily accessible from all points, and is fitted with a three-piece equipment. The plumbing from bath-room is connected with kitchen sink, thus eliminating extra piping. The floor is of hardwood with tile wainscoting extending above baseboard four feet, with narrow molding along top edge. The lower edge of baseboard is concave, thereby leaving no corners in which dust and dirt may accumulate; a blue and white tile inlaid linoleum covers the floor. A small medicine cabinet is placed in wall between bath-room and closet, which is located just outside bath-room door. This closet may be used as a linen closet when desired.

A large window at end of hall provides light for hall. A sleeping porch opens off the rear bed-room, six feet by eight feet in size. This porch will be valued by some member of the family during hot summer nights. None of the bed-rooms are close, however, as the placing of the windows in all provides for cross drafts, while the attic space above will help greatly in ventilating this floor.

The house is heated by a hot-air furnace, the general plan of the first floor being well adapted for this system of heating, while by leaving the rear stair door open a current of warm air is permitted to pass up these stairs, and heating the upper rooms thereby reduces fuel bills.

The plumbing is of the best enamel, and piping, with cesspool and pneumatic water pressure. A small electric heater warms the water when range is not being used. An electric motor does the washing and sewing. The telephone is located near the kitchen door, where it may be heard all over the house. An extension line to second floor would save many a step.

The exterior walls are of brick, buff color with cream trimmings. The porch railing is white. The foundation is of field stone dressed above ground level. The cellar floor is of concrete with concrete outside entrance at side of rear porch. The cellar walls are two feet above ground level, thus providing for abundance of light and air in cellar. The sash are of the cottage window style, with narrow sash of leaded glass along top of bottom sash of plain glass. The sash are painted white.

Altogether this house has been found to wear well in a family of five, with a minimum of upkeep cost and labor.

Ontario Co., Ont.

L. M. McBurnie

Ontario Legislation of Interest to Farmers in 1918.

The Session of the Ontario Legislature just concluded has been described as "the tamest on record." This means that the voice of criticism has been very largely stilled in the desire of the Members to co-operate in all matters pertaining to the business of the Province in these troublous times. This is particularly true of matters affecting agriculture and the production of foodstuffs, which have received the support not only of the Government but of Members on both sides of the House to a practically unanimous degree.

As will be seen from the table published herewith, generous financial provision has been made for the carrying on of the work of the Department of Agriculture and agricultural production. It should be noted that these figures do not include the amounts expended from the Federal Grant under the Agricultural Instruction Act, Ontario's portion of which now aggregates \$336,000 per annum. Further, they do not include the expenditures for tractors, the work of the Resources Committee or other special features pertaining to the increased production propaganda especially. Some of the increases provided for are the natural result of conditions which have brought about increases in all lines of activity at the present time. The salary increases, in so far as the inside service was concerned, in common with all other Departments were limited to those receiving less than \$2,000 per annum. The salary increases at the Ontario Agricultural College, however, were continued as usual and in other branches of the outside work of the Department. The increased cost of feeding stuffs and of materials and equipment has naturally called for increased appropriations in the different branches.

Extension of Work.

Provision has, however, been made for the extension of work in various branches. In the Agricultural and Horticultural Societies Branch the Field Crop Competitions have increased to such an extent as to require a further appropriation of \$2,000, which, of course, also means additional provision for judges. The Horticultural Societies, which have been increasing in numbers and usefulness in recent years, received an additional \$5,000, making a total of \$17,000, in order that the financial support may keep pace with the membership.

Under the Live Stock Branch there has been material increase in the number of Poultry Associations, and an additional \$2,000 has been appropriated to take care of the grants of \$50 paid to these Associations. The development of sales of pure-bred stock has been very keen during the past few years, and the Government has made provision for another thousand dollars to maintain the assistance which has been extended in the past. Similarly, an additional \$500 will be utilized to take care of the extension in the shipments of pure-bred stock to the West, which have proved of much advantage to Ontario breeders.

Under the Institutes Branch provision to the extent of \$3,000 has been made to assist the Women's Institutes in carrying on experiments and demonstrations in the matter of medical inspection in the schools, which has already found so much favor.

Under the Dairy Branch there is a new grant of \$500 to the Ontario Milk and Cream Producers' Association, which is doing good work on behalf of the growing number of producers contributing to the supply of milk for human consumption.

Under the Fruit Branch the chief item is for extension at Vineland Experimental Farm. An additional acreage has been leased and further equipment is being provided for in the form of green-houses and cottages for the employees. These have been much needed for some time past.

District Representatives are further provided for by an additional vote of \$39,400. The total thus provided for out of the Provincial appropriations represents in the neighborhood of half the aggregate expenditure, the balance being provided for under the Federal Grant. Incidentally it may be mentioned that legislation was passed during the Session changing the name from District Representatives to Agricultural Representatives.

The farm survey work undertaken by the Department last year and continued during the present year is provided for to the extent of \$10,450.

Moving Pictures.

Another important new line of work provided for for the first time this Session is moving pictures. The appropriation is \$20,000. The extent to which moving pictures have impressed their value on the public generally has indicated the possibilities of this line of conveying information of educational value to the public. Accordingly the Department has had prepared a considerable number of films dealing with various phases of farm activity—live stock, grain growing, seed production, canning and preserving, and various other subjects, which have been treated in an interesting way. Each local office of the Department has been equipped with a small, compact projection machine with which the pictures may be presented in rural sections of the Province even where electric light is not available. In addition a number of machines are being used by the Women's Institutes Branch, a series of moving picture meetings having already been held in local sections, meeting with much success both in attracting attention and impressing the desirable facts on the public mind. The work is being handled on behalf of the Government by the Motion Picture Bureau, which

sunrise. This practically means that all dogs will have to be kept tied up at night. Formerly a person could only kill a dog if it were on a farm where sheep were kept, and this practically nullified the effectiveness of the clause as a means of protection. The combination of this clause and the dog tax clause should be very effective in reducing the number of worthless dogs kept in the Province.

Then, as to the compensation to sheep owners, the clause which formerly provided that the dog tax should be a special fund and the damages should not exceed that fund has been dropped, and the damages made a charge against the municipality. The increase in the dog tax will mean that practically every municipality will collect as much from the tax if not more than it will be called upon to pay for damages, and hence it was thought there was no need for continuing this special provision. The municipality, as during the past few years, is liable for the full amount of the damage sustained. The Council must appoint sheep valuers. The owner of the sheep injured must, within forty-eight hours after discovery, notify either the clerk of the municipality or the sheep valuer. The sheep valuer shall immediately investigate and send to the owner of the sheep a copy of the damages as submitted to the Council. A new provision has been added to make

appeals possible. Where the owner of the sheep considers the award inadequate, he may, within one week, appeal to the Minister of Agriculture, making a deposit of \$25, which shall be forfeited if the award of the local valuer is sustained. This is intended to prevent appeals in petty cases where small sums only are involved. The Minister immediately upon receiving the appeal will appoint a competent arbitrator who shall make a further investigation. When the amount of damage has been finally settled either by the local valuer or on appeal, the Treasurer shall forthwith pay over the amount so fixed to the owner. As a protection to the municipality it is provided that all applications must be made within three months after the time that any damage is alleged to have occurred. The Act, therefore, appears to be clear on all these essential points both of tax

and enforcement, and in its new form gives as large if not a larger measure of protection to the sheep owner as is to be found in the legislation on the subject in any part of the continent.

Bureau of Industries Abolished.

Another piece of legislation of some historic interest at least is that of abolishing the Bureau of Industries. The Bureau of Industries was created by the Legislature over thirty-five years ago, even before the Department of Agriculture itself. It was empowered to collect and compile statistics on industrial, municipal and agricultural subjects, and the manner in which this duty has been discharged has given the Bureau a favorable reputation throughout the Province. Some years ago, however, the industrial statistics were transferred to a newly created Labor Branch. A year ago the municipal statistics were transferred to a newly created Municipal Branch. Thus only the agricultural statistics were left, which after all had been the most important work carried out for years. There did not appear to be any reason, unless it was an historic one, for continuing the name of Bureau of Industries, and consequently an amendment was adopted repealing all the legislation involving this name. In its place a Statistics



The New Fall Fair Building, Mitchell, Ont.

County Fairs should plan to stage their exhibits in such suitable buildings.

is attached to the Provincial Treasurer's Department but which supervises the taking of pictures for the various departments, including the Department of Agriculture. These pictures are being taken in the Province of Ontario so as to present accurately local conditions and, therefore, have a stronger appeal to the people.

More Protection for Sheep Owners.

In the matter of legislation the most important item was the Bill respecting the dog tax and sheep protection. So many changes were made in this that Sir William Hearst as Minister of Agriculture decided to repeal the old Act and a new Act was substituted in its place. The object prompting the changes was to increase production and simplify enforcement. As regards dogs the tax was increased to \$2.00 for a dog and \$4.00 for each additional dog, and \$4.00 for a bitch and \$6.00 for each additional bitch, and the Council of every township was at the same time given power to increase this tax as it may see fit. Furthermore, it is provided that any person may kill any dog which is found pursuing, wounding or worrying sheep, which means at any hour of the day or night; while any person may kill any dog which is found straying from home between sunset and

and Publications Branch of the Department has been created, and the work of collection of agricultural statistics and distribution of publications will be carried on as in the past. As regards statistics it may be noted that a plan of co-operation with the Dominion Statistics Branch is being attempted this year. In the past separate statistics have been compiled both by Provincial and Federal authorities. The objections to such an arrangement were obvious. Accordingly an agreement has now been arrived at by which the Provincial and Federal authorities will co-operate in the collection and compilation of statistics, and both Branches will use the same set of figures, the Provincial Branch retaining the figures in County detail as in the past, while the Federal will, of course, only require to use the aggregates in its summaries.

Highway Legislation.

Under Hon. F. G. Macdormid, Minister of Public Works, legislation was introduced to make available another million dollars for use in highway improvement under the Highway Improvement Act. This is the Act which was passed many years ago in the Province and under which most of the good roads in the Province have been constructed. Four million dollars of Provincial monies have now been voted for this purpose and all the counties are participating with the exception of the County of Peterborough. The United Counties of Northumberland and Durham came under the Act a short time ago. As far as the larger schemes of highway improvement which have been discussed for some time past are concerned, little legislation was needed, as it is not proposed to utilize this machinery until the conclusion of the war.

Increased Production Propaganda.

The Legislature as a whole, as well as the Agricultural Committee particularly, heard of the need for increased production of foodstuffs and the special plans under way to meet the need. In the Legislature a Resolution moved by Sir William Hearst and seconded by Mr. Proudfoot, Leader of the Opposition, set forth the situation, and emphasized Ontario's patriotic duty and the Legislature's hope that all classes will co-operate with the farmers in endeavoring to realize the largest possible production. Before the Agricultural Committee Dr. Creelman as Chairman of the Agricultural Section of the Resources Committee, outlined the plans being put forward—the Proclamation of His Honor setting apart a week as a Week of Dedication and Preparation; the desire that a local committee of farmers in co-operation with the Municipal Councils in each Township should look after the organization; the plans for securing labor, chiefly by the enrolment of High School boys, and the use of girls in the fruit sections; the distribution of seed wheat and seed corn; the use of tractors—these and other matters were explained and emphasized. The Members of the Legislature went home determined to render any assistance in their power in making the greatest possible success of Ontario's effort.

It may be noted that the Resources Committee of the Legislature, which is specially charged with the production propaganda, has been reorganized this year, and separate sections for Agriculture and Labor appointed. These are made up very largely of farmers so that the work of the Committees may be kept in close touch with both the sentiments and needs of the communities to which they most appeal. The following are the names of the members of the Committees, and it will be recognized that they include some of the most prominent farmers of the Province:—

AGRICULTURE.—Chairman, Dr. G. C. Creelman, Commissioner of Agriculture; T. S. Biggar, Walkerville; Jos. Brethour, Burlington; Wm. Dryden, Brooklin; R. J. Fleming, Toronto; Geo. A. Gillespie, M. L. A., Peterborough; R. H. Halbert, Melancthon; D. H. McCaugherty, Streetsville; Col. R. McEwen, London; Hon. Nelson Monteith, Stratford; Geo. S. Henry, M. L. A., Todmorden; T. A. Thompson, Almonte.

LABOR.—Chairman, Dr. W. A. Riddell, Superintendent, Trades, and Labor; C. F. Bailey, Assistant Deputy Minister of Agriculture; W. H. Bunting, St. Catharines; Col. W. T. Gregory, Leamington; F. R. Mallory, Frankford; J. M. McCallum, Shakespeare; S. R. Parsons, Toronto; Walter Rollo, Hamilton; Sergt. W. E. Turley, Toronto; Sir John Willison, Toronto.

Appropriations for Agriculture.

	(Including Capital Acc't.)	1917	1918
Civil Government, printing Reports and Bulletins, Statistics, Miscellaneous...	\$	\$1,116.66	\$106,750.00
Agricultural College		329,567.00	353,130.52
Agricultural and Horticultural Societies		164,475.00	175,975.00
Live Stock Branch		58,350.00	65,768.74
Institutes Branch		41,375.00	52,079.00
Dairy Branch		144,547.30	148,050.00
Fruit Branch		85,475.00	108,604.96
Ontario Veterinary College		33,228.83	32,284.99
District Representatives		80,600.00	120,000.00
Demonstration Farm		8,000.00	8,000.00
		\$1,026,734.79	\$1,170,643.21

Growing More Valuable and Welcome.

EDITOR "THE FARMER'S ADVOCATE":
I am enclosing you \$1.50 for my fifth year's subscription to "The Farmer's Advocate", which seems to grow more valuable and welcome every year. I think I would lose a lot of pleasure and profit if I were compelled to do without it.
P. E. I.

W. J. FRASER.

Can We Really Co-operate?

BY ROBERT WHITEMAN.

In order that the farmers receive profit over cost of production and be enabled to set prices on their produce the same as any other business men they must be one united body banded together by bonds of Trust and Honor.

Our crying need to-day is Food, not that we ourselves are in urgent need but that the men fighting the battles of the Empire may have sufficient for their needs. The farmer is asked, even begged, to produce more, to see that every available acre is under cultivation, and to put forth every effort to increase production. Owing to the shorter ocean voyage America has a very heavy call in this respect. Other countries have grain on hand but since a vessel from America can cross the ocean several times in the time requires to travel once from Argentina or Australia, it is imperative that much of the grain be obtained from this continent.

It means then that our present duty is to increase the output to the limit and it cannot be said of the American farmer that he is not doing so even against great odds. Labor shortage is the great problem to-day. Many people have various ideas regarding its solution but as yet it has not been satisfactorily solved. One thing is sure. Farmers will not welcome with open arms the suggestion placed before them, that of using untrained men. Equipment on our farms costs money these days, prices of machinery being excessively high, therefore farmers are unwilling to allow absolutely green men to take charge of it. Could a farmer placed in a bank without any previous training, carry on that work efficiently? Or could he handle a manufacturing plant? The summer season is short and if farmers are to increase production they cannot afford to spend time training men who could not harness a horse or do any other form of work without a complete illustration. So many people are capable of handing out advice to others. One would think that farmers were just so much machinery. All that is needed is a little more pep and a few more bushels of grain will be available. For instance, the writer knows of several cases where men have been exhorting farmers on greater hog production who hardly have any idea as to which animal is meant. These may be ideal economists but they are not farmers and do not understand farm problems. Every farmer is aware of the necessity of more hogs—no need to tell him. What he would like to know, however, is how hogs will be sold. In other words who will get the profit. He knows that with high priced grain he will be hard pushed to make any profit. The writer knows of several instances where the middleman has actually made more clear profit than the producer. A car of potatoes was shipped by a farmer to a certain city and sold for 85 cents per bushel, the farmer paying the freight. These same potatoes were resold by the commission man for \$1.35 per bushel. Figure for yourself who made the profit? One man had all the risk of growing, cost of seed, cost of preparing the land and harvesting the crop. The other man received the shipment, sold it out and received the larger profit. A few years ago farmers were advised to raise large numbers of poultry. Nearly every farmer increased his flock by almost double. Then when they were ready for the market prices fell and greater loss was experienced than if only the normal size flocks had been kept. Case after case of this kind could be cited and it all comes back to the one point. The middleman is getting the cream out of life while the two classes—producer and consumer—are compelled to provide his means of livelihood.

It seems as though our system is wrong. Why always appeal for production? (Speaking now of normal times). Why constantly boost for certain lines of produce? We are told that prices are ruled by supply and demand. This never seems to be true from the farmer's standpoint. It appears rather that prices are ruled by the number of eggs in cold storage, or meat held by speculators or grain sold by speculation. These are hard factors to overcome. Why with the supply of, say, eggs available throughout the year are we compelled to eat ancient specimens in various stages of freshness? There must be some means whereby the people of this country can obtain comparatively fresh eggs. Why is there such a gap between the man out on the land and the city inhabitant? The city man paying a high price for produce naturally assumes that the farmer is a pirate. The farmer thinks the city man hard to satisfy, judging from the price he receives for his produce.

There must be some means of adjusting this state of affairs. The time always comes when the men most interested waken from their lethargy and an awful upheaval takes place. Look at the various fruit growers' unions. They stood conditions just so long and then the wakening was startling. For years the farmers of Western Canada were at the mercy of men who had no work in producing the grain. They received just whatever the grainman felt like paying. But the time came when the strained load was lifted and the grain growers of Western Canada organized. It was a small effort at first and met with strong opposition but persistence won and to-day the Grain Growers' Grain Company is the largest handler of grain on the American continent. True even yet conditions are not ideal but much has been done to give the farmers more uniform prices for his product. Does it not impress one going over the country, to see those stately elevators rearing their heads above the prairie and showing for miles? The casual visitor remarks "What grain there is grown"! Did you ever stop to think that in every small town where there are from four to five of these elevators it took a great deal of money to build and equip them? Then year after year men must be paid to look after them. Who pays all this? The Elevator Co? No, the farmers.

Did you ever get on a train that was not loaded down with travellers for the various lines of business endeavor? Look at the awful cost of having these men continually on the road. Who pays? Why the consumer of the goods, of course. One asks why so many men are at this kind of work and the answer is Competition. Well we pay for it good and plenty. We grant that in some cases it is essential to have travellers but in many cases the merchant could fill out his order and instead of the buyer having to pay this extra expense he would get his goods much cheaper.

We must hope for a new era before long. They say an elephant never knows its strength else no man would handle him or tame him. This large army of producers standing behind the country's very existence, will waken up and a mighty tidal wave will set in. It only requires an ounce too much to an already heavy load to break the axle of the wagon. So some very little thing will cause an upheaval among the ranks of producers. Some say there will rise a man capable of such an undertaking. We have men to-day carrying heavy burdens along this line. Look at our Co-operative movement in connection with the handling of grain. Why could our farmers not go farther and by one united effort be able to set the prices on their produce? Thousands at once exclaim: Impossible! Never can prices on produce be set by producers themselves. This cry has gone down through the years, talked by men whose very existence is built up in making us think so and it has so echoed that we really believe it is true. That being the case why then are we not able to say to our manufacturer: This machine is worth so much irrespective of cost. We will pay you that. Can you hear him say "All right if that is the best you can do I guess it will have to go at that?" Rather he explains that raw material costs so much, cost of manufacturing is so much, then an army of agents have to be paid and the price is set allowing him a profit on the deal. Are we not as truly manufacturers? When we purchase a farm what do we buy? Is it just so much landscape covered with earth, a few trees or stones possibly? Let us consider. Suppose it were possible to buy a farm composed say, purely of clay, sand, etc., and no vegetable mould had ever grown there. Could crops be produced? The answer is simple. Money would be paid out for a farm but nothing would grow on it. And yet hundred of men who have spent years on the land when asked what they were really buying when they located, beyond answering a farm, could give no definite answer. Barren land can sometimes be brought under cultivation by long and expensive means, it is true, but the real thing one pays good money for is the amount of plant food actually available for growing crops—So much nitrogen, phosphorous and potassium along with other minor elements. The day may come when land will be valued by the quantity of these elements it contains, a chemical analysis being taken of the land one wishes to buy and then an estimated value placed on it. However, we buy on our knowledge that a certain piece of land contains these elements. That being so then if \$40 has been the price per acre it means you pay that for so much raw material to be turned into the furnished product. And just according to the quantity of material taken from the soil is the cost of producing a bushel of grain valued. The manufacturer buys pig iron or steel at so much per pound (raw material) converts it into an engine. So many pounds are used and he bases his cost of production largely on the price of raw material. We know that to produce a bushel of wheat requires 2.2 lbs. nitrogen, 2.7 lbs. potash and 1 lb. phosphoric acid. Since 1915 the price of these has more than doubled. However, at prices then it cost:

2.2 lbs. nitrogen at 15c.....	\$0.33
2.7 lbs. potash at 5c.....	.13.5
1 lb. phosphoric at 4c.....	.04
Total (actual cost per bushel).....	\$0.50.5

Added to that we have working cost, labor, etc., and we see to produce a bushel at a profit to-day we must near the \$1.50 mark. In normal times when labor was more plentiful it would appear that the average cost of producing a bushel was 49c. or 50c. Thus looking over average prices for these last number of years previous to war, we find prices at Fort William about 99c. Taking this and not deducting freight would mean that for a product costing us actually from 90c. to \$1.00 to produce we were receiving 98c. and paying freight on same. How long could any other business stand that? You see then, we buy the land at a set price, containing plant food capable of producing so many bushels of say wheat and our money comes from the amount stored up in the soil. Had we to replace pound for pound the material taken away we would be ruined in a few years. Now this state of affairs is not a really good one. Our profit should come not from that source but from the actual selling price over and above cost of raw materials.

That farmers could not fix prices is nonsense. The fruit men can do so. Other men can do so. Why cannot we? Supposing we had a yield of 20 bushels per acre over this continent and from averages it was found that it cost 80 cents to produce that crop, the men in the central office would figure like the following:

Cost of production.....	\$ 80
Handling.....	20
	\$1.00
Profit 20%.....	20
	\$1.20

during normal times. Farmers would feel amply

repair if they v field crops every then at 20 bush Now our prese \$1.20—\$2,400 We never figure load of wheat. Northwest there great number of would take plac that if we could bus. to 25 bus. profits increase because it costs as for 25 bus. increase the yiel in good condition

It may seem coming when w able to set our p composed of m This Executive I to a cent, and co between farmer be set. This ga able it may be is not one from case of existenc one of fair play executive the pro farmer—fresher cost. The farm at and instead o would be on a so come when inste man who wants in contact with there will be less dition will prevail

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EDITOR "THE FA When the tem thirty below zero fuel famine and t winter to come. Bu

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EDITOR "THE FA Practical farm their crops they crops but they an noxious weeds. T realize the import many different wa should endeavor t results with his p farming. On a rotation, which ha farm. The soil is the farm in two is used occasional time by having a rods long. Our sy is heavily manure spring. This crop three to four inch mixed grain or ba is cut for hay th as possible the sod worked with the d in September, whe which is the crop land is then eithe harvest and then p the wheat, and c cultivation as the a few acres which the coming root too much for hoo buckwheat and fi returns, besides b For this crop we cu the middle of June the buckwheat land

To Operate

EDITOR "THE FA I notice in your formation on "Op Engine." I quite a H. D., and still at need be discourag whereby an engine and slings with e belted to a shaft on iron pulley or wh

repaid if they were assured a profit of 20% from their field crops every year. A man with 100 acres of wheat then at 20 bushels per acre would make a profit of \$400. Now our present mode of figuring is 2,000 bushels at \$1.20—\$2,400 minus freight, cost of hired help, etc. We never figure on the material carried away with every load of wheat. Fortunately for those living in the Northwest there is so much plant food in store that a great number of crops could be grown before depletion would take place. But the thing that impresses on us is that if we could raise the yield from the average of 20 bus. to 25 bus. then our profits would be greater. Our profits increase with every bushel above the average because it costs as much to work an acre for 20 bus. as for 25 bus. The only thing then for us to do is to increase the yield and at the same time keep the land in good condition.

It may seem a far fetched dream but the time is coming when we will be so organized that we will be able to set our prices. There shall be a head executive composed of men trusted and trained in real values. This Executive Board will figure the cost of production to a cent, and cost of handling. Then by an agreement between farmers and consumers an assured profit will be set. This game as played to-day, however, profitable it may be for the man handling grain in the pit, is not one from the producer's standpoint. It is not a case of existence. We can all make a living but it is one of fair play for all concerned. With a central executive the produce could be procured direct from the farmer—fresher and in every way better,—at far less cost. The farmer would know exactly where he was at and instead of it being one huge game of chance it would be on a solid business basis. Let the day speedily come when instead of being so far removed from the man who wants our goods he will be brought directly in contact with us. Food will be cheaper in our cities, there will be less hardship and a new and better condition will prevail on our farms.

Every Stick Swats the Kaiser.

EDITOR "THE FARMER'S ADVOCATE":

When the temperature swings in six weeks' time from thirty below zero up to ninety, people will forget the fuel famine and take little thought for the five months' winter to come. But if there are spare days, replenish the

wood pile. Put that on your calendar. Since the coal shortage became acute, newspapers have boomed the production of peat-fuel from bogs, of which there are some 12,000 square miles in Canada. Governments, Federal and Provincial, have been importuned to make the product available. Explicit warning was, however, given in the Ontario Legislature that the Ontario public need not count upon warming its toes with peat fuel in the winter of 1918-19. Ontario and Quebec, depending upon the States for coal, are most critically situated. Cities and towns will be served with available coal before farm districts where wood is more accessible, so it behooves us to take no chances apart from wood unless in the limited areas served by natural gas, and the history of American gas wells shows that some of these, like the oil gushers, play out in time and sometimes fail in pressure when most needed. In time our coal needs will be materially reduced by greater use of water-powered electricity. Great Britain has a project on to save 55,000,000 tons of coal per year by a string of big electric power plants. Our railways are enormous users of coal, but look out for their own interests first and the people who bonused them last. Electrified railways will yet save a lot of coal for the people, but that will hardly help next winter.

Peat fuel is no new undertaking in Canada. At the well known Alfred Bog, near Ottawa, in Prescott County, Ont., investigative and demonstration work, under the Geological Survey, has gone on for years, but as a commercial proposition, the project went into liquidation. At Farnham, Quebec, it was also tried upon a considerable scale. The results have been freely drawn upon successful experience in Scandinavian Europe where, by reason of a climate free from our extremes of heat, air drying, plus appliances for pulping and blocking the bog, raw material, which is 90 per cent. water, reduced the cost of peat fuel production to a minimum. One great difficulty has been to get the product in a form that would stand shipping and not disintegrate. I have in mind the case of one Ontario deposit, personally visited, which under private enterprise was worked with a great deal of care and with the best of data available. Probably \$50,000 was invested in the undertaking and although ultimately some 1,200 tons of fuel in the form of briquettes that gave a hot and speedy fire, were produced, the cost of eliminating the water and compacting the peat by machinery was so great that the operation proved impracticable financially as a competitor with coal. The public will

therefore do well to be on its guard lest the country be led into a sink hole of serious and wasteful expenditures in the exploitation of bogs or processes. Setting aside lump sums at the public expense might go on until the crack of doom and the only people warmed and comforted will be the developers. If there are plants or processes in which persons or organizations have confidence as workable under Canadian conditions as an economic proposition, let them come forward as the tractor people have done to meet a need of the time. Though pap-fed industries are not in favor, the suggestion has been made, because of fuel urgency, that such might be encouraged by a tonnage bonus under strict limitations, upon actual output sold. From the farm point of view, a portable plant, like the travelling ditching machine, available to work smaller deposits, might be a boon.

In the meantime, apart from what the farm woodlots can supply there are millions of cords of wood accessible on Ontario north lands, about which there is no question except the application of prompt and energetic government action, which might well go further than simply give permission to municipalities to cut supplies under forestry supervision, leaving the former to tustle with the railways for delivery before next winter.

State and civic authorities across the lines who are, no doubt, better acquainted with the true inwardness of the coal situation than we in Canada can be, cherish no illusions about the future and are losing no time going after wood as the substitute for coal, the shortage of which they assume will be more acute next season than last. The New York Wood Fuel Bureau warns the people that there is no likelihood of coal being available for rural communities. A census of wood lot owners is being taken and the Bureau has adopted the slogan, "Every Stick Swats the Kaiser". Stocks of wood are to be cut from every available lot and stocked in all communities under direction of the Bureau. The city of Worcester, Mass., Fuel Committee and the Chamber of Commerce, acting under advice from the State Agricultural College and the head of the "cut-a-cord movement", have inaugurated a campaign for cutting and storing 100,000 cords in the various city plants before next winter. Through their governments and other public agencies, the people are learning under the exigencies of war as they never did before, how to look after their own interests notwithstanding the influence of the big corporations.

Middlesex Co., Ont.

ALPHA.

Canada's Young Farmers and Future Leaders.

A Five-year Rotation.

EDITOR "THE FARMER'S ADVOCATE":

Practical farmers have found out that by rotating their crops they not only produce more and better crops but they are able to keep their farms free from noxious weeds. There are many, however, who do not realize the importance of crop rotation. There are many different ways of rotating crops, and each farmer should endeavor to find out which would give the best results with his particular kind of soil and system of farming. On a 100-acre farm I prefer a five-year rotation, which has given excellent results on my father's farm. The soil is rather gravelly and we have divided the farm in twenty-acre fields. A temporary fence is used occasionally, but we believe we can save valuable time by having large fields, which are from 80 to 100 rods long. Our system is as follows: Hoed crop, which is heavily manured during the previous fall, winter and spring. This crop is kept clean and is plowed from three to four inches deep in the fall. The second year mixed grain or barley is sown and seeded down. This is cut for hay the third year. As soon after haying as possible the sod is plowed about three inches deep and worked with the disk and cultivator until the first week in September, when we plow deep and sow it to wheat, which is the crop for the fourth year. The stubble land is then either gang-plowed or disked right after harvest and then plowed deep in the fall. Oats follow the wheat, and the soil gets the same after-harvest cultivation as the wheat stubble, with the exception of a few acres which will be manured and plowed twice for the coming root crop. Since twenty acres is rather too much for hoed crop, we put part of the field into buckwheat and find that we get fairly satisfactory returns, besides being able to keep the soil clean. For this crop we cultivate early and plow the land about the middle of June and then sow. We do not manure the buckwheat land until the following winter, when we

give it a light application so that the entire field will be in practically the same state of fertility.

Waterloo Co., Ontario.

FARMER.

Birds.

EDITOR "THE FARMER'S ADVOCATE":

Of the many things of nature I think that birds are really the most interesting, when once we get acquainted with them. When autumn comes, the different species, one by one, fly south until only a few remain and a silence which almost makes us lonesome takes possession of the field and grove and is rarely broken till the little songsters tell us once again that spring has come. But these few that do remain and those that come down from the north to spend their winter with us are nearly as interesting as the ones which have left us for a season. Among those that remain are the "Black-capped Chickadee", and the "Hudsonian Chickadee". These little fellows will get very tame if crumbs are thrown out in the yard where they can get them on the cold days. Another species that remains with us in the winter is the "Bluejay". These fellows have a bad reputation for robbing other birds, but I think that they are one of the prettiest birds that we have. Then too we have the "Woodpeckers" and the "English Sparrows" those arrogant little fellows that will keep all the other birds away, if they are not looked after. Among our winter visitors are the "Snowflakes", which in the distance look like real snowflakes, and the "Redpoll" a little fellow about six inches long, that comes around only in the coldest weather. An occasional cawing or hooting from the forest reminds us also that the owls and a few crows are still in the neighborhood.

But when spring opens up all this solitude changes. Flocks of Canada Geese, following their leader, may be seen flying northward, to find a suitable place to rear their young. On the arrival of the Song Sparrows, Vesper Sparrows, Swallows, Juncos, Robins, Warblers,

Blackbirds, Kingbirds, Night Hawks, Wax Wings, Vireos, Kinglets, Humming Birds, and the many other species, all the dreariness of winter passes away and the fields and forests once more resound with the joyous songs of our little friends. Life seems almost to be changed. The nature lover is ever on the lookout for some new species or to learn more about the ones that he already is acquainted with. To watch how they build their nests, how they feed and protect their young, and to learn their other habits is indeed, fascinating and proves an inexhaustible source of pleasure.

If you are fortunate enough to have a bird lover for a friend perhaps the best way to get acquainted with the birds would be to get him or her to go for a tramp through the fields or woods, to show you and tell you about the different species. But if you are not this fortunate you will have to get a "bird book" to learn their names. I have found "Bird Guide", Parts 1 and 2 indispensable. These books were written by Chester A. and Charles K. Read and give the pictures and description of all the birds in North America east of the Rocky Mountains. Part 1 contains the "Water Birds" and the "Birds of Prey", and Part 2 contains the "Song Birds". With the help of these books you will soon become deeply interested in this study.

Interesting as birds may be their real value does not end there by any means. It is true that they do sometimes make a raid on the cherry orchard or corn field, but they amply repay for all the damage they do by eating up so many grubs that would otherwise destroy a large part of our field crops. Even the crow, that troublesome fellow, I believe, pays for all the damage he does. If this is the true state of the case ought we not use every effort to protect and encourage these little feathered creatures? One good way to encourage bird life is to build some houses for them and nail them up to the trees. For my part I think it would be a good plan if every one of us would try to get interested this coming summer, for once interested we will ever be ready to do all we can for these little friends of ours.

P. E. I.

BIRD-LOVER.

Automobiles, Farm Machinery and Farm Motors.

To Operate Hay Fork With Engine.

EDITOR "THE FARMER'S ADVOCATE":

I notice in your issue of March 7 "A. P." seeks information on "Operating Hay-fork and Slings with Engine." I quite agree with the answer given by "W. H. D." and still at the same time I don't think "A. D." need be discouraged. I have seen an arrangement whereby an engine was used to operate the hay-fork and slings with entire satisfaction. The engine was belted to a shaft on the end of which was fixed a small iron pulley or wheel. This small wheel worked by

friction a large wheel fixed on the shaft, which carried the drum or spool.

The face of one of these iron wheels was grooved out V-shape, while the other was made to fit into it quite snugly. The idea of this was to give greater friction. The shaft on which the spool was fixed was rigged at its iron wheel end on a lever. Then by means of a rope, which may be run to loft or man on load, this end was raised till it came in contact with the small iron pulley, which revolves continuously while engine is going.

By a steady pull on the rope enough friction was

made to take up a good, large load, and then when friction was released the car would stop. The man on the wagon could then trip the fork and draw the car back for another load.

This arrangement has, at least, one good point in its favor, namely, that one man can operate it alone. Another advantage is that when two men are working at the job the man on the loft may have the hay hauled up when he is ready for it, and also have the car to stop wherever he thinks best.

It also enables a person to unload grain or hay during all kinds of weather, whereas the horse-fork works

satisfactory only on fine days when the ground is clean and dry.
P. E. I.

FRED COOK.

The Electric Overhaul.

Quite a number of motorists absolutely neglect the electrical system on their cars because they feel that they are not competent to in any way take care of it. Such an attitude is very absurd because there are a number of simple rules which, if followed, will do much to maintain an even standard of efficiency. Practically every owner and driver has some knowledge of the battery. It is well that such is the case, for upon the battery depends everything else connected with the starting, ignition and lighting of your machine. You can readily understand that if the battery has lost its energy that immediate steps must be taken to have it put in proper condition. When you laid up your car for the winter you made certain that the specific gravity of the electrolyte was between twelve hundred and seventy-five and thirteen hundred. At such a point there was no danger from freezing. We are also quite confident that during the winter months you recharged the battery every sixty days, either by running the motor or by putting in energy from some outside source. Before you put the battery into service this spring we trust that you went over it very carefully and in the first instance added any distilled water that was necessary. If the battery was not carefully attended to, but simply laid away in the fall, to be taken out when required in the spring, you should give it a continuous charge for forty-eight hours before using it again. You should also run over the connections and see that they are excellent in every particular and it would be well to have all terminals free from corrosion. Practically every person is cognizant of the fact that the acid in the battery runs over and eats into the metal or wood. Make it a point to clean the battery and also its retainer. Follow the wires that run from the battery and if the insulator has become worn, torn or frayed, make what repairs seem necessary.

We now come to the starting motor. It should be given a careful cleaning on the exterior. You may also find it necessary to put in new brushes and, as we have often done before, let us impress upon our readers the value of proper oiling. The fly-wheel and starter-pinion usually demand lubrication. So, too, the ammeter needs attention but if you are not perfectly familiar with its maintenance and operation we would suggest that the advice of an expert be secured. This will also be good policy whenever you are in doubt. While we strongly recommend constant attention to and complete overhauling of the many parts of your auto never understand us to mean that we wish you to take chances. If you are not positive that any contemplated action is going to be beneficial get the advice of some garage or repair man who is thoroughly efficient.

It might be well for you to clean and tighten the generator drive chain. Take it off and wash it in kerosene and then give it a good oil bath. When you are sure that all foreign matter has been removed, put the chain back in the same direction that you removed it. It is a good idea to examine all of your lamps, making certain that the connections to them are not loose or worn. If some of the bulbs are throwing a dim light it would be a good policy to have them replaced. Open up the front and tail lights and clean not only the glasses but the reflectors. A thorough house-cleaning about once a year is all that these appliances really require.

We mentioned in the foregoing paragraph a caution about adding distilled water to the battery. It is not necessary, as some people think, to purchase this from a drug store, as melted artificial ice or rain water is just as good. You must not forget, however, that water should never be put into the battery, if it has the slightest metallic flavor. Even a suggestion of metal in the water will work injury to the battery. Now you will understand why distilled water should never be kept in tin, iron or other metal vessels. The best system is to store the water in a glass jar and put it into the battery with a syringe. Very little water, however, is required for the season's operation and you should not have any trouble securing the necessary quantity.

If the electrolyte has been thrown out of any of the cells in your battery put in a new solution but remember that you should subsequently run the engine or apply a charge from an outside source. The specific gravity of any solution added to the battery must be the same as that in adjacent cells. You can always get the specific gravity of electrolyte to any fine point desired by using the hydrometer syringe. It is good policy never to add any acid or electrolyte to the cells except to replace losses from overflow, a broken jar, or the removal of sediment.

AUTO.

Batteries and Magneto.

EDITOR "THE FARMER'S ADVOCATE":

On page 530 of your issue March 28th last, under Gasoline Engine Queries, question 5 is really an important question. For small engines well cared for, including Spark Plug, and where the supply of oil and gasoline is carefully watched and not too much nor too little allowed, your answer is perhaps correct, but on all engines of over 2½ h-p., I have found it a great advantage to use both to start and when the engine is warm and well under way switch off the batteries. There are times, many times, when a good engine will start quickly with the "mag." only, but other times, when it pays over and over to have the batteries at the start only, (always).

Ont. Co., Ont.

F. W. HODSON.

THE DAIRY.

Brant District Holstein Sale.

Brant District Holstein Breeders held their fifth consignment sale of Holstein-Friesian cattle, in the City of Brantford, on Tuesday, April 2. The crowd was not large, due possibly to the fact that many were able to work on the land. The prices were only fair; a number of the animals were real bargains. However, there were a few individuals in the offering which were scarcely up to the standard previously set by this Club. Flora Fayne 2nd, consigned by C. C. Haviland, was the highest priced animal of the sale. She went to the bid of J. B. Hanmer, of Norwich. She is a three-year-old heifer of splendid individuality and with good backing. The price paid was \$255. Several animals went around the \$250 mark. A number in the offering were young calves, which tended to keep the average low. The 39 animals sold made an average of a little over \$136. Following is a list of the animals selling for \$100 and over, together with the names and addresses of their purchasers:

CONSIGNED BY C. E. BURRILL.

Elcho Snowball, C. Force, Brantford.....	\$135
Black Pauline, Chas. H. Rathburn, Burford.....	100
May Ormsby Duchess, C. Force.....	160
Ruby Mercedes, Frank Lampkin, Brantford.....	190
Elcho Queen Aaggie, Thos. A. Barron, Brantford.....	195
Della Ormsby, F. A. Ficht, Curries.....	160
Johanna Spink, Levi Plant, Brantford.....	125
Pauline Mercedes 2nd, Levi Plant.....	180
Black Maid, J. Davis, Merriton.....	120
Countess Ormsby Della, W. H. Easterbrook.....	100

CONSIGNED BY C. E. SMITH.

Cloverleaf Jane Rooker, Edward Dyson, Guelph.....	135
Fairfield Lady Wayne, Jas. Bond, Cainsville.....	195
Smithdale Schuiling Arcano, T. A. Barron.....	170
Princess Pietje, H. T. Wood, Brantford.....	145

CONSIGNED BY ROBT. SHELLINGTON.

Bessie Johanna Calamity, Jas. Davis.....	135
Matilda Fayne Brook, G. J. Barron, Brantford.....	115
Matilda Calamity Brook, R. J. Grover.....	105

CONSIGNED BY ARTHUR KELLY.

Daisy Pearl Posch, Levi Plant.....	190
Daisy Margaret, J. P. Griffin, Freeman.....	225
Molly O, W. D. Burtch, Brantford.....	190

CONSIGNED BY W. G. BAILEY.

Premier Lyons Schuiling, E. P. Woodley, Waterford.....	120
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CONSIGNED BY ELSWORTH PLANT.

Ravana Teake DeBoer, J. Davis.....	250
Canary Bess Pride 2nd, J. Davis.....	185
Susie Favorit Baroness, Roy Robb, Branchton.....	225

CONSIGNED BY C. C. HAVILAND.

Flora Fayne 2nd, J. B. Hanmer, Norwich.....	255
Cora Pietertje Fayne, W. Syrie, Mohawk.....	190
Flora Fayne Segis, J. Davis.....	200

CONSIGNED BY CHAS. H. VAN LOON.

Lorena Bessie De Kol, C. H. Dale, Brantford.....	165
Nora Crena 2nd's Delila Schuiling, R. F. Armstrong, Tillsonburg.....	190

CONSIGNED BY J. E. BRETHOUR & NEPHEWS.

Oak Lodge Nina, R. Feely, Brantford.....	125
Oak Lodge Bell Banks, J. N. Currison, Brantford.....	130

CONSIGNED BY WILBERT BUTLER.

Countess Pontiac Calamity, Chas. H. Rathburn.....	165
Schuiling Korndyke Abbekerk, A. McLenna, Harrisburg.....	105

CONSIGNED BY CHESTER C. LEE.

Daisy Banks Mercena, A. Taylor, Glanworth.....	145
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CONSIGNED BY J. G. WOOD.

Mercena King Pietje, Johnson Yen, Greensville.....	115
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CONSIGNED BY WALTER G. BROWN.

Julian Abbekerk Pietertje, Wm. Bonney.....	100
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CONSIGNED BY OAK PARK STOCK FARM.

Countess DeBoer, E. Dyson.....	210
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CONSIGNED BY CARMAN HOWEY.

Daisy Lynn Favorit, W. H. Easterbrook.....	200
Lady Favorit, J. C. Feely, Brantford.....	160

The Stoneycroft Ayrshire Sale.

Owing to their splendid farm buildings being burned last fall, Jas. Morgan, the Manager of Stoneycroft Stock Farm, St. Anne de Bellevue, decided to rent his farm in the meantime and his Ayrshire herd was dispersed by auction March 26, as advertised.

The herd had been selected with a view to high production and it was one of the best utility herds in the district—nearly all of the animals combining good Ayrshire type and form as well. The twenty-five mature females averaged \$235. Two-year-old heifers averaged \$169 and yearlings \$92, while two yearling bulls sold for \$150 each, and the calves of the fall of 1917 averaged \$95. Calves from two to three weeks old sold from \$40 to \$100. The herd bull "Hobsland Record Piece"—54821—(imp.) sired by the noted "Hobsland Perfect Piece" was knocked down to R. R. Ness of Howick, Que. for \$925. There was keen competition for this animal between Mr. Ness and A. H. Higginson of South Lincoln, Mass., who paid the highest price

for females, namely \$550 for "Burnbrae"—40103. Wm. Hunter of Grimsby, Ont., secured the splendid cow, "Bess"—36619—also eight years old, price \$500. The next highest price, \$435, was paid for "Brookside Nancy"—34929—bought by Prof. W. J. Bell for the Kemptville Agricultural School—this cow had the best official milk record of any cow in the sale. Mr. Bell secured several fine heifers as did also Prof. Barton for Macdonald College. The 57 head, including calves, averaged \$168.

The following are the names of the animals selling for \$100 or over together with the purchasers and prices.

Cows 3 Years Old and Over.

Greenbank Whinflower 36855, A. H. Higginson, South Lincoln.....	\$ 200
Lily 46561, R. R. Ness, Howick, Que.....	150
Lady Clara of Ferndale 52392, C. D. French, Westmount.....	305
Hilda of Moose Creek 11 40612, R. R. Ness.....	360
Beauty of Bridgeview 45301, N. Copeland, Cornwall.....	150
Flossie 46455, Frank Byrne, Charlesbourg.....	155
Ruby of Moose Creek 40614, R. R. Ness.....	205
Ruth 36355, David Levine, Montreal.....	165
Cyrilla of Moose Creek 40611, A. H. Higginson.....	230
Mary of Maplehurst 35966, Cummings Bros., Lancaster.....	285
Leafie Annie Laurie 45118, A. H. Higginson.....	200
Burnbrae 40103, A. H. Higginson.....	550
Ena 48566, Jas. M. Aird, Montreal.....	150
Queechy Duchess 49166, Jas. M. Aird Montreal.....	305
Brookside Nancy 34929, Prof. W. J. Bell, Kemptville.....	435
Frivolity 52907, Prof. Barton, Macdonald College.....	200
Ensign's Buttercup 49232, Armand Denis, St. Cuthbert, Que.....	140
Lady Shaughnessy 49236, L. J. Tarte, Montreal.....	180
Ensign's Milkmaid 49233, R. R. Ness.....	100
Nellie Gray 49525, L. J. Tarte.....	105
Silver Gift 49526, N. Copeland.....	170
Flo's Beauty 45939, David Lavine.....	165
Bess, 36619, Wm. Hunter, Grimsby, Ont.....	500
Lady Hopeful 52921, Prof. W. J. Bell.....	350
Belle of Wicklow 44738, D. Lavine.....	105

Heifers 18 Months and Over.

Stoneycroft Jessie, N. Copeland.....	125
Stoneycroft Princess, Armand Denis.....	100
Stoneycroft Red Rose, P. D. McArthur, Howick, Que.....	210
Stoneycroft Verna 1st, Prof. Barton.....	310
Stoneycroft Spot, Frank Byrne.....	100

Heifer Calves of 1917.

Stoneycroft Pride 1st, Chesley Pillar, Russell.....	100
Stoneycroft Pretty Pet 1st, R. R. Ness.....	150
Stoneycroft Lady Clara 1st, Gilbert Millan, Huntingdon.....	100
Stoneycroft Verna 2nd, Peter McArthur.....	140
Stoneycroft Jean 1st, Prof. Barton.....	150

Bulls.

Hobsland Record Piece (imp.) 54821, R. R. Ness.....	925
Stoneycroft Bogie Lad, Armand Denis.....	150
Stoneycroft Fleckie's Pride, Robt. Arthur, Huntingdon.....	150

Shortage and Care of Cream Cans.

Considerable advice has been forthcoming during the last few months on the care of cream cans, owing to an alleged shortage of tin plate from which cans are made. Until recently, the bulk of this very important material, from the standpoint of the dairy industry, was imported from England. Owing to war conditions, this source of supply has been largely cut off, and shippers of milk and cream are urged to reduce to a minimum the wear and tear on cans.

We do not know of any data having been collected to show the difference in the life of cans, which carry cream to a local creamery as compared with shipping it long distances to a centralizer. However, there is no doubt that the difference is very great. Cans on the station platform and in baggage cars receive no mercy whatsoever. The only thought of the teamster who handles milk and cream cans between the station and the city plant, is to get rid of them as quickly as possible. In a city centralizer, the writer has seen cans thrown as soon as the cream was dumped, clear across the room on a pile. Those having authority should see to it that cans receive proper treatment in transit and at city plants. Wherever possible, farmers should haul or ship cream to their local creamery. This would save express charges and cans will undoubtedly receive more careful handling locally than when handled by disinterested persons.

Cream is Bulky Compared with Butter.

Not only does shipping cream long distance wear out valuable cream cans, but it uses a lot of space in express cars that could very advantageously be used for other purposes. Cream is a very bulky article compared with the butter that is made from it. To make a 56-pound box of butter (on an 82 per cent. fat basis), it takes 184 pounds of 25 per cent. cream, and to ship this cream three eight-gallon cans are required. The cream weighs more than three times as much as the butter and occupies six times as much space.

Richness of Cream.

An eight-gallon can of 35 per cent. cream contains 1.7 times as much butter-fat as a similar can of 20 per cent. cream, yet weighs 2½ pounds less. That is, 10 cans of the 35 per cent. cream will make as much butter as 17 cans of 20 per cent. cream, and will weigh nearly 600 pounds less.

Menie D...

The Menie... a sale of Ayrshire... A number of ob... catalogued, but... to the consignee... for Rose of Spr... Turner, of Ryck... McCook. The... This cow gave... lbs. of 4.2 per c... is a cow that a... A number of 19... around \$30 to... sale was low... quality of the of... mals selling for \$... chasers:

Lillie, E. B. Star... Sprightly Bob of... Oakland Juno, A... Stella of the Map... Kenmuir of Men... Red Rose, F. Ho... Snow Flake, A. J... Jessie of Menie... Beth, J. Locke, C... May, F. Howe... Humeshaugh Bel... Oakland Claribel... Flora 2nd, H. De... Rose of Springba... Oakland Jean, W... Mabel... Seymour Belle, T... Pride of Burnbra...

The S...

The scarcity... consider the me... abling them to m... To install a m... investment; cons... formation regard... practicability of... certain before a... the milking mach... many cows in an... It does uniform... rare instances wh... become broken c... milking at the ri... well as on Mon... complaint about... milking machine... where reasonable... kept equal to tha... mental Farm cor... effort to gather a... ing the cost of... liability of servic... as compared with... quality of milk... Dominion Experie... tion is given:

"Every dairy... cows should con... milking machine... number of pra... number of our e... to prove that these

"The average... sideration the five... would be in the... to milk four cow... large enough for... a twenty-cow her... for a twelve to fif... be sufficient. Fo... stallation there w... \$100 in the cost... to \$16.60 per cow... the medium-sized... herd. This, in tur... installation for wo... theless the first c... small herd.

"The annual c... thirty-five-cow ou... in caring for eng... on investment, and... would amount to a

"The above is... farmer is at presen... is not taken into... cows, this brings t... cow per day.

"The average... seven cows per h... hour, costs 7.2 ce... One man with a... twenty-five cows... of machine-milkin... daily expenses, o... saving of consider... herd would enable... one, if not two, m... other important li... enables one man t... physically possible!

Menie District Ayrshire Breeders' Sale.

The Menie District Ayrshire Breeders' Club held a sale of Ayrshire cattle at Campbellford, on April 2. A number of choice representatives of the breed were catalogued, but the prices were rather disappointing to the consigners. The highest price paid was \$230 for Rose of Springbank, a six-year-old cow, by A. S. Turner, of Ryckman's Corners, and consigned by E. A. McCook. The purchaser was W. Haggerty, of Stirling. This cow gave, under ordinary farm conditions, 8,078 lbs. of 4.2 per cent. milk in a lactation. However, she is a cow that appears capable of doing much better. A number of 1918 calves were in the sale and they sold around \$30 to \$40, consequently the average for the sale was low. However, this is no reflection on the quality of the offering. Following is a list of the animals selling for \$100 and over, together with the purchasers:

Lillie, E. B. Stansell, Vienna.....	\$215.00
Sprightly Bob of Menie, J. Peoples, Hemlock.....	100.00
Oakland Juno, A. Hume, Campbellford.....	160.00
Stella of the Maples, Chas. Pettifer, Campbellford	100.00
Kenmuir of Menie, J. Clifford, Warsaw.....	125.00
Red Rose, F. Howe, Campbellford.....	105.00
Snow Flake, A. J. Grills, Codrington.....	122.50
Jessie of Menie, Wm. Stewart, Menie.....	175.00
Beth, J. Locke, Campbellford.....	100.00
May, F. Howe.....	200.00
Humeshaugh Belle, W. J. Haggerty, Stirling.....	100.00
Oakland Claribel, Thos. Kerr, Campbellford.....	105.00
Flora 2nd, H. Donnel, Campbellford.....	102.50
Rose of Springbank, W. Haggerty.....	230.00
Oakland Jean, W. Tummin, Madoc.....	150.00
Mabel.....	122.50
Seymour Belle, T. Fry, Campbellford.....	210.00
Pride of Burnbrae, Chas. Pettifer.....	122.50

The Mechanical Milker.

The scarcity of help is leading many dairymen to consider the mechanical milker as one means of enabling them to maintain the present size of their herds. To install a milking machine requires considerable investment; consequently, it is but natural that information regarding the various makes and about the practicability of the mechanical milker should be ascertained before a machine is purchased. Undoubtedly, the milking machine is a labor saver. It will milk as many cows in an hour as would require about three men. It does uniform work from day to day, and, except in rare instances when some of its mechanical parts have become broken or worn, it is always there, ready for milking at the right time. It helps out on Sundays as well as on Mondays. There has been considerable complaint about the quality of the milk drawn with the milking machine. However, it has been proven that where reasonable care is taken, the quality can be kept equal to that of hand-drawn milk. At the Experimental Farm considerable work has been done in an effort to gather as much information as possible regarding the cost of operating a milking machine, the reliability of service, the uniformity of milking, the cost as compared with hand milking, and the effect on the quality of milk. In Special Circular No. 13, of the Dominion Experimental Farms, the following information is given:

"Every dairy farmer with a herd of twelve or more cows should consider seriously the installation of a milking machine. The experience of an ever-increasing number of practical farmers, coupled with that of a number of our experimental farms and stations, goes to prove that these machines are decidedly advantageous.

"The average cost of installation, taking into consideration the five most popular machines on the market, would be in the neighborhood of \$500, for an outfit to milk four cows at once. Such an outfit would be large enough for a twenty-five to thirty-cow herd. For a twenty-cow herd a three-cow outfit would be sufficient for a twelve to fifteen-cow herd, a two-cow outfit would be sufficient. For each reduction of one unit in installation there will be a reduction of approximately \$100 in the cost price. This brings the average cost to \$16.60 per cow for the large herd, \$20 per cow for the medium-sized herd, and \$25 per cow for the small herd. This, in turn, goes to show that while the cheapest installation for work done is with the large herd, nevertheless the first cost is not excessive in the case of a small herd.

"The annual cost of operation for a twenty-five to thirty-five-cow outfit, including repairs, power, labor in caring for engine and washing machines, interest on investment, and ten per cent. depreciation on machine, would amount to approximately \$225.

"The above is approximately one-third of what the farmer is at present paying his hired man, where board is not taken into account. Divided between thirty cows, this brings the running expenses to two cents per cow per day.

"The average hired man will not milk more than seven cows per hour, which, at twenty-five cents per hour, costs 7.2 cents per cow per day for hand-milking. One man with a milking machine can milk twenty to twenty-five cows per hour, which brings the total cost of machine-milking, including the above-mentioned daily expenses, to 4.5 cents per cow per day. This is a saving of considerably over one-third and in a large herd would enable the farmer to dispense with at least one, if not two, men, or it would liberate these men for other important lines of increased production. It also enables one man to milk many more cows than it is physically possible for him to milk by hand.

"Not only does a machine decrease the cost of milking, but it gives uniformity in milking. All cows are milked in the same manner every day, and every good dairy farmer knows this is important and that it is hard to obtain with the general run of farm hands.

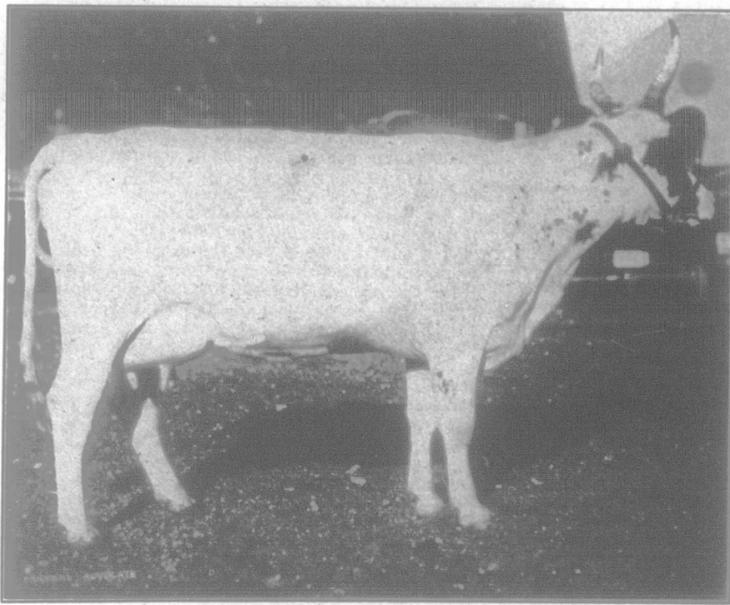
"A machine when properly installed and equipped with a reliable source of power is always there ready for work. Breakdowns are comparatively rare and usually easily remedied. Wear and tear is not excessive, considering the nature of the machine, and provided the latter is given proper attention.

"A machine that is properly adjusted and handled will not injure the cow's teats or udder any more than the average farm hand. Three years' experience of mechanical milkers on the Central Experimental Farm does not show that the cows dry off any more quickly than when milked by hand. There is no more, if as much objection to the milking machine on the part of the cows than there is to hand-milking. Old cows used to hand-milking object most, and may not let down their milk readily, but heifers take to machine milking like ducks to water and require hardly any stripping. Stripping by hand after taking the machine off is advocated by all users, as well as makers, as a precautionary and economical measure.

"If the machines are properly handled in the barn, and likewise properly washed in the dairy, the milk produced will be as good as or better than that produced by hand-milking. Where extra pains are taken with the machines and the care of the milk a very high grade of milk can be produced. Careless handling results in bad milk and ultimate failure of the machine.

Last, and of far more importance than the cost price or make of the machine, comes the question of the efficiency of the operator. Handling the machine is a job for the farmer, his son, or some hired man who has an interest in the success of the machine and the cows. For best results the operator must be quick and quiet, with an eye for details. Know the machine and the cows, and adapt the one to suit the other, giving each their proper share of attention at the proper time.

"Any of the more prominent makes of milking machines upon the market will do good work, provided they are properly handled."



Briery of Springbank 3rd.
First three-year-old Ayrshire at London for A. S. Turner & Sons, Ryckman's Corners, Ont.

Test and Keep on Testing.

There is a difference of opinion among dairymen as to the comparative value of the short and long-term tests. Some claim that the seven, fourteen and thirty-day official tests reveal the possibilities of the animal, and that they can conduct that test when they haven't time to keep records for a full lactation period. There are others who bank on the yearly test to show a cow's real value as a producer. The length of tests varies and there are tests for three-teated cows and for cows at different dates after freshening. Some are apt to think that there are too many tests, but is it possible to have too many? One noted dairy authority states, "You cannot have too many tests." As yet, far too few dairymen do any testing. They work along from year to year without knowing exactly what individuals in their herd are capable of doing at the pail. True, they may get a good quantity of milk at a milking, but does the cow keep up the flow from week to week? It is the cow that keeps on producing a good quantity month after month until near the time to freshen again and that transmits her qualities to her progeny, that pays dividends. When only a few heifer calves are saved to replenish the herd, they might as well be from the best cows. Some claim that they do this without the bother of keeping records, but from our experience it is not the best-looking cow that gives the largest returns. Then, too, any variation in milk yield from day to day can be noted if records are kept, but, where the milk is not weighed a variation of two or three pounds would pass unnoticed. Records enable dairymen to conduct feeding experiments in order to ascertain what

quantity or kind of concentrates each animal will pay most for.

The shorter tests can be conducted under the supervision of some official, which lends possibly greater value to the figures than the semi-official results. To keep a supervisor an entire year would come too expensive for the average dairyman. In fact, there are very few instances where one would be justified in going to this expense. A cow can be fed in such a manner as to force production on to the utmost for a short period. Some cows will stand this forcing for one hundred days, a few for a full lactation, but the majority of cows would not endure the strain and breed regularly. It is unfortunate that all the cows which make the high records do not reproduce themselves year after year. The phenomenal records made by a few cows and their progeny have done a good deal to advertise the breeds they represent; they show the possibilities of milk and fat yield. Some records recently made would have been considered impossible a few years ago. However, the limit has not yet been reached. There are greater records yet to be made, and they will be made by breeders who have for years been paying strict attention to the breeding, feeding and selection of their breeding stock. The value of the official and semi-official tests is ascertained when it comes to the disposal of breeding stock. These tests also have a value to the purchaser as they enable him to know what the animal or its ancestors have done, instead of taking the animal only on its individual merit. While type and form must not be lost sight of there is something more to consider if the average production of the herd is to be increased. Purchasers of dairy stock are now enquiring for the records, and many a dairyman has missed a sale because he could not show in black and white what a particular cow, her progeny, or ancestors, had done either on short or long test.

Testing is a business proposition and something which every dairyman should do. A man must decide for himself as to the comparative value of the short or long tests. It is certainly fine to be able to say that a certain animal gave six or seven hundred pounds of milk, and twenty, twenty-five or thirty pounds of butter, in seven days, or that a record of twelve, fifteen or

twenty thousand pounds of milk was made in a lactation period. Like tends to produce like, and the average cow will pass these good qualities on to her progeny. "The sire is half the herd" is an expression commonly used, and it contains a good deal of truth, as his influence is exerted not only on one or two individuals, but on the entire herd. Thus, if progress is to be made it is essential that particular attention be paid to the choice of a herd header. Before making a purchase, look up the records of the dam and grandam, and if they are not as high as or higher than the records of the individuals in your own herd no increase in the average yield for the herd will be made by his progeny. Always try to get something better than you have had previously, and to do this it is necessary that you know what the animals have done on test. May Echo Sylvia, Jean Armour, and Sunbeam of Edgeley are representatives of three

dairy breeds which among others have done a good deal to advertise their respective breeds. Each has made very creditable records, and has had the constitution and ability to continue making big records year after year. It was testing that made these cows and their progeny famous and gave them phenomenal value. If there had been no short or long-term tests would these cows have been known from coast to coast? We think not. There are cows in some of the most obscure herds that have the breeding and capability of heavy production, but they are kept in the background because their owners do not find time or the inclination to test. In your herd there may be a heifer or mature cow that, if given a little extra feed and attention, would head the list in the seven, fourteen, thirty, one hundred, or three hundred and sixty-five-day test. It is to the advantage of every dairyman to test every individual in his herd. If you have a cow that you think would make a good test for a short period, have her officially tested and then continue keeping records till the end of the lactation period. You may not be able to give her as much care during the entire year as you would for the seven or thirty-day test, but you will know what she is capable of doing under ideal conditions, and also what she will do under average conditions. Some cows are good for a short term, while others are long-distance cows. The yearly test, or the test for full lactation, possibly shows the cow's real value better than the short test. Some claim there are discrepancies in the semi-official test, owing to the fact that there is no supervisor over the weighing. However, we must take it for granted that the average dairyman is honest. In fact, there is little chance for padding the weights, as a supervisor comes unheralded at various times during the year to check

over the weights and supervises the weighing of four milkings. While it is granted that the strictly official test may possibly have the most value, it must also be recognized that the semi-official and R. O. P. work is of great value not only to the breeders but to the dairy breeds as a whole. Have your cows officially tested if you can, but if you do not feel like going to that expense, then do not fail to enter them in the semi-official work. Having the records of each individual will not only give a great deal of satisfaction to the feeder or man in charge, but they will mean many dollars to the owner in the sale of breeding stock, provided creditable records have been made. If you are ashamed of the records then the animals have no place on your farm, if you are keeping a strictly dairy breed. Set a standard and endeavor to have each individual in the herd produce up to or above that standard. Test and keep on testing.

POULTRY.

The Egg Outlook.

According to market reports, the consumption of eggs has been heavy and the market has remained fairly steady. Of course it is predicted that prices will go lower, but up to the time of writing no surplus eggs for storage are in sight. American eggs were recently brought into the Toronto market costing around 41 1/2 cents laid down, all charges paid. Live fowl have sold up to 40 cents per pound, and cold-storage chicken as high as 43 cents. American eggs were also coming into Montreal, but the consumptive demand being heavy, prices have remained fairly high, around

45 cents—which means about 40 cents f. o. b. country points. Offerings in the country are, however, becoming more liberal and before this reaches our readers prices may have dropped. Production is increasing rapidly, but so far has not been able to meet the increased demands. It is the general feeling now, however, that there will be enough Canadian eggs from now on, and probably in a very short time there will be a surplus for storage purposes. Weather conditions in the West were very mild in the latter part of March, and production in Western Canada increased. It is questionable whether egg prices can go much lower than they now are without seriously affecting production, and it is just probable that production will be lower than last year no matter what prices are. Storing has commenced in the United States. Poultry, live and dressed, has been very scarce. There is no surplus poultry for export and no enquiries or business reported in the export of eggs.

HORTICULTURE.

The Life of Vegetable Seeds.

Practically every one is aware that some kinds and varieties of vegetable seeds will retain their vitality longer than others, but doubt usually exists as to how long each particular kind will retain sufficient life to warrant planting it. In any case it will not pay to take chances with such seed without testing it and if it is considered too much bother to test what has been left over it would be a good plan to purchase fresh stock for the ordinary farm garden. A. H. MacLennan, Vegetable Specialist, for the Ontario Department of

Agriculture submits the following information concerning the life of seeds:

The life of seeds depends upon:

1. The kind of vegetable.
2. The conditions under which they were grown.
3. The thoroughness of curing.
4. Storage conditions.

Some vegetable seeds are good for only a very short period, others for much longer. The original strength of the seed in germinating power has much to do with it; if the seed was weak from the first, it will more quickly become useless. Often seeds are not sufficiently cured and the moisture in them brings disease. Frequently after being cured they are kept in a poor storage. Seeds should be kept cool and dry, if they are to hold for a long period.

The following table gives the maximum age of properly cured and stored vegetable seed.

Years		Years	
Artichoke.....	2	Lettuce.....	4
Asparagus.....	3	Muskmelon.....	5
Bean.....	3	Onion.....	2
Beet.....	5	Parsley.....	2
Cabbage.....	4	Parsnip.....	1
Carrot.....	3	Pea.....	3
Cauliflower.....	4	Pepper.....	3
Celery.....	4	Pumpkin.....	4
Corn.....	2	Radish.....	4
Cucumber.....	5	Salsify.....	2
Egg Plant.....	5	Squash.....	4
Endive.....	4	Spinach.....	3
Kale.....	4	Tomato.....	4
Kohlrabi.....	4	Turnip.....	4
Leek.....	3	Watermelon.....	5

Popular Spraying Combinations in Nova Scotia.

BY G. E. SANDERS.

To detail the troubles of the Nova Scotia apple grower with spraying material during the ten past years, would make a longer article than this can possibly be.

The growers and the staff of the Dominion Entomological Laboratory have worked together on the various problems connected with spraying material, some of the findings of the growers made on a large commercial scale being corroborated, and the reasons for the action worked out at the Laboratory, and vice versa, the findings of the Laboratory, being tested by the growers and where found successful in a small way or in isolated orchards, adopted, when found superior to old methods or mixtures.

Findings of Past Years.

Briefly, from the destructive standpoint, it has been found that, lime sulphur has generally been decreasing the crops of apples produced in the Province; that the greatest decrease in the quantity of apples comes from applying lime and sulphur as a fourth spray or a spray applied two weeks after the blossoms; that the third spray or that applied immediately after blossoms, decreases the crop to a certain extent in some seasons, and also in certain seasons the spray applied immediately before the blossoms will reduce the crop to a slight extent. It has been found that the lime-sulphur injury comes from applying the spray to the under side of the apple leaf, and that it can be reduced by applying lime sulphur as much to the upper, and not to the under side of the leaf as possible. Where high powered spraying machines are generally used, it involves certain loss of time to spray so as not to wet the under side of the leaf, and also reduction in protection from fungus must follow if some fungicide is not applied to the lower leaf surface. The use of lead arsenate with lime and sulphur results in decreasing the amount of sulphur in solution, and the formation of a black sulphide, *sludge*, which is a nuisance in the spray tank. This combination results also in the formation of more or less soluble arsenic and more leaf burning or singeing than where arsenate of lime is used. Where arsenate of lime has been used with lime and sulphur in some of the orchards where varieties susceptible to yellowing were present, particularly in sod orchards, or where cultivation and fertilizing were more or less neglected some yellowing of the leaves from the fourth spray resulted and in some cases slight yellowing was noted from the third spray. It has been demonstrated that to say the very least, lime-sulphur does not add to the keeping qualities of winter apples, provided apple scab is not present. Soluble sulphur was used as a summer spray in 1913 and 1914 and lead arsenate used with it; this combination resulted in excessive damage on account of arsenate of soda being formed by the reaction between the two. It was thought that soluble sulphur and arsenate of lime might be used as a summer spray, but on being widely used it was found that the soluble sulphur alone did not sufficiently protect the arsenate of lime from the air, and slight to serious yellowing resulted on all but the hardiest foliage or where the combination was used only once. Before the Dominion Entomological Laboratory was established in Nova Scotia, the use of Bordeaux had been practically abandoned on account of the severe russetting of the fruit that resulted from the 4-4-40 formula and also on account of the leaf yellowing that often resulted from repeated applications and from certain conditions.

From the constructive standpoint it has been found, that lime and sulphur may be used as a first spray with no apparent injury to the crop, and when carefully applied it may be used for the second and third sprays, or those applied immediately before and after the blossoms, care being taken not to drive the solution against the under side of the leaves. It has been found that where arsenate of lime was used with lime-sulphur slightly more apples resulted than where lead arsenate

was used. The yellowing that occasionally follows the use of arsenate of lime and lime sulphur for the after-blossom sprays can be eliminated by using more or less water-slaked or hydrated lime with the combination; the quantity to be used varying from 2 to 7 pounds to 40 gallons, depending on the susceptibility of the varieties to yellowing, the cultivation and the fertilizer used or the vigor of the trees. The use of arsenate of lime with lime-sulphur eliminates the lead sulphide or black *sludge* and gives less leaf burning or singeing than where standard lead arsenate is used in the same solution.

It has been found that soluble sulphur, used 1 lb. to 40 gallons, could be applied at any time in the season and in any direction with no apparent injury to the leaf and no apparent reduction in the crop of fruit. It was found that where soluble sulphur and arsenate of lead was used, and approximately half of the leaf surface singed and destroyed that the dropping fruit was not so severe as where only slight leaf injury was apparent from the use of lime-sulphur solution, both sprays applied in every direction. It was found that soluble sulphur would not curl or crinkle young leaves when applied to them as would lime-sulphur. It was found that while lime sulphur decreased the killing value of poisons used with it by about nineteen per cent, and Bordeaux decreased the killing value by forty-three per cent, that soluble sulphur increased the killing value by about thirteen per cent., so that one-half pound of arsenate of lime to 40 gallons, when used with soluble sulphur is approximately equal in killing value to three-fourths pound used with lime sulphur and one pound used with Bordeaux. It was found that the leaf yellowing coming from the use of soluble sulphur one pound, and arsenate of lime one half pound to 40 gallons could be eliminated by adding to the solutions 10 pounds of either hydrated or water-slaked lime. The leaf resulting from this combination is particularly fine, approaching the quality of a dusted leaf.

Bordeaux Coming Back.

In regard to Bordeaux it has been found that it only caused severe russetting and paling or non coloring of the fruit, when used for the spray immediately after the blossoms. That when used for the spray immediately before the blossoms some slight russetting and paling of the fruit will result; this depends largely on how close to the opening of the blossoms the Bordeaux spray is applied. The application of Bordeaux as a first and as a fourth, or two weeks after the blossoms, spray results in practically no russetting or paling. It has been found that Bordeaux will not apparently injure the chlorophyll, that it may be applied in any direction at any time and will not apparently cause the apples to drop. It has been found that satisfactory results in scab control can be obtained in Nova Scotia where the quantity of bluestone is reduced to 3 lbs. and 2 lbs. and in some cases even less to 40 gallons. Where the lime is increased to 8 or 10 pounds to 40 gallons, and the bluestone cut down to 2 or 3 lbs. that the resultant, 3-10-40 or 2-10-40, Bordeaux may be used repeatedly and applied as a drench with a high powered sprayer and no leaf injury or yellowing result. It has been demonstrated beyond a doubt that Bordeaux is superior to lime and sulphur or any of the sulphide sprays in the prevention of apple scab and other fungous diseases of the apple fruit in Nova Scotia. It has been demonstrated that apples, sprayed with Bordeaux as a fourth spray will develop fewer storage fungi and rots and will keep firm for a longer time than those sprayed with lime-sulphur or other sulphide sprays or unsprayed.

The most important finding from the standpoint of the orchardist and the fruit industry as a whole is that lime and sulphur used as an after blossom spray will reduce the quantity of fruit produced. How

much this amounts to varies with the thoroughness of the application, the amount of spray applied to the under side of the leaf, the variety and condition of the tree and the amount of cloudy weather at spraying time. It has been estimated that since lime sulphur has generally replaced Bordeaux in Nova Scotia that the annual reduction in crop caused by spraying after the blossoms with lime and sulphur may be as high as 20 per cent. of the total crop. Orchardists vary in their estimates of losses from this cause from none to as high as eighty per cent. of the crop in some seasons. Eminent authorities noted a falling off in apple production coincident with the general adoption of lime and sulphur as a summer spray, but were at loss for a reason until the work of the Dominion Entomological Laboratory at Annapolis showed the cause.

The foregoing are not wild theories, but facts which are commonly known and accepted by the majority of the growers in Nova Scotia, in fact most of the findings originated with some experience or another of one or more growers, was tested experimentally in our own plots, and usually at the same time and always later corroborated by practical growers in the field.

Sprays for 1918.

From past experience and from these findings the Nova Scotian apple grower is going to avoid lime and sulphur for the fourth spray or that applied two weeks after the blossoms. Excess of lime Bordeaux either 3-10-40 or 2-10-40 or perhaps weaker will be the fourth spray of the majority of growers. For the third spray, the majority will use lime sulphur 1.000 sp. gr. or 1 to 50 with 1 1/2 lbs. of arsenate of lime to 100 gallons. Some will add hydrated lime 5 to 10 lbs. to 100 gallons, to this spray to prevent yellowing, others will not as the danger is not great. So long as care is taken not to drive this spray forcibly at the under side of the leaves, very little harm will result. A smaller number of growers will use for their spray, soluble sulphur 1 lb., arsenate of lime one half pound, and hydrated or water-slaked lime, ten pounds. A few who have lost severely in the past through using lime and sulphur will use a very weak excess of lime Bordeaux, 2-10-40 or even weaker, in spite of the russetting that they know will result. They say "russetted apples are better than no apples."

For the sprays before the blossoms a great variety of combinations will be used. Many will use 3-10-40 Bordeaux, some will use 4-10-40, some 4-4-40. Some will use lime-sulphur for before the blossoms, using some care in applying the second spray, others will use soluble sulphur 1 lb. to 40 gallons with one-half pound or arsenate of lime and 10 pounds of hydrated or water-slaked lime. Arsenate of lime, three-fourths to 40 gallons will be used in the lime-sulphur before the blossoms.

On account of its cost most growers will use arsenate of lime one pound to 40 gallons with Bordeaux. With powdered arsenate of lime (40 per cent. arsenic oxide) retailing to the members of the United Fruit Companies at 25 cents per pound, and the same quantity of arsenic in the form of arsenate of lead, viz. two and two-thirds pounds of paste arsenate of lead, costing the members of the same companies 48 cents, the grower can only make one choice if he is in business for profit.

In 1917 about 225 spray guns were used in Nova Scotia. In a general way it may be said that one spray gun will do from twenty to fifty per cent. more work than two bamboos. This means the saving of one man and also less time spent in spraying. The guns are particularly free from clogging. Although it seems incredible, some growers contend that they can spray their orchards with less solution with the gun than with bamboos, at most they use very little more.

The majority of the spray applied in Nova Scotia in 1918 will be applied with spray guns.

Revised U

PLANTS AND

APPLE

Scab or black spot, leaf spot, moth and other insects, scale, blister mites, aphids.

PEAR.

Scab or cracking codling moth, other insects, scale, psylla and slug.

PLUM AND CH

Black knot, brown leaf blight or silver fungus, curculionid, aphids and cherries.

PEACH.

Leaf-curl, scab or spot, yellows, peach, curculionid, San José scale, hole borer.

GRAPES.

Black rot, powdery mildew, downy mildew, anthracnose, flea leaf hopper. (Bulletin 237.)

CURRANT AND

GOOSEBERRY
Mildew, leaf-spot, worm, aphid, spider and scale. (Consult bulletin 222.)

RASPBERRY AND BLACKBERRY

Anthraxnose, red crown gall. (Consult bulletin 210.)

STRAWBERRY

Leaf-spot and worm. (Consult bulletin 210.)

BEAN

Anthraxnose and teriosis. (Consult bulletin 171.)

CABBAGE AND

TURNIP.
Flea-bettles, caterpillars, root maggots, and other insects. (Bulletin 171.)

POTATO.

Tip burn, early blight, late blight, Colorado beetle, beetle. (Bulletin 171.)

TOMATO.

Leaf blight, black flea-beetle. (Bulletin 171.)

ASPARAGUS

Rust, beetles. (Bulletin 171.)

Note.—A1 = Co

A2 = Co

A3 = Co

B = Th

C = Se

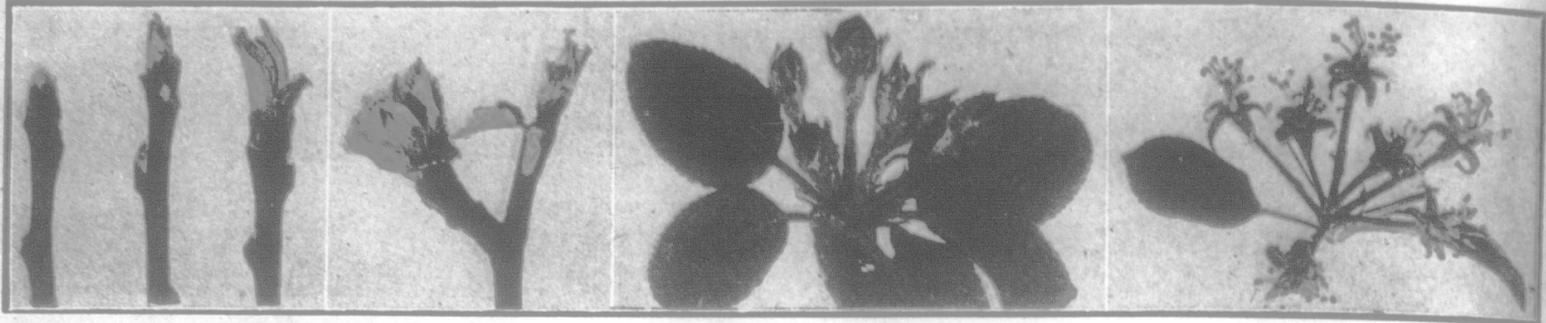
J = Bo

Spray Calendar

Revised Up to Date for "The Farmer's Advocate" by L. Caesar, Ontario Agricultural College, Guelph

PLANTS AND PESTS.	1st APPLICATION.	2nd APPLICATION.	3rd APPLICATION.	REMARKS.
APPLE. Scab or black spot, canker, leaf spot, codling moth and other biting insects, scale insects, blister mite and aphids.	Either before or soon after the leaf-buds burst, preferably the latter. Use A1 or B. For San José scale prune severely, scrape off loose bark and drench the whole tree, paying special attention to outer twigs. If no scale, may use A2 or D.	Just before the blossoms open. Use A2 or D, with 2 or 3 lbs. arsenate of lead paste, or 1 to 1½ lbs. powder or ¼ to 1 lb. of arsenate of lime powder to 40 gallons liquid.	Immediately after the blossoms have all or nearly all, fallen, and before the calyces close. Use A3 or D, with 2 lbs. arsenate of lead paste or 1 lb. powder to each 40 gals. This is the application for codling moth.	For Scab, a 4th application with the weaker A3 or D about 10 days after the 3rd is necessary if June is wet, also an intermediate one between the 2nd and 3rd with A3, <i>without any poison</i> , if the interval, owing to cool, damp weather, threatens to be long. Spraying with the weaker A3 or D early in August is an insurance against sooty fungus and late scab. If Aphids are annually troublesome, delay 1st application till buds begin to burst, then add Black Leaf 40 or nicotine-sulphate, 40 per cent., to A1 or B and cover every bud. For Cankers cut out diseased bark, disinfect and cover with white-lead paint free from turpentine. For Blight on young trees keep suckers rubbed off trunk and main branches and cut out promptly any diseased branches or twigs well below the diseased bark. Always disinfect both cuts and tools with corrosive sublimate (1 to 1,000).
PEAR. Scab or cracking, blight, codling moth, other biting insects, blister mite, psylla and slug.	Shortly before or just after the bud bursts. Use A1 or B. For San José scale see above under Apple.	Just before the blossoms open. Use A3 or D, with 2 or 3 lbs. arsenate of lead paste or 1 to 1½ lbs. powder to 40 gals. of liquid.	Just after blossoms have fallen. Use A3 or D, with 2 lbs. arsenate of lead paste or 1 lb. powder to 40 gals.	Pears subject to Scab should always receive a 4th application 10 days later than 3rd with same mixture. For Blight cut out carefully in winter all blighted branches and twigs, cutting several inches below the diseased part. Also remove and burn trees too severely blighted to save. Throughout growing season watch for and remove promptly in the same way all blighted twigs or branches. Disinfect at once tools and all cuts with corrosive sublimate (1 to 1,000). For Psylla delay 1st spraying with A1 or B until leaf buds have burst and add Black Leaf 40 or nicotine-sulphate 40 per cent. to Codling Moth spray if necessary. Arsenate of lead will kill Slugs (3 lbs. to 40 gals.).
PLUM AND CHERRY. Black knot, brown rot, leaf blight or shot-hole fungus, curculio, slug, aphids and cherry fruit-flies.	Just before or as the buds are bursting. Use A1 or B. For San José scale see above under Apple. If no scale, may use A2 or D.	Soon after the fruit is set. Use A2 or D, with 3 lbs. arsenate of lead paste or 1½ lbs. powder to 40 gals.	Just before the cherries begin to color. Use A3 or D, with 3 lbs. arsenate of lead paste or 1½ lbs. powder to 40 gals.	For Rot keep fruit well covered with A3 or D or sulphur dust in moist weather. May dust just before picking. For Cherry Fruit-flies (the cause of the little white, headless maggots in cherries) use 3 lbs. arsenate of lead to 40 gals. of water. Apply to all cherry trees just as Early Richmonds are getting a reddish blush, and again to only Montmorency and late varieties about 10 or 12 days later. Cut out and burn all Black Knots in winter and whenever seen in summer. For Slugs see under Pear above. For Aphids on Sweet Cherries postpone the 1st application until the buds are just bursting, and then add nicotine-sulphate 40 per cent. or Black Leaf 40. Good pruning with plenty of sunlight and air help against Rot.
PEACH. Leaf-curl, scab or black spot, yellows, little peach, curculio, borer, San José scale, shot-hole borer.	Before the buds begin to swell. (All must be done before any sign of bursting of buds.) Use A1 or B. This is usually the only spraying peach trees receive.	Soon after fruit is set. Use 2 or 3 lbs. arsenate of lead and 1 or 2 lbs. freshly slaked lime to 40 gals. water for curculio. Omit if curculio is not troublesome.	About one month after fruit is set. If troubled by Brown Rot use C or dust with sulphur. Good pruning and thinning the fruit help to control this disease.	If Brown Rot is likely to be troublesome use C again about one month before fruit ripens, or dust with sulphur. Destroy mummied fruit in autumn. Remove at once and burn any tree attacked by yellows or little peach and also all suspected trees. Dig out borers at base of tree with knife in May and again in October. For shot-hole borer cut down and burn before April all dead or dying trees or branches, and leave no brush heaps near orchard.
GRAPES. Black rot, powdery mildew, downy mildew, anthracnose, flea-beetle, leaf hopper. (Consult bulletin 237.)	When 3rd leaf is appearing use D.	Just after the fruit has set use D.		Spray again whenever wet weather threatens. It should always be done <i>before</i> , not after rain. At first sign of powdery mildew dust with sulphur or spray with C. For flea-beetles use poison whenever they appear. For leaf-hoppers or "thrips" use Black Leaf 40 or nicotine-sulphate 40%, or whale oil soap in July to destroy nymphs. Clean cultivation is very important and destruction of all old mummied grapes and prunings.
CURRANT AND GOOSEBERRY. Mildew, leaf-spot, currant worm, aphids, red spider and San José scale. (Consult bulletin 222.)	Shortly before or as buds burst use A1 or B. For San José scale prune and spray heavily.	Just before blossoms appear, use A2, with 2 lbs. arsenate of lead to 40 gals.	Just after fruit is formed use A2, with 2 lbs. arsenate of lead to each 40 gals.	For worms when fruit is ripening, use hellebore. Look for aphids just as buds burst; if present, spray with Black Leaf 40 or kerosene emulsion or whale-oil soap, or postpone 1st application till then and add Black Leaf 40 or nicotine-sulphate 40% to A1 or B.
RASPBERRY AND BLACKBERRY. Anthracnose, red rust, crown gall. (Consult bulletin 210.)	Before growth begins use D. Omit if not troubled by anthracnose.	When shoots are 6 or 8 inches high use D. Omit if no anthracnose.	If caterpillars are attacking the leaves use 2 lbs. arsenate of lead to 40 gals. water if no danger of poisoning the fruit; otherwise use 1 oz. hellebore to 1 gallon water.	If anthracnose is very severe, set out new plantation of healthy shoots. If disease begins, cut out old canes as soon as fruit is picked, also badly attacked new ones, and burn. For red rust remove and burn plants at once. No other remedy. For crown gall set out plants in fresh soil, rejecting any plant with gall on root or crown.
STRAWBERRY. Leaf-spot and white grub. (Consult bulletin 210.)	For leaf spot set out only healthy plants with no sign of disease. First season spray with D before blossoms open and keep plants covered with mixture throughout the season. Second year spray before blossoming with D and again soon after picking; or mow and burn over after picking. Don't take more than two crops off. Plow down at once after second crop. For white grubs dig out as soon as injury is noticed; do not plant on land broken up from old meadow or pasture for at least three years after breaking. Mowing, burning over and plowing down just after the second crop is a great aid against pests.			
BEAN Anthracnose and bacteriosis. (Consult bulletin 171.)	Get seeds from pods showing no signs of disease. Do not work among the plants if they are wet with rain or dew. Spraying scarcely pays a rule. Some strains seem to be nearly immune to anthracnose.			
CABBAGE AND TURNIP. Flea-beetles, caterpillars, root maggots, aphids. (Bulletin 171.)	For flea-beetle on turnip sow after June 21st, or dust plants as soon as they appear above ground with Paris green, or spray with Bordeaux and a poison and a sticker. Repeat in two days. For caterpillars dust with Paris green until heads begin to form on cabbage and cauliflower, then spray with fresh pyrethrum, 1 ounce to 1 gallon water. For root maggots use <i>medium thick tarred felt-paper discs</i> , putting on as soon as plants are set out, or set out plants after July 1st. For aphids use kerosene emulsion as soon as they appear, or 1 lb. common laundry soap dissolved in 4 gallons water. Hit them hard with the spray.			
POTATO. Tip burn, early blight, late blight, scab, Colorado beetle, flea-beetle. (Bulletin 171.)	Keep foliage covered with D from time plants are about 5 inches high. Take special precautions to see this is well done if weather is at all damp after about 15th July, as late blight begins about this time. Add a poison to each application when necessary. For scab, soak tubers before cutting for 2 hours in 1 pint of formalin to 30 gallons of water. Spread out on grass to dry. Wash all boxes, bags or other vessels to be used in same liquid. Plant none but perfectly healthy tubers.			
TOMATO. Leaf blight, black rot, flea-beetle. (Bulletin 171.)	Spray plants in seed-bed with D. Keep foliage in field covered with D until danger of staining fruit. Add a poison if necessary for flea-beetles.			
ASPARAGUS. Rust, beetles. (Bulletin 171.)	For rust, let no plants, not even wild ones, mature during cutting season. Late in fall, when growth is about over, cut and burn old plants. For beetles let poultry run in the plantation. After cutting season is over spray with arsenate of lead; repeat in two weeks. May add sticker and a little lime.			

† Note.—A1 = Concentrated lime-sulphur strength 1:030 specific gravity (1:035 for San José scale) (1:030 = 1 gal. commercial to 9 gals. water, and 1:035 = 1 gal. commercial to 7 gals. water).
 A2 = Concentrated lime-sulphur strength 1:010 or 1:009 specific gravity = 1 gal. commercial to from 30 to 35 gals. water.
 A3 = " " " " 1:009 or 1:008 specific gravity = 1 gal. commercial to from 33 to 40 gals. water.
 B = The old home-boiled lime-sulphur, 20.15.40 formula.
 C = Self-boiled lime-sulphur.
 J = Bordeaux mixture, 4.4.40 formula.



Stages for First Application.

Stage for Second Application.

Stage for Third Application.

Formulae for Insecticides.

Insecticides for Biting and Lapping Insects.

1.—ARSENATE OF LEAD PASTE.

Use 2 to 3 lbs. to 40 gals. of water, or of lime-sulphur or of Bordeaux mixture.

2.—ARSENATE OF LEAD POWDER.

Use 1 to 1½ lbs. to 40 gals. of water, or of lime-sulphur or of Bordeaux mixture. The powder form of arsenate of lead is twice as strong as the paste form.

3.—ARSENATE OF LIME (Calcium arsenate).

Use ¾ to 1 lb. if in powder form to 40 gals. of Bordeaux mixture. Double the amount if in paste form. (There is some doubt yet whether this poison is always safe with lime-sulphur. It is not safe alone.)

4.—PARIS GREEN.

Use ¼ to ½ lb. with 40 gals. of Bordeaux mixture. (This poison is not safe with lime-sulphur).

Insecticides for Sucking Insects Only.

1.—LIME-SULPHUR.

For scale insects, Blister Mites and Red Spider.

2.—TOBACCO EXTRACTS.

For Aphids, Leaf-Hoppers, Psyllas, etc.

(a) **BLACK-LEAF 40.** Strength to use is indicated on the cans.

(b) **NICOTINE-SULPHATE 40%.** Strength is indicated on the cans. (Practically same as Black Leaf 40).

(c) **HOME-MADE EXTRACT.** Soak 1 lb. tobacco refuse in 1 gal. water for 24 hrs. with occasional stirring, or steep 1 lb. in 1 gal. water for 1 hr. Make up for water that evaporates. Use at once without dilution: spoils in a few days if not used.

3.—KEROSENE EMULSION.

Kerosene (coal oil)..... 2 gals.
Rain water..... 1 gal.
Soap..... ½ lb.

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

4.—WHALE-OIL SOAP.

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

Formulae for Fungicides.

1.—BORDEAUX MIXTURE.

Copper Sulphate (Bluestone)..... 4 lbs.
Unslaked Lime..... 4 lbs.
Water..... 40 gals.

Dissolve the copper sulphate in a wooden or brass vessel with hot water, pour into a barrel and add cold water to make 20 gals.; slake the lime, preferably with hot water; add cold water to make 20 gals. Stir both barrels well and pour lime into the copper sulphate barrel. (Never mix concentrated milk of lime and copper sulphate solutions).

A stock solution of each may be made and kept indefinitely if not mixed.—Dissolve 40 lbs. copper sulphate in 40 gals. of water by suspending just below the surface of the water in a coarse sack. Each gallon of the liquid will now contain 1 lb. copper sulphate. Slake any desired quantity of lime and put into a box or barrel in shaded place, or sunk in the ground. Keep covered with small amount of water to exclude the air. Calculate how much is required for 4 lbs. lime if well stirred. Hydrated lime may be used but requires about 6 lbs. instead of 4.

To test Bordeaux mixture, let a drop of ferro-cyanide of potassium solution fall into a little of the mixture in a saucer. If this causes it to turn reddish brown, add more lime until no change takes place.

II.—LIME SULPHUR WASH.

1.—HOME BOILED (for use on dormant wood only):

Fresh stone lime..... 20 lbs.
Sulphur (flour or flowers)..... 15 lbs.
Water..... 40 gals.

Slake 20 lbs. of lime in about 15 gals. or more of boiling water in a kettle or other boiling outfit. While slaking add the 15 lbs. sulphur made into

paste by the addition of a little water. Boil vigorously, with stirring, for 1 hour. Dilute to 40 gals. with cold or hot water. Strain and apply at once.

2.—COMMERCIAL LIME-SULPHUR. (Factory-made concentrated lime-sulphur).

This as purchased is usually about 1.200 specific gravity strength or 33 degrees Beaume.

3.—HOMEMADE CONCENTRATED LIME-SULPHUR.—This may be used as a substitute for commercial lime-sulphur, but is only about two-thirds as strong as a rule.

Sulphur (a fine grade)..... 100 lbs.
Fresh stone lime, high in percentage of calcium..... 50 gals.
Water..... 40 or 50 gals.

Put about 10 gals. water in the boiling outfit, start fire, add sulphur, stir to make paste and break lumps, then add remaining water, and when near boiling put in lime. Stir frequently while slaking and until all the sulphur and lime are dissolved. Add water from time to time to keep up to 40 or 50-gal. mark. Boil 1 hour, then strain through a screen of 20 meshes to inch into storage barrels. Make enough at once for season's work. Cover well to keep out air, or pour oil of any kind over surface to depth of ½ inch for same purpose.

To determine how much to dilute for different applications use a hydrometer with specific gravity readings, and apply the following rule:

Put the hydrometer in the clear liquid when it is cold and the sediment has all been settled for a day or two. Note the number to which it sinks. Suppose this is 1:240: The strength for use before the buds burst should be 1:300 or stronger. To determine how much to dilute a strength of 1:240 to get 1:300, divide the three figures to the right in 1:240 by 30, that is 240 divided by 30=8. This means that each gallon of such a wash must be diluted to 8 gals. with water to give us a strength of 1:300, the proper spring strength. For the second application 1:009 is about the right strength. To get it divide the 240 by 9, which gives 26⅔, or roughly speaking 27. This means that each gallon of a wash of the strength of 1:240 must be diluted to 26⅔ or 27 gals. to make the right strength for the second application. For the third application and any later ones 1:008 is about the right strength, and to get this we proceed in the same way and divide 240 by 8=30, so that each gallon must be diluted to 30 with water for this application. If the strength of the concentrated were 1:212 or any other number, you would in the same way divide the three figures to the right by 30, 9 and 8, respectively to get the proper dilutions for each spraying.

TABLE FOR CHANGING BEAUME READINGS INTO THEIR EQUIVALENT SPECIFIC GRAVITY READINGS.

Beaume.	Specific Gravity.	Beaume.	Specific Gravity.
18	= 1:141	27	= 1:230
19	= 1:150	28	= 1:240
20	= 1:159	29	= 1:250
21	= 1:168	30	= 1:260
22	= 1:178	31	= 1:271
23	= 1:188	32	= 1:282
24	= 1:198	33	= 1:293
25	= 1:208	34	= 1:305
26	= 1:219	35	= 1:317

Note.—Commercial lime-sulphur should be tested with the hydrometer and diluted according to the same rules as the homemade concentrated form.

4.—SELF-BOILED (chiefly for use on peach foliage).

Fresh stone lime..... 8 lbs.
Sulphur (flour or flowers)..... 8 lbs.
Water..... 40 gals.

Best prepared in quantities of 24 lbs. at a time to get sufficient heat. Place 24 lbs. lime in a half barrel, add enough cold water to start it slaking well and to keep the sulphur off the bottom. Dust the 24 lbs. sulphur over the lime, having first worked the sulphur through a screen to break lumps, then add whatever further amount of water is necessary to complete the slaking. Stir well with a hoe to prevent the lime caking on the bottom. As soon as the slaking is over, add enough cold water to cool the whole mass and prevent further combination. Strain into spray tank. Keep well agitated while spraying.

5.—DUST.

For biting insects and fungous diseases the substances used now are 85 to 90% of sulphur and 10 to 15% of arsenate of lead powder. Dusting at date (1918) is still in the experimental stage.

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

1.—Corrosive sublimate, 1 part to 1,000 by weight = 1 tablet to 1 pint of water. Apply with a swab on end of a stick.

Caution.—Corrosive sublimate is a deadly poison to man or beast if taken internally. It will also corrode iron or metal, so use in a glass or wooden vessel and be sure to wash these out very thoroughly when through using them.

2.—Lime-sulphur about twice spring strength, or bluestone, 1 lb. dissolved in about 14 gals. water, may be used to disinfect wounds or cankers, but is not satisfactory in case of Pear Blight.

FARM BULLETIN.

Record Board Holds Annual Meeting.

At the annual meeting of the Record Board, held in Toronto on Friday, April 5, some plain speaking was indulged in. The Chairman, William Smith, M. P., Columbus, in his address expressed the opinion that the increase in railway tariffs, suggested by the Railway Board and sanctioned by the Government, was not a permanent solution of the matter. It was simply a way out of the difficulty. Mr. Smith also brought to the attention of the meeting that, in 1915, George Pepper, Toronto, had been engaged by the Government to assist the Department of Agriculture in certain matters pertaining to transportation, etc. Mr. Pepper, he said, had gleaned some startling information from various sources, but now for some unknown reason his services have been dispensed with by the Government. The speaker said that he thought Mr. Crerar, the newly-appointed Minister of Agriculture, had made a mistake when he dispensed with Mr. Pepper's services on the Department, and, were it not for war conditions and the shadows which darken the doors of so many homes, "it seems to me that Mr. Crerar and the Dominion Government should be given to understand that there is such a class of people in Canada as the Canadian farmer." In regard to the live stock interests, Mr. Smith said that the receipts at the Record Office indicated a prosperous state of affairs. During the months of January, February and March, of 1918, the receipts showed an increase of \$6,270.78 over those of a like period of 1917.

Peter White, K. C., Toronto, explained their efforts in the attempt to block the increase in freight rates, and expressed the opinion that the increase would be ineffective. Other speakers who discussed matters pertaining to transportation and live stock interests were: George Pepper, Toronto; Robt. Miller, Stouffville; and H. S. Arkell, Dominion Live Stock Commissioner. In view of the fact that the Estimates then before the House showed a decrease of twenty-five per cent. in grants to fairs, the following resolution was carried unanimously: "That the Record Board here assembled view with alarm any disposition on the part of the Government or any other organization to discourage the holding of fairs, either through the diminution of grants or otherwise."

The entire Record Committee was re-elected for 1918, the Committee is made up as follows: Wm. Smith, M. P., Columbus, Chairman; Peter White, K. C., Toronto, Representing Heavy Horses; W. F. Stephen, Huntingdon, Que., Dairy Cattle; Robert Miller, Stouffville, Beef Cattle; Robert Ness, Howick, Que., Light Horses; J. M. Gardhouse, Weston, Sheep; J. E. Brethour, Burford, Swine; Jno. W. Brant, Ottawa, Secretary-Treasurer.

No Change in R. O. P. Test.

Committees from the various dairy breed associations met in Toronto on Friday, April 5, to discuss the Record of Performance test. There has been some agitation to shorten the Record of Performance test to three hundred days, with a freshening limit of three hundred and ninety or four hundred days. The consensus of opinion was that the regulations now in force should remain. The arguments against any change were that in order to make a favorable showing against United

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States records it would be necessary to work on the present schedule. Second, it was desirable to milk heifers the full twelve months in order to train them for long and persistent lactation periods. Under present conditions the majority of the cows on test drop their calves around thirteen months and a shortening of the freshening period would work hardships. Practically all of the representatives of the various breeds advocated no change, and the matter was allowed to drop.

The Dunrobin Sale at the Union Stock Yards.

On Friday, April 5, at the Union Stock Yards, Toronto, Col. John A. Gunn, of Dunrobin Farms, Beaverton, dispersed his entire herd of pure-bred Holsteins by public auction, and when all things were taken into consideration the sale prices throughout were quite satisfactory. The cattle were not in high fit and very few animals were officially tested, but notwithstanding this the 40 head sold made up a total of \$5,927.50, or an average of \$148.19 all through. There were fifteen cows three years of age and upwards, two three-year-old heifers, ten two-year-old heifers, and the balance with the exception of the herd sire were young calves and yearling heifers. The two-year-old heifers averaged \$135, and the herd sire, Echo Segis Champion, sold very reasonably at \$240. Following is a list of the animals selling for \$100 and over, together with the names and addresses of their purchasers:

Echo Segis Champion, R. Philip, Downsville.....	\$240.00
Dunrobin Pauline De Kol 5th, A. G. Darroch, Palmerston.....	275.00
Dunrobin Pauline De Kol 2nd, C. L. Fraser, Weston.....	135.00
Dunrobin Pauline De Kol 6th, R. Plunket, Weston.....	285.00
Dunrobin Lady Tensen, C. V. Wallace, Whitby.....	235.00
Dunrobin Pauline De Kol 9th, A. G. Darroch.....	165.00
Dunrobin Pietertje Darkness, M. J. Brown, Norval.....	180.00
Dunrobin Pauline De Kol 10th, C. L. Fraser.....	135.00
Dunrobin Pietertje Darkness 2nd, A. G. Darroch.....	210.00
Dunrobin Pietertje Netherland, Jas. R. Hillyard, Caledon.....	330.00
Edith Homestead De Kol, Wm. Dunning, Aurora.....	165.00
Aaggie Emily 3rd, A. Merryweather, Bridgeburg.....	235.00
Dunrobin Pauline Ruby, J. J. Millar, Freeman.....	145.00
Dunrobin Pauline De Kol 12th, M. J. Brown.....	345.00
Dunrobin Lady Pauline, C. V. Wallace.....	155.00
Dunrobin Homebred De Kol, R. H. Davies, Oak Bridges.....	200.00
Dunrobin De Kol Tensen, Henry Millar, Bridgeburg.....	190.00
Dunrobin Pauline Queen, Wm. Munroe, Merriton.....	130.00
Dunrobin Countess De Kol, Archie Muir, Scarborough.....	125.00
Dunrobin Darkness Oakbank, T. C. Lowery, Unionville.....	115.00
Dunrobin Orpha, C. Slavin, Malton.....	125.00
Dunrobin Netherland Tensen, Geo. Sexton, Scarborough.....	140.00
Dunrobin Oakbank, Geo. Sexton.....	125.00
Dunrobin Pauline Natoye, D. W. Clubine, Richmond Hill.....	142.50
Dunrobin Mercedes Tensen, D. W. Clubine.....	157.50
Dunrobin Queen De Kol, C. Slavin.....	105.00
Dunrobin Pietertje, Archie Muir.....	115.00
Dunrobin Duchess De Kol, T. C. Lowery.....	125.00

Successful Holstein Sale at Belleville.

On Wednesday, April 3, in the City Belleville, Ont., the Belleville District breeders held their eighth annual sale of high-class Holstein-Friesian cattle, and from the record attendance it would appear that on this date all roads throughout Eastern Ontario led direct to Belleville. The sale, with one hundred head catalogued, opened promptly at one p.m., with Auctioneer Norman Montgomery selling, and from then on until 5.30 there was not one dull moment in the proceedings. The attendance of upwards of 1,000 breeders established almost a record crowd and included prominent breeders from nearly every part of the Province, as well as several from Quebec. The cattle offered were a somewhat varied lot, but contained a much larger percentage of outstanding individuals than is usually found in the majority of Club sales held throughout the Dominion. Assisting Auctioneer Montgomery in the ring were Sales Manager F. R. Mallory and Director Jas. A. Caskey, and all three were instrumental in staging one of the most successful sales ever held in the history of the Club. The highest price for the day was paid by Brock Scripture, of Brighton, for the six-year-old 31.94-lb. cow, Daisy Gerben Verbelle, from Carman Baker's consignment, the price being \$1,125. D. A. McLeod, Dalhousie, Que., who was one of the heaviest purchasers of the day, and Mr. Caskey, of Madoc, were the "runners-up" on this cow, and later Mr. McLeod took her three-months bull at \$300, which was got by King Alcartra Walker, a young son of the famous King Segis Alcartra Spofford. As well also as being an excellent individual, this youngster was perhaps one of the best buys in the sale. Countess Walker Segis, a 26.25-lb. three-year-old daughter of Count Segis Walker Pietertje, consigned by E. B. Purteile, came second in price and went to W. L. Shaw, of Roycroft Farms, Newmarket, Ont., at \$900. Count Segis Alcartra, a 28.47-lb.-bred son of King Segis Alcartra

Spofford, and also consigned by Mr. Purteile, brought \$480, the top price of the bull sale, the buyer in this case being A. Parks, of Napanee. Rosa Queen Segis, a two-year-old daughter of Inka Sylvia Beets Posch, substituted by Ben Levins, of Bloomfield, for Sylvia Segis Posch (No. 44 in the catalogue) also went over the \$400 mark, and was one of the best things taken by Mr. McLeod. Members of many of the other consignments also ran up close to the latter heifer, and a summary of the prices shows 43 cows, three years old and upwards, averaging \$253.80; 18 two-year-old heifers, \$204.44; 15 yearling heifers, \$164, and the 15 young bulls, \$184.66, making a general average of \$217.85 per head, and a total of \$19,825 for the 91 head sold. Thirteen other small calves, the majority of which were not catalogued, brought a total of \$780, bringing the total receipts for the day up to \$20,605. Detailed results of all sales of \$100 and over are as follows:

CONSIGNED BY ARCHIBALD PARKS:	
Beulah Echo Spofford, L. C. Snowden, Bowmanville.....	\$ 220
Johanna Echo De Kol, A. W. Churchill, Gananoque.....	225
Johanna Echo Ormsby, David Barr Jr., Renfrew.....	200
Francy Echo Ormsby, David Barr Jr.....	235
Marion Ormsby, Philip McConnell, Norwood.....	330
Ormsby Johanna Lass, J. F. Kitcheson, Holloway.....	125
Johanna Ormsby Lass, D. A. McLeod, Dalhousie, Que.....	235
Burke Ormsby Bos, H. S. Borland, Indian River.....	235
Burke Bos Ormsby, W. A. Benn, Moscow.....	155
Darkey Ormsby, J. D. Stevens, Bowmanville.....	140

CONSIGNED BY SUNNYDALE STOCK FARM:	
Helena Hengerveld Girl, David Barr Jr.....	170
Pontiac Burkeyje, Hartford Parhame, Ameliasburg.....	130
Helena Pauline Burke, David Barr Jr.....	175
Queen Artis De Kol Burke, S. Holding, Stirling.....	150
Plus Triumph Hengerveld 2nd, B. Harvey, Lakefield.....	195
King Sylvia Pietje, H. Trumppor, Napanee.....	230
Plus Burkeyje, Geo. Sexton, Scarboro.....	150

CONSIGNED BY S. F. PARKS:	
Ruby Pietertje Pauline De Kol, David Barr Jr.....	235
Pietertje Ormsby, L. F. Bogart, Napanee.....	155
Brookdale Ormsby, Philip McConnell.....	155
Brookdale Francy, Chas. W. Fraleigh, Bloomfield.....	120
Brookdale Pontiac Jane, Fred A. Robinson, Corbyville.....	145
Darkey Maid, David Barr Jr.....	230

CONSIGNED BY PETER CAVE:	
Sylvia Lass, Geo. Sexton.....	310
Sarah Alcartra Spofford, J. D. Stevens, Bowmanville.....	125
Princess Lena Waldorf, J. D. Stevens.....	145
Rhoda Walker Spofford, Fred T. Fife, Indian River.....	205
Segis Pietertje Spofford, J. S. Johnson, Napanee.....	150

CONSIGNED BY F. J. McCALPIN:	
Mollie De Kol of Fairview, L. C. Snowden.....	285
Maggie Everson, N. I. Metcalf, Bowmanville.....	250
Bessie of Fairview, Jas. Gay, Foxboro.....	130
Korngold Burke De Kol, E. G. Simmons, Rossmore.....	130
Elsie De Kol of Fairview, N. I. Metcalf.....	205
Korngold Missie De Kol, Geo. Herrington, Hilton.....	145
Korngold De Kol Burke, W. M. Cranston, Napanee.....	190
Laura De Kol of Fairview, Thos. Craven, Bath.....	240
Rosey Darling De Kol, A. W. Churchill.....	110

CONSIGNED BY W. T. FRITZ:	
King Lee De Kol, Fred Hillman, Rossmore.....	305
Plus Darkness Echo, G. F. Murton, Portsmouth.....	130

CONSIGNED BY FRED J. DENYES:	
Helena Schuiling De Kol, E. B. Mallory, Belleville.....	185
Inka Aaggie Lad, G. F. Murton.....	160

CONSIGNED BY E. B. MALLORY:	
Lady Aaggie Korndyke, C. R. Cole, Wooler.....	165
Pontiac Rose Pauline, Wm. Gray, Holloway.....	165

CONSIGNED BY S. J. FOSTER:	
Fulton Sylvia Queen, A. A. Farewell, Oshawa.....	255
Calamity Posch, L. F. Bogart.....	225
Dolly Dimple Calamity, Arthur Wright, Picton.....	290
Dew Drop Choice Goods, D. A. McLeod.....	360
Helena De Kol Burke, John Durran, Campbellford.....	390
Sylvia De Kol Posch, John Craven, Bath.....	230

CONSIGNED BY W. FRED FALLIS:	
Jean Pauline Emma, L. C. Snowden.....	330
Queen Mercena Emma, D. A. McLeod.....	170
Promotion Mercena, A. B. Sexsmith, Napanee.....	155

CONSIGNED BY FRED HILLMAN:	
Peggy Rue Hermes, L. F. Bogart.....	150
Molly Korndyke Hermes, L. F. Bogart.....	180
Margaret Quinte Hermes, Harry Bros., Trenton.....	160
Pontiac Princess De Kol, Geo. Taylor, Bloomfield.....	195

CONSIGNED BY A. E. PHILLIPS:	
Echo Victoria De-Kol, D. A. McLeod.....	345
Pontiac Hermes Butter Boy, D. W. Ketchinson, Belleville.....	160
Echo Bell Eclipse, W. Craven, Dorland.....	290
De Kol Echo Korndyke Queen, Geo. W. Adams, Hilton.....	155
Midgit De Kol Bell, W. R. Cummings, Cumming's Bridge.....	330

CONSIGNED BY ARCHIE McDONNELL:	
Sunny Home May Pietertje, Philip McConnell.....	180
Bertha Keyes Echo Vale, F. R. Mallory, Frankford.....	145
Polly Prim Pietertje De Kol, Harold Garrison, Holloway.....	105
Ruby Pietertje Triumph, Alfred Merrill, Campbellford.....	152

CONSIGNED BY D. H. DICK:	
Maplevale Beauty De Kol, N. I. Metcalf.....	\$ 180
Bessie De Kol Lily, E. D. Miller, Picton.....	130
Miss Hilda Rag Apple, Geo. F. Reid, Corbyville.....	160
Pietertje Maid De Kol, Geo. W. Harris, Madoc.....	175

CONSIGNED BY CARMAN BAKER:	
Daisy Gerben Verbelle, Brock Scripture, Brighton.....	1,125
Lily Echo Pontiac 2nd, Lorne Mutton, Hilton.....	135
Male Call, D. A. McLeod.....	330
Lady Hammond De Kol, D. A. McLeod.....	175

CONSIGNED BY E. C. CHAPMAN:	
Bessie Korndyke De Kol, Thos. Craven.....	205

CONSIGNED BY J. M. BRANSCOMBE:	
Plus Burke Pietertje, L. C. Snowden.....	310
Rosa Lawn Sylvia Burke, Fred A. Robinson.....	165
King Segis Burke Alcartra, J. H. Power, Bowmanville.....	220

CONSIGNED BY BEN LEVINS:	
Rosa Queen Segis, D. A. McLeod.....	420

CONSIGNED BY E. B. PURTEILLE:	
Countess Walker Segis, W. L. Shaw, Newmarket.....	900
Count Segis Alcartra, A. Parks, Napanee.....	480

CONSIGNED BY D. B. TRACEY:	
Lady Akkrum Korndyke, L. F. Bogart.....	330
Princess Sadie Korndyke, A. D. Foster & Son.....	240
Butter Boy Segis Girl, A. W. Churchill.....	250
Mercena Pontiac Posch, B. Harvey, Lakefield.....	225
Lawncrest Segis Posch, W. R. Cummings.....	220
Sadie Prescott Beets, W. R. Cummings.....	165

CONSIGNED BY C. B. BONISTEREL:	
Pride of Thurlow, G. L. Rose, Hilton.....	110

Important Live Stock Organization Born.

An organization which promises to exert a remarkable influence for good in live stock and agricultural matters was brought into being at the Carls-Rite Hotel, Toronto, on Saturday, April 6. Representatives from the majority of the Record Associations were present, as well as delegates from the Eastern and Western Canada Live Stock Unions and the Record Committee. William Smith, M. P., Columbus, presided. The purpose of the meeting was to consolidate all the now-existing live stock organizations of Canada into one union or council, which could act, and act quickly when the occasion demanded, for the entire live stock industry of the Dominion. The following important matters were mentioned as an example of what might well be dealt with by such a committee of stockmen: 1, Railway rates and classifications; 2, Railway and steamboat transportation; 3, Import and export regulations; 4, Marketing of live stock and other products; 5, Health of animals, including regulations concerning same; 6, Warehouse, coldstorage and abattoir facilities for meat and other animal products, including wool; 7, Advice to the Dominion Minister of Agriculture in all matters pertaining to the Department; 8, Farm labor; 9, Dominion legislation in any way affecting agriculture, including grants and appropriations of public money; 10, All other matters pertaining to agriculture from a Dominion-wide standpoint.

Robert Miller, of Stouffville, moved and Dr. S. F. Tolmie, Victoria, B. C., seconded that the new organization be known as the Canadian National Live Stock Council. This motion carried unanimously and the delegates proceeded at once with the work of construction. The finances necessary to enable the new Council to "carry on" are to come from the receipts of the Record Associations, the majority of which consented to donate from five to ten per cent. of their annual revenues. Thus the Live Stock Council will be practically free from Government subsidy and therefore largely immune to Government dictation. It was decided that the Council should comprise only eleven men and that the Chairman of the Record Committee should be Chairman of the new organization. This point settled the meeting at once proceeded with the always more or less troublesome matter of representation. The interests west of the Great Lakes asked for five representatives which they proposed to elect from the Western Canada Live Stock Union. This suggestion appealed to all, but the origin of the five Eastern representatives was not so easily settled. At first sight it appeared that the easiest and best manner of procuring representation was to select five members each from the Western Canada Live Stock Union and the Eastern Canada Live Stock Union. However, neither Union has yet admitted the Record Associations to membership, and if the Council were composed wholly of delegates from these Unions the Record Associations might find themselves financing an organization on the board of which they had no official representation. The two Unions are amending their constitutions so as to admit the Record Associations to membership on payment of a twenty-five-dollar fee, which sum will be equally divided between the Eastern and Western Unions. A representative will then be admitted to each. In the meantime, however, it was decided to elect the representatives to the Canadian National Live Stock Council thus: Five representatives from the Western Canada Live Stock Union; three representatives from the Eastern Canada Live Stock Union; two representatives from the Record Committee, and the Chairman of the Record Committee to be Chairman of the Council. It is therefore impossible to report on the personnel of the new organization, but William Smith, who has been Chairman of the Record Committee for six years and was re-elected at the annual meeting on Friday, April 5, is Chairman. Earnestness and harmony prevailed at the organization meeting and it is felt that the Canadian National Live Stock Council was launched at a time when it can be a great power for good to the agricultural interests.

Toronto, Montreal, Buffalo, and Other Leading Markets

Week Ending April 4.

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	
Toronto (Union Stock Yards)	4,830	4,113	4,970	\$12.75	\$12.00	\$12.25	2,023	1,711	1,336	\$17.25	\$15.00	\$17.00
Montreal (Pt. St. Charles)	226	626	896	12.70	10.85	13.00	1,432	2,682	1,640	12.50	12.00	14.00
Montreal (East End)	156	505	376	12.70	10.85	13.00	1,206	2,290	1,640	12.50	12.00	14.00
Winnipeg	1,882	3,295	2,076	12.00	11.00	12.50	62		34	15.00	12.50	16.50
Calgary	1,615	1,083	1,316	11.50	9.25	12.15						

	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	
Toronto (Union Stock Yards)	8,408	12,216	4,836	\$12.25	\$16.75	\$21.00	185	236	190	\$20.75	\$15.25	\$20.85
Montreal (Pt. St. Charles)	1,588	1,419	1,411	21.75	17.00	21.75	8	25	36		14.75	17.00
Montreal (East End)	355	1,025	700	21.75	17.00	21.75	24	52	76		14.75	17.00
Winnipeg	5,275	8,100	7,632	21.00	15.50	20.25	53	4	90	20.00		20.00
Calgary	3,117	1,842	1,510	19.25	15.10	19.25	134	1,130		10.75		17.25

Market Comments.

Toronto (Union Stock Yards)
Cattle receipts for the week totalled approximately five thousand head, twenty-two hundred of which were on sale on Monday and the balance on the following three days. Although no record prices were established, quality considered, cattle sold as high, if not higher, than they have for some months past. The market was particularly active on Monday, on which day the offerings were nearly all weighed up by the noon hour. On the following day the market was fairly quiet, while on Wednesday cattle of good quality sold at steady prices, but the lower grades were reduced from 10 to 15 cents per hundred, and common loads were a trifle hard to sell. The market closed about steady on Thursday with the week's supply fairly well sold out. Only a few heavy cattle were on sale; small lots of this class realized \$13 per hundred. Steers weighing from one thousand to twelve hundred pounds sold at higher prices than those of the previous week, one choice load of eleven hundred and thirty pounds realizing \$12.90 on Monday, while on Wednesday other loads of about equal weight and quality sold at \$12.75; these figures were, however, slightly above the ruling quotations, most of the best in these weights ranging from \$11.75 to \$12.35 per hundred. Butcher steers and heifers of eight hundred to one thousand pounds reached \$12.35 per hundred for one or two loads, while the majority of the best sales were made between \$11 and \$11.75, and medium from \$10.25 to \$10.75. The market for cows and bulls was about steady, although this class of

is probably suffering more from the recent sharp decline in hide prices than are the other grades of cattle, coarse, rough bulls being particularly affected. A few choice cows sold at \$11, while \$10.25 to \$10.75 covered most of the sales of those of choice quality, and \$9.25 to \$9.75 for those of good grading. Common and medium cows sold from \$7 to \$8.50. Good bulls were weighed up from \$10 to \$10.75, medium from \$9 to \$9.75, and common from \$8 to \$8.75. Stockers and feeders were in good demand at steady prices, and continued to move freely to country points; feeders are selling from \$9.75 to \$10.50, and stockers from \$8, according to quality. Grass cows are realizing from \$7.50 to \$8.75 per hundred. Calf receipts are liberal in volume at present, and over two thousand were offered for sale during the week. Prices barely held steady, although \$17 was realized during the week. The majority of the calves offered were purchased by local buyers, although a few hundred were reshipped to Buffalo, New York, by dealers. Quite a number of calves from one to two weeks of age were sold for reshipping to Ontario farmers during the week. Nearly all were of beef breeding and cost from \$8 to \$10 per head.

There was little change in the market for lambs and sheep. Only two hundred being on sale during the week. A few spring lambs are being marketed and are selling up to \$16 each.

Hog receipts continue to be light in volume, but notwithstanding this the market was a trifle unsteady during the week. On Monday \$21.25 per hundred was paid for a number of fed and watered hogs, while on Tuesday \$21 was the top price. On Wednesday selects ranged

CLASSIFICATION	No.	TORONTO (Union Stock Yards)				MONTREAL (Pt. St. Charles)			
		Avg. Price	Price Range Bulk Sales	Top Price	No.	Avg. Price	Price Range Bulk Sales	Top Price	
STEERS									
heavy finished	80	\$12.40	\$11.00-\$12.75	\$13.00					
STEERS									
good	611	11.75	11.25-12.25	12.75	11	\$12.25	\$11.50-\$12.50	\$12.70	
1,000-1,200 common	11	10.64	10.00-11.00	11.25	8	11.10	11.00-11.25	11.25	
STEERS									
good	1,281	11.46	11.00-11.75	12.35	20	11.75	11.00-12.75	12.75	
700-1,000 common	403	10.35	9.75-10.75	10.75	37	9.90	9.00-10.00	11.00	
HEIFERS									
good	644	11.56	11.25-12.00	12.75	5	11.75	11.00-12.75	12.75	
fair	371	10.44	9.75-10.75	10.75	13	10.25	10.00-10.75	10.75	
common	29	9.34	8.75-9.75	10.00	10	8.90	8.50-9.50	9.50	
COWS									
good	218	9.80	9.00-10.00	11.00	7	10.50	10.00-11.00	11.25	
common	521	8.04	7.50-8.50	8.75	31	9.00	8.50-9.50	10.50	
BULLS									
good	87	9.51	9.00-10.00	11.00	16	11.00	10.50-11.50	11.50	
common	50	8.25	7.75-8.75	9.75	13	9.50	8.50-10.00	10.00	
CANNERS & CUTTERS	144	6.55	6.25-7.00	7.00	45	6.25	5.50-6.50	6.50	
OXEN									
CALVES									
veal	2,023	15.00	14.00-16.50	17.25	1,426	10.50	10.00-11.00	12.50	
grass					6				
STOCKERS									
good	51	9.25	9.00-9.75	9.75					
450-800 fair	58	8.46	8.00-8.75	9.00					
FEEDERS									
good	135	10.50	10.00-11.00	11.00					
800-1,000 fair	136	9.75	9.50-10.00	10.00					
HOGS									
selects	8,023	20.88	20.50-21.25	21.25	1,433	21.50	20.75-21.75	21.75	
heavy	9	20.75	20.50-21.25	21.25					
(fed and watered) lights	203	19.44	18.50-20.25	20.25	81	20.75	20.00-21.00	21.00	
sows	165	19.42	18.50-20.25	20.25	64	19.80	18.25-19.85	19.85	
stags	8	16.81	16.50-17.25	17.25	10				
LAMBS									
good	121	20.25	19.50-20.75	20.75	4				
common	5	17.00		18.00					
SHEEP									
heavy	35	12.00	11.00-13.00	13.00	4				
light	19	13.89	13.00-15.00	15.00					
common	5	8.00		10.00					

from \$20.50 to \$21 per hundred, with the market inclined to a lower level on Thursday.

Of the disposition from the Yards for the week ending March 28th, Canadian packing houses bought 766 calves, 113 bulls, 30 heavy steers, 3,875 butcher cattle, 10,004 hogs and 155 sheep and lambs. Local butchers purchased 700 calves, 327 butcher cattle, 93 hogs and 71 sheep and lambs. Canadian shipments were made up of 173 calves, 73 milch cows, 168 butcher cattle, 492 stockers, 303 feeders and 303 hogs. Shipments to United States points consisted of 95 calves, 34 butcher cattle, 49 stockers, 49 feeders and 174 hogs.

The total receipts from January 1st to March 28th, inclusive, were 58,902 cattle, 8,996 calves, 101,650 hogs and 10,097 sheep; compared to 55,782 cattle, 9,730 calves, 125,805 hogs and 11,503 sheep received during the corresponding period of 1917.

Montreal.

There was very little activity in the market for butcher cattle during the week, owing to a lack of demand and light receipts. The packing houses had an ample supply of meat on hand, as also had the local butchers and, anticipating this, the drovers shipped in only light supplies. Only a sprinkling of choice stock was received and as a consequence of this condition, while the market held steady and

unchanged with the close of last week on a quality basis, there were fewer sales made at as high prices. The highest sales made were those of two steers averaging eight hundred and fifteen pounds at \$12.75, three heifers and six steers weighing eleven hundred pounds at a similar figure, eighteen mixed cattle weighing about ten hundred pounds each, at \$12.50 per hundred, eight mixed steers and heifers averaging nine hundred and forty-five pounds at \$11.50 per hundred, eleven averaging around ten hundred pounds at \$11.25, three weighing eight hundred and sixty pounds at \$11, and fourteen averaging eight hundred and ninety pounds at \$10. Most of the steers of medium quality within these weights sold at \$9.50 per hundred. Many of the butcher cows were weighed up in mixed lots with the steers at the best prices of the week. Of the straight sales on cows, most were made around \$10 per hundred for those of good quality, and from \$8.50 to \$9.50 for those of medium grading. Cannons and cutters were steady in tone from \$5.50 to \$6.75. Butcher bulls sold readily as the supplies of this class of stock were inadequate for the demand. A few sales were made from \$11 to \$11.50, while most of the animals were weighed up from \$8.50 to \$10. Receipts of calves were light during the early part of the week, but had assumed generous proportions by Thursday. The market held steady and

unchanged at the quotations ruling at the close of the previous week, while the average price of the sales was about 25 cents better on account of the improved quality of the offerings.

There were not enough sheep and lambs on hand to make a market.

The market for hogs opened at the previous week's closing figures, and held steady throughout the week, closing fairly firm on Thursday with indications of lower prices in the event of large receipts for the next market. The volume of receipts during the past three or four weeks while small, has been sufficient to fill requirements. Select hogs sold from \$20.75 to \$21.75 per hundred, fed and watered, and sows from \$18.25 to \$19.85.

Pt. St. CHARLES.—Of the disposition from the Yards for the week ending March 28th, Canadian packing houses and local butchers purchased 1,267 calves, 80 cannons and cutters, 80 bulls, 668 butcher cattle, 5,638 hogs and 172 sheep and lambs. Canadian shipments were made up of 21 milch cows. There were no shipments made to United States points during the week.

The total receipts from January 1st to March 25th, inclusive, were 8,092 cattle, 6,779 calves, 15,659 hogs and 5,039 sheep; compared to 9,681 cattle, 7,879 calves, 16,609 hogs and 4,606 sheep, received during the corresponding period of 1917.

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Shipping Steers—
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Shipping Steers—
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Cows and Heifers—
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\$9.50 to \$10.25; com
very fancy fat cows,
heavy fat cows, \$9
butchering cows, \$8
to fair, \$7.50 to \$8.
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Bulls.—Best heav
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Milchers and Spring
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selling the same as T
at \$18. Thursday

Every farmer who desires to do business with

The Molsons Bank

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

Yards for the week ending March 28th, Canadian packing houses and local butchers purchased 1,640 calves, 376 butcher cattle, 700 hogs, and 76 sheep. There were no Canadian shipments, neither were there shipments to United States points during the week.

The total receipts from January 1st to March 28th, inclusive, were 7,933 cattle, 6,213 calves, 9,851 hogs and 4,768 sheep, compared to 10,916 cattle, 6,994 calves, 12,846 hogs and 5,871 sheep received during the corresponding period of 1917.

Buffalo.

Cattle.—An exceedingly high cattle market all last week at Buffalo—anything in the steer line selling very readily and at full strong prices, as compared with the previous week. Best shipping steers last week ranged from \$13.75 to \$14.25 and were only of medium weight at that, handy steers on the choice order running from \$12.50 to \$13, while best fat heifers sold up to \$12.50, best fat cows up to \$11.50. On anything fat in the butchering line, there was a good, strong demand. Little, medium and common butchering stuff and some common butchering cows ruled about steady. On bulls, sausage grades sold at about steady prices, while the higher priced heavies and fat butchers sold a quarter lower. Stocker and feeder trade was weak. On milk cows and springers an unchanged market was had. After the opening day of the week there was a continued strong demand for anything in the shipping steer line. Offerings for the week totaled 3,900 head, as against 3,875 for the previous week and as against 4,125 for the corresponding week last year. Quotations:

Shipping Steers—Natives—Choice to prime, \$13.50 to \$14.25; fair to good, \$12.75 to \$13.25; plain, \$11.50 to \$12; very coarse and common, \$10.75 to \$11.

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

Butchering Steers—Choice heavy, \$12.50 to \$12.75; fair to good, \$11.50 to \$11.75; best handy, \$12 to \$12.50; fair to good, \$11.25 to \$11.75; light and common, \$10 to \$10.50; yearlings, choice to prime, \$12.50 to \$13; fair to good, \$11.75 to \$12.

Cows and Heifers—Best heavy heifers, \$11 to \$12; good butchering heifers, \$10.50 to \$10.75; fair butchering heifers, \$9.50 to \$10.25; common, \$7.50 to \$8.25; very fancy fat cows, \$11 to \$12.25; best heavy fat cows, \$10 to \$10.75; good butchering cows, \$9 to \$9.50; medium to fair, \$7.50 to \$8.50; cutters, \$6.50 to \$6.75; canners, \$5 to \$6.

Bulls.—Best heavy, \$10 to \$10.75; good butchering, \$9 to \$9.50.

Stockers and Feeders—Best feeders, \$10 to \$10.50; common to fair, \$8.50 to \$9.25; best stockers, \$8.50 to \$9; fair to good, \$7 to \$8; common, \$6 to \$6.50.

Milchers and Springers.—Good to best, (small lots) \$90.00 to \$120.00; in carloads, \$80.00 to \$100.00.

Hogs.—Market was quite active all last week and prices were on the jump. Monday the top for light hogs was \$18.50, heavies ranged on down to \$17.75 and the latter figure took the bulk of the pigs. Tuesday's trade was steady to a dime higher, with pigs showing a jump of a quarter and Wednesday the range was from \$17.90 to \$18.80, with pigs selling the same as Tuesday, bulk going at \$18. Thursday light hogs reached

up to \$19 and heavies that were the same kind that sold Monday at \$17.75, brought up to \$18.60. Friday's market was strong. Mediums and heavies sold from \$18.50 to \$18.75, yorkers brought \$18.90 to \$19, few \$19.10 and pigs, which were a quarter higher, landed at \$18.50. Roughs, \$16.50 to \$16.75 and stags \$14 down. Last week's receipts were 22,000 head, as compared with 21,033 head for the week before and 16,500 head for the same week a year ago.

Sheep and Lambs—New American records were made in the sheep and lamb department at Buffalo last week. Monday best wool lambs sold up to \$20.25 and clips went from \$17.25 down. Wednesday was the highest day on record, wool lambs reaching \$20.75, clipped lambs brought up to \$18.00; wool yearlings scored \$18.50 and some unshorn wethers that were only fair moved at \$16.00. Thursday's supply was exceedingly light and Friday the trade was a little lower. On the fifth day of the week bulk of the wool lambs sold at \$20.50, one load made \$20.60, culls went from \$19.25 down and top for shorn lambs was \$17.50. Feeling for sheep the latter part of the week was steady. For the week receipts totalled 14,600 head, as against 15,118 head for the week previous and 9,600 head for the corresponding week a year ago.

Calves.—The week started with top veals selling generally at \$19.75. Tuesday the bulk at \$19.50, Wednesday none reached above \$19.25, Thursday a few reached \$19.75 and Friday the general price for choice lots was \$19.50. Cull grades ranged from \$16 down. Offerings last week aggregated 4,250 head, as against 5,167 head for the week previous and 4,725 head for the same period a year ago.

Toronto Produce.

Live stock receipts at the Union Stock Yards, West Toronto, Monday, April 8, were: 158 cars, 3,080 cattle, 292 calves, 1,688 hogs, 26 sheep and lambs. Strong market for heavy, well-finished cattle; slow for common, light butchers. Prices steady with previous week. Cows and bulls steady; sheep, lambs and calves steady; milkers and springers slow. Hogs \$21 per cwt. fed and watered.

Breadstuffs.

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

Oats.—(According to freights outside) Ontario, No. 2 white, 92c. to 93c., nominal, No. 3 white, 91c. to 92c., nominal. Manitoba oats, No. 2 C. W., 94½c., No. 3, C. W., 90½c. (in store, Fort William). Extra No. 1 feed, 89½c.; No. 1 feed, 87½c.

Barley.—Malting, \$1.72 to \$1.74. Peas.—According to freights outside; No. 2 \$3.60 to \$3.70.

Corn.—American (track, Toronto), No. 3 yellow U. S. A. War Board Prohibit importation.

Rye.—No. 2 \$2.60. Flour.—Manitoba flour (Toronto, new, bags.) War quality, \$11.10. Ontario flour (prompt shipment, new bags), war quality, \$10.70, Montreal; \$10.70, Toronto.

Hay and Millfeed. Hay.—Track, Toronto, No. 1, \$17 to \$18 per ton; mixed per ton \$14 to \$16.

Straw.—Car lots, per ton, \$8.50 to \$9, track, Toronto.

Bran.—Per ton, \$35.40. Shorts.—Per ton, \$40.40.

Hides and Skins.

Prices delivered, Toronto: City Hides.—City butcher hides, green, flat, 10½c.; calf skins, green flat, 20c.; veal kip, 18c.; horse hides, city-off, \$6 to \$7; sheep, \$3.50 to \$5.50.

Country Markets.—Beef hides, flat, cured, 11c. to 12c.; green, 10c. to 11c.; deacons or bob calf, \$1.75 to \$2.50 each; horse hides, country take-off No. 1, \$6 to \$7; No. 2, \$5 to \$6; No. 1 sheep skins, \$2.50 to \$5; horse hair, farmers' stock, \$25.

Tallow.—City rendered, solids, in barrels, 16c. to 17c.; country solids, in barrels, No. 1, 15c. to 16c.; cakes, No. 1, 18c. to 19c.

Wool.—Unwashed fleece wool, as to quality, fine, 60c. to 65c.; washed wool, fine, 80c. to 85c.

Farm Produce.

Butter.—All class of butter kept stationary in price, selling as follows on

Borrow to Buy Cattle



12

THE MERCHANTS BANK

Head Office: Montreal OF CANADA Established 1864.

with its 102 Branches in Ontario, 32 Branches in Quebec, 19 Branches in Manitoba, 21 Branches in Saskatchewan, 53 Branches in Alberta, and 8 Branches in British Columbia serves Rural Canada most effectively.

WRITE OR CALL AT NEAREST BRANCH.

"Mixed Farming" is the big money-maker today. Of course, grain and fruit and vegetables pay well—but beef and bacon, butter and cheese, are piling up the profits for the farmer.

Milk more cows—fatten more cattle—raise more hogs. If you need money to do it, come to The Merchants Bank. We are glad to assist all up-to-date farmers.

the wholesales: Creamery, fresh-made pound squares, at 50c. to 52c. per lb.; creamery solids, at 48c. to 49c. per lb.; dairy, 38c. to 45c. per lb.

Oleomargarine.—32c. per lb. Eggs.—The egg market declined slightly, No. 1's selling at 43c. to 44c. per doz., and selects at 46c. to 47c. per doz.

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

Beans.—Beans continue to be very scarce and therefore firm in price. Japanese hand-picked whites selling at \$6.75 per bushel.

Honey.—Honey is off the market. Poultry.—Receipts continue to be very light with only a moderate demand.

The following prices were quoted for live weight: Chickens, milk fed, per lb., 30c.; chickens, ordinary fed, per lb. 24c.; fowl 3½ lbs. and under, per lb., 22c.; fowl, 3½ lbs. to 5 lbs., per lb. 28c.; fowl, 7 lbs. and over, per lb., 30c.; ducklings, per lb., 27c.; turkeys, per lb., 25c.; turkeys, old, per lb., 25c.

Maple Syrup.—Maple syrup is beginning to come in and has declined slightly, selling at \$1.75 per 8½-lb. tin, wholesale.

Potatoes declined a little during the past week: Ontarios selling at \$1.80 per bag, and New Brunswick Delawares at \$1.90 per bag, wholesale.

Montreal.

Horses.—Carters have been enquiring for horses during the past week, and a few companies have anticipated their requirements for the coming season, and have been purchasing for some days past. Farmers also took a few horses at around \$150 for good class. Heavy draft horses, weighing 1,500 to 1,700 lbs., are quoted generally \$250 to \$300 each; light draft, 1,400 to 1,500 lbs., \$200 to \$250 each; light horses \$125 to \$175; each; culls, \$50 to \$75, and fine saddle and carriage \$175 to \$250 each.

Poultry.—There has been a very active demand for live poultry for the Passover trade, and the excess of demand over supply of live stock has put prices higher than they have ever been before. Fat hens are said to have sold as high as 40c. to 41c. per lb. These prices were out of proportion to regular dressed poultry trade, but the entire market has been strengthened.

Dressed Hogs.—The price of dressed hogs was very steady last week. Supplies were moderate, and demand readily absorbed everything offered. Abattoir-killed fresh hogs sold at 29c. to 29½c. per lb., and country-dressed fresh-killed at 27½c. per lb.

Potatoes.—Although steady prices were quoted in some quarters, others declared that there was a decline, and that the market was weak. Green Mountains were quoted at \$1.55 to \$1.70 per bag of 80 lbs., ex-store, with car lots selling at \$1.50 per bag of 90 lbs., ex-store. Quebec potatoes were quoted very little below Green Mountains, being rather scarce at the moment.

Maple Syrup and Honey.—It does not appear that the crop of maple syrup has been particularly large. Prices were very firm, though they appeared to

decline somewhat during the week, 13 lb. tins being quoted at \$1.80 to \$1.90 each. Sugar was quoted at 18c. to 20c. per lb.

Eggs.—The price of eggs declined a few cents as was expected, and 45c. was quoted for fresh gathered. Weather conditions were favorable. Packers were discussing the problem of what price they they will have to pay for their supplies.

Butter.—Some new milk creamery came into the market, and it was said that 49c. was paid for it at point of shipment. As for finest fall makes, they brought 49c. to 49½c., while fine brought within one cent. Dairies ranged from 40½c. to 43c.

Grain.—The price of oats showed a declining disposition and was below the previous week's level. No. 3 Canadian Western and extra No. 1 feed were \$1.05½ per bushel, car loads, ex-store. Tough extra No. 1 feed, \$1.04½; No. 1 feed \$1.04; No. 2 feed \$1.01½; tough No. 2 feed, \$1.00½; Ontario No. 2 white, \$1.05½; No. 3, \$1.03½.

Flour.—The market held steady, with standard Manitoba flour \$11.10 per barrel in bags, f. o. b., cars Montreal, and 10c. additional delivered to city bakers. Ontario winter wheat flour was firm at \$11.40 to \$11.50 in bags, ex-store. Rye flour was firm at \$7.20 per bag.

Millfeed.—The market for bran was practically unchanged at \$35.40 per ton, in bags; shorts, \$40.40; mixed mouille, \$60.00 to \$62; pure grain mouille, \$73 to \$75.

Hay.—Baled hay was in good demand for domestic and Government account. Prices were steady at \$17 per ton for No. 2; \$15.50 for No. 3; \$12 to \$14 for clovermixed, ex-track.

Hay Seed.—The market was steady at 9c. to 14c. per lb. for timothy; 38c. to 40c. for red clover; 22c. to 29c. for alsike, f. o. b. Montreal.

Hides.—Prices were steady, steers being 18c.; cows, 13c. and bulls 12c. per lb. flat, and 13c., 16c. and 17c., Montreal inspection. Veal skins were 36c. to 38c.; spring lambs, 35c.; sheep skins, \$4.50 to \$4.60; horse hides sold at \$5 to \$6 each. Tallow, 3½c. for scrap fat; 8c. per lb. for abattoir fat; 15c. to 16½c. for rendered tallow.

Chicago.

Cattle.—Beeves, \$10.15 to \$15.50; stockers and feeders, \$8.40 to \$12; cows and heifers, \$6.80 to \$13; calves, \$11 to \$17.

Hogs.—Light, \$17.20 to \$17.97; mixed, \$17 to \$17.85; heavy, \$16.20 to \$17.65; rough, \$16.20 to \$16.50; pigs, \$12.75 to \$16.90.

Sheep.—Native, \$12.50 to \$17.50. Lambs—Native, \$15.75 to \$20.60.

Cheese Markets.

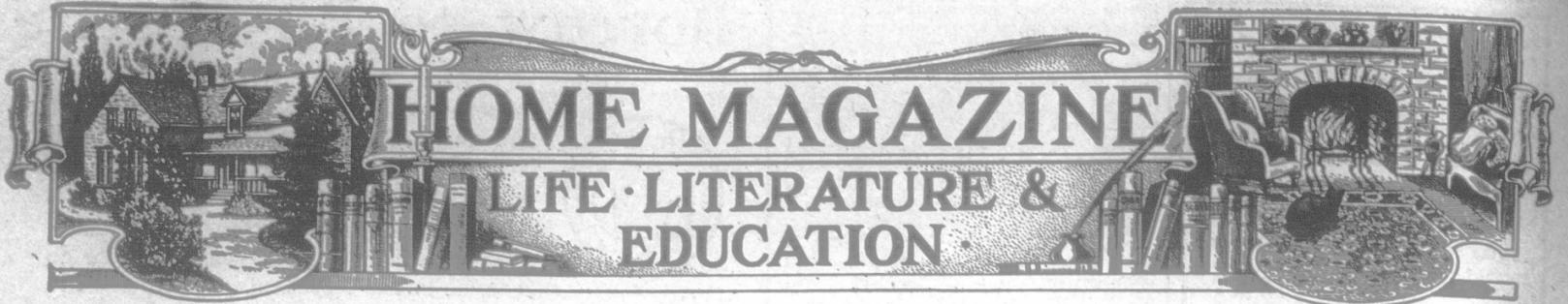
Montreal, finest Westerns, 21½c.; finest Easterns, 21¼c.; New York, specials 24c. to 25½c.; average run, 23c. to 24½c.

Sale Dates.

May 1, 1918.—J. J. Merner, Zurich, Ont.—Shorthorns.

May 15, 1918.—York County Holstein Breeders' Club, Richmond Hill, Ont.

June 11, 1918.—Dr. A. A. Farewell, Oshawa, Ont.—Holsteins.



"Comfort ye, my people!"
Saieth your God—
"And be ye comforted!
And—be—ye—comforted!"

For—you were falling, falling,
Even the best of you,
Falling from your high calling;
And this, My test of you,
Has been for your soul's redemption
From the little things of earth,
What seemed to you death's agony
Was but a greater birth.

—John Oxenham.

Through the Eyes of a Canadian Woman in England.

I don't think March was ever a favorite month with any of us. I notice even the poets as a rule do not enthuse over it; but, although distinctly unpleasant even in England, it is a very interesting time. There are pale, green shoots starting out in the hedges, the grass is getting green, and the allotments fast assuming an appearance of an order in readiness for the planting. Year after year as the war goes on people enlarge their food spaces. We are daily thankful for the quantities of potatoes grown last season, and feel there will not be any of the shortage, before the new ones come in, that we suffered from the preceding year. By bringing them into new uses, we have been able to economize materially in flour, for potato-bread, cake, and scones are very appetizing. The beautiful almond tree is covered with pink bloom though not yet in leaf; golden daffodils and white narcissi hold up their heads and sway to and fro in the chilly winds, while cold mother earth bears on her bosom a delicate mantle of crocuses and snowdrops.

The moonlight has brought its usual quota of raids which, on the whole, have been rather discouraging to our enemy. People are learning wisdom too. I am told that now when the warning is sounded in London, streets are cleared with wonderful rapidity. A friend tells me that on peeping out one night she was startled at the quiet which reigned. All she saw were two pedestrians in khaki who hurried along the middle of Trafalgar Street, evidently rushing to catch a train. The spectacle of Trafalgar Street any hour of the day or night entirely empty of people, taxis and other vehicles was, to use a vulgar expression, a sight for sore eyes.

I entertained two Canadian lads from the hospital at tea this afternoon. It was their first time out since coming to us, but they were able to walk the short distance to my lodgings. I said Canadians—but one of them was born in Yorkshire and went to the land of his adoption with his parents at the age of twelve. (If they have only been six weeks in Canada, they insist upon being called Canadians!) Both enlisted in Alberta and came over here a year and a half ago, and consider themselves very lucky to have escaped so long without being wounded. They have been suffering from trench-feet and fever, and one has a twisted back. The latter is a tall, husky chap who has told me many stories of his Alberta home—a dear shack in the prairie where he took up land, and spent a few strenuous years as a pioneer, only to relinquish his hard-earned holdings in order to respond to his country's call. He says that after the war he will go back and start all over again, but I noticed a break in his voice when he spoke of the "dandy" pair of horses he bought with some of his first precious dollars. They have been through many worse experiences since then, these two, but Passchendaele, they tell me, they will never be able to forget. However, it has not changed them, for there is still a breath of the wild west clinging to them.

It was such a pleasure to hear their hearty laugh as they sat around the hearth and spun yarns about the good old days. Thanks to my dear ones at home I was able to offer them some delicious Canadian cake which they certainly appreciated. While enjoying it G— turned to me and said, "I often dream about that little shack back there, and I am sure I shall go back to it, for I have always felt since the first time I was in the front line that I had a guardian angel watching over me and protecting me." He said all he wanted was to get back physically whole—that the lack of promotions or decorations would not worry him—adding "The only decoration I want when I get back to Canada is a G. C. M." His companion chaffingly said, "You mean a General Court-Martial?" "No," he replied, "I mean a Good Canadian Meal." When they rose to go they told me that this was the happiest afternoon they had spent for fifteen months—in fact, it was the first time they had been in a home since then. There had been months of training in England when they lived in tents and slept on boards; then followed France with days and nights spent in trenches or shell-holes, or any place they could find to lay their heads. And now the hospital where the cot-bed with the little locker alongside, where all their belongings are kept, constitute home! I wish the editor could have witnessed the delight on G—'s face yesterday when I handed him the Advocate which the post had just brought me. He was "house cleaning" his locker but he dropped everything and sat down to the perusal of it immediately. An hour later I found him still greedily devouring it. A day or two after he was brought here I laid some home papers on his bed and he said, "By the way nurse, do you know of anyone who gets the Farmer's Advocate over here?"—Always looking ahead to "the little gray home in the West."

such a problem. She says there are no complaints there although their rations have been much smaller than ours for a long time. She speaks with great admiration of the thrift and inventiveness of the German housewives. They have been without tea so long that they have forgotten all about it, and have been using the dried leaves of currant bushes as a substitute. "Haws" off rose bushes are steeped and used for soup. Butter and sugar belong to the distant past. All woolen and cotton materials, she tells, are prohibitive in price, nothing in that line being sold under two pounds a yard. But silk is much cheaper, and she says it is funny to see the poor people who never wore it before, dressed in it now. When you think you really must have a new frock, you are paraded before an official who looks you up and down trying to decide whether you are entitled to one or not. He usually concludes his inspection by saying, "What is wrong with the one you are wearing? I am sure it will do for a time yet." (He must be a very unpopular man with our sex.) And he fails to give the much-desired permission to purchase the necessary materials. The people are kept entirely in ignorance of what is going on. Their censor system is so marvellous that they are quite unaware of the submarine horrors, and the cruelties of their men. Indeed, she affirms it is no fairy tale that the people do not believe that America has yet come into the war. They say, "It cannot be, for America has always been a friend of Germany." All news showing the successes of the Allies have been carefully suppressed.

Of late, there has been a great rush of women here in England for work on the land, and wherever one goes one meets them swinging along, apparently very happy in their work. A quarter of a million women now belong to that army and more are called for. Except for the heavy lifting, all kinds of farm work fall

they are helping in the most vital part of the country's needs at this time. Even if they do acquire a man's stride in their masculine attire we must not sneer at them, as did the old colonel whom I noticed looking hard at a rosy-cheeked farm girl striding along one day lately. He ended his stare by asking me, "What do you think of those brazen women?" We have had a great many things to get used to since the war began, and if I am not mistaken there are many ahead of us yet. Every healthy person is doing her part to win the war these days—when we see a man in civies—a young one—we know he has done his bit. Do you remember the first months of the war how stern visaged women in street cars and other places used to ask men, "Why are you not in khaki?" There is no further need of that question, although I heard a funny story of one recently who went up to a man not in uniform and said "why are you not in khaki?" "For the same reason that you are not in the beauty chorus," he replied, "physically unfit." It was rather personal, but she deserved it.

THE last reminder of the Christmas season, my spray of mistletoe, has disappeared from the hospital. My landlady tells me she has taken it to start a plant in the apple tree in the yard. She made a little slit in the bark and inserted the tiny white berry of the parasite, and now she will be watching to see the plant appear. This mysterious plant derives its life from the sap of other plants. I asked her if all the mistletoe I had admired on apple trees here was started in the same fashion. She said, "Oh no, it has been carried there by a little bird called the mistle-thrush. He eats the berry, then wipes his bill on the tree." The mistletoe only grows on an apple or an oak tree, and was formerly worshipped by the Druids, who always set up their altars by an oak tree bearing mistletoe. I shall hope to make the experiment some day in Canada. SBYL.

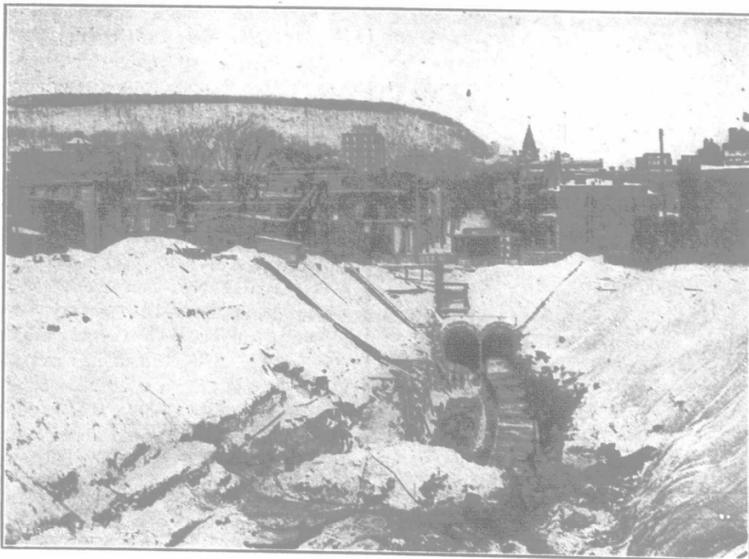
Making the Seed-beds.

IF the garden has not been already prepared, the work should be done at once—ploughing, harrowing, and rolling, too, if possible—to have the soil loose and soft for the making of the seed-beds. The ploughing (or digging, if the plot is so small that it must be dug) should be fairly deep, and the soil worked up just as fine as it can be so that the delicate, thread-like roots can make way through it. Everywhere it should be pulverized to the depth of at least a foot.

Of course, every garden should be fertilized in the fall. If that has not been done, and the soil is at all poor, fertilizer must be worked up with it now, else the plants cannot be expected to thrive. They are just like animals, human beings included, in this respect: they must be fed well in order to grow. But, in spring, only well-rotted manure should be added. Cow manure is best, and not so hot as horse manure which, if the least fresh, is sure to burn the rootlets. Both of these, however, when decayed and well incorporated, supply humus, which is necessary to any good garden.

Wood ashes contains potash, another requisite, especially important where peas and beans are planted, but it must be used sparingly. On lumpy, hard ground it is especially beneficial.

When soil is sour, lime should be put on the surface of the ground in early spring, just after harrowing, using 15 lbs. to a 20-foot square on light, sandy land, and 25 lbs. to the same area of heavy, damp land. Soil that is sour may usually be known by the growth of sorrel and moss, while seeds refuse to sprout well. To test it get some blue litmus paper at a drug-store and dip it in a cup of mud from the soil. If it turns red the soil is sour enough to need lime.



A Piece of Engineering Under Way in Canada.

The Canadian Northern tunnel under Mont Royal, Montreal. It passes under the heart of the city.

A friend of mine has a very much sought-after guest at present. An English woman just returned from Germany where she has been companion—for many years before the war—to a lady of high rank there. She says they continued to treat her with great kindness—in fact, the only change she could see was that immediately she entered a room where others were talking there was a dead silence. At last it became so embarrassing that she decided to go home, and had no trouble in doing so as it was evidently a great relief to all parties concerned, particularly as food was becoming

to their lot, and farmers tell us they show a special aptitude for the care of stock. The conditions are less outwardly attractive than those of other kinds of national work. Very often these women are quite isolated. The work is undoubtedly arduous and monotonous and the pay less good than in many other spheres. But there is one consolation—they are surely benefited in health by it. The open-air life is making them physically very fit, and they grow stronger as they go on. They also get to love the close contact with the country and nature. Best of all, they are happy in the consciousness that

Of and being reason for p much plant Inc is, th stalk chard nitro while corn, (such their more devel A s gotten most that being H friable trate, is to seed— weeks worke Wh in mi high l been rain d too ea is don between ferably marki used, punctu marke home, teeth, middle depth seed. covere seed su small s very i petuni down o Befo you ar is usua outside to the good a in the chard, parsnip Onions may b early p pepper

Of the other manures, that from pig-pens and hen houses are both valuable, the latter being especially rich in nitrogen. For that reason it should not be used on ground for peas and beans, which do not need much nitrogen, but is excellent for such plants as rhubarb, asparagus and lettuce.

Indeed, a fairly safe rule to remember is, that plants grown for their leaves and stalks, e. g., cabbage, cauliflower, spinach, chard, lettuce, etc., need a good deal of nitrogen, which stimulates top-growth, while those grown for their seeds (such as corn, peas and beans) and for their fruit (such as tomatoes and melons) and for their roots (potatoes, beets, etc.) need more potash, which increases the slower development needed for roots and fruits.

A second rule that must not be forgotten is that all stable fertilizers are most safely applied when decomposed so that they are almost on the point of being resolved into black, rich soil.

HAVING mixed the fertilizer very thoroughly and finely with the soil, so that a rich, deep seed-bed, friable enough to let the small roots penetrate, has been provided, the next step is to level the surface off and plant the seed—this last operation perhaps two weeks or more after the fertilizer has been worked in.

When sowing the seed it should be borne in mind that the old fashion of making high beds and drills for garden stuff has been given up. Such structures let the rain drip off and the moisture evaporate too easily. All planting and sowing now is done on the flat, in long rows with paths between for convenience, the rows preferably running north and south. When marking the rows a long board may be used, upon which one may step without puncturing the soil, or one may use a marker, which may be easily made at home, like a wide rake with three shallow teeth, one at each end and one in the middle. This done, put in the seed at a depth varying according to the size of the seed. Large seed such as beans may be covered with an inch of fine soil, smaller seed such as beets with half an inch, while small seeds need just a sprinkling; indeed, very fine flower seeds, e. g., that of petunias and portulaca, should be pressed down on the surface.

Before putting in the seed be sure that you are sowing it at the right time. This is usually given in the directions on the outside of the packages. From the first to the tenth of May, if the weather is good and the soil warm, is the best time, in the greater part of Canada, for beets, chard, late cabbage, cauliflower, carrots, parsnips, lettuce and early turnips. Onions, which are seldom harmed by frost, may be planted in April, as also may early peas. Early cabbage, cauliflower, peppers, tomatoes and celery are usually

started in a hot-bed or box in the house and transplanted, when danger of frost is past, into the garden. If one has not started them in this way it may be wise, when planting-out time comes, to buy a few boxes of plants.

Beans, which furnish a most excellent food, corn, cucumbers, squash and vegetable marrow, are all sensitive to frost, and should not be put in the ground until danger of frost is past.

Succession of Crops.

IN planning the garden it is well to look forward to a succession of certain crops, thus using every foot of space during all of the summer. For instance: Early peas and early potatoes may be followed by beans (for "green" beans) late cabbage, cauliflower and celery; tomatoes may be set out in the spots from which radishes and lettuce have been used, and so on.

Also, it is possible to economize space by training tomatoes, and even cucumbers, to the fence.

Hope's Quiet Hour.

Each For All.

For as we have many members in one body, and all members have not the same office: So we, being many, are one body in Christ, and every one members one of another. Rom. 12: 4, 5.

St Paul's favorite illustration regarding the Church was this one of the Body. As all the members of a body work for the good of the whole, obeying the orders of the head, so should it be in the Church. The foot has its work to do for the whole body, and so have the eyes and the ears. A foot cannot do the work of the eyes, but neither can the eyes do the work of the feet. But there is no quarrelling among the members of the human body, no desire to triumph over the other members. As the life from the head directs each member, and supplies it with needed power, so it is in the Church. If the connection is stopped between the head and the feet, by some injury to the spine, the feet are helpless and the whole body suffers. So it is with each member. Only when the connection is maintained can each member do its appointed task and keep the body healthy and vigorous.

So it is—or should be—in the Church of Christ. Each member of His Body should abide in Him, and keep the avenues of communication always open so that He can abide in him or her; and each should consider it a privilege as well as a duty to work for the good of the whole. Each has not the work of the

whole body to do. If all were officers the the army would be helpless, and if there were no leaders everything would go to pieces in confusion.

We so often hear it said that it takes all kinds to make a world; and yet we are very apt to grumble enviously if our special task is lowly and—as we imagine—beneath our dignity. The foot doesn't want to plod along in the dust, but desires the "easy" job of the eyes or ears. Yet it can do its appointed duty, and could never do satisfactorily the entirely different work of other members.

The apostles were very human, and eager for what they considered honorable positions in their little company. Perhaps they had shown this very plainly, as they gathered round the table to keep the last solemn Passover with their Head. They were all equal and stood on their rights. There was no slave present to do the customary and humble work of washing those travel-stained hardened feet. Would one of the company offer to do the work of a slave? Yes, there was One. Filled with the consciousness of His high mission, remembering that all things in heaven and earth were in His hands, knowing that He was the Son of God from an eternity of the past unto an eternity of the future; He startled the apostles by garbing Himself like a slave and stooping to wash the dusty feet of His servants. If such work was not beneath His dignity it certainly was not beneath theirs. If their Lord and Master gladly waited on them—as He did afterwards, when He got breakfast ready for them after a night of weary and discouraging work—could they not feel it a privilege to follow in His steps?

"Is thy labor very lowly? Brother, see, at Nazareth He Swept the floor for Mary. Knowest thou what it is to labor, Toiling on till youth is gone? All His life He labored. Dost thou serve an early master And his will, not thine, fulfil? Jesus worked for Joseph."

He came not to be waited on by many servants, but to minister to the servants He loved.

We are apt to look at tinsel and treasure it as gold; and we too often contemptuously refuse the golden opportunities of service which offer themselves, because they wear a humble dress. We make a fuss about social distinctions and look down on people who are—or so we think—"beneath" us; and yet our Head was a village Carpenter. Was He any the less Divine when He girded Himself as a slave and did the work which rough fishermen thought beneath their dignity? Your hand and foot and eye are not concerned about their rights, are they not

working for themselves at all, but consecrate their services for the good of the whole body. Your hand may be scrubbing the floor of the back kitchen, or it may be embroidering beautiful things for the church. It is not the hand's duty to choose its appointed work, but to obey unquestioningly the orders of its head.

Christ was quick to insist that other people should get their rights—do you remember how He championed the sinner who washed His feet with tears, and also justified Mary of Bethany for her beautiful "waste"? But He troubled very little about His own rights, and did not even answer the accusations hurled at Him. He was living for others and forgot Himself. If we could only do that how few quarrels there would be. We are so full of our dignity, so eager to defend ourselves against the slightest bit of injustice. As Alice in Wonderland discovered—"the creatures are so easily offended?"

We want to do things which seem important, and perhaps chafe at the trivial round and common task. But how can we tell what act of ours will have important results?

A private in the trenches may feel that an officer is making a fuss about trifles if he insists on everybody being clean-shaved. Are they not carrying the burden of the world's defence? What can a clean-shaven face matter? And yet I have seen it asserted over and over again, that this trifle affects the "morale" of a regiment, and of course, that affects the whole army, and the army affects the world. Perhaps the future history of generations to come may be influenced by that "trifle". Is it such a trifling matter, after all? The thing which our Head sets us to do for the moment is the one matter of vital importance. If we do it loyally, cheerily and unselfishly, God can work it into His plan for the ages. If we are working for our own advantage it is a trifle—or rather a hindrance to the great work of the whole Body—though it may be a matter of millions.

I heard a story the other day. A singer, who had been entertaining many soldiers at the front, was asked to sing to a little group of men preparing to go out into the storm of battle. She was tired, but did her best, and sang "Jesu, lover of my soul". Those men who were facing death caught up the strain. Other groups outside began to sing. It went from one company to another until thousands were singing those words of hope and good cheer.

Can any of us tell how far our influence will go? On Good Friday I went out to rake up leaves and make a bonfire of accumulated rubbish. What inspired the action? Why, there were bonfires all around me! We are all influenced by other people and we never know how far our acts and words will reach.

Last week a gift of \$2 for the needy reached me from "Doris". That has already gone out to carry Easter cheer to two sick and lonely people. What was the act which inspired "Doris"? Why, it was a gift of two dollars, sent anonymously by "Country Woman" several years ago. Some day I shall look over my account books, and find out how many hundred dollars that secret gift to Christ has poured into the homes of His needy brethren.

I am away from home for an Easter holiday, and probably many packages of papers for the "shut-in" have arrived at 52 Victor Ave., Toronto, since my departure. Thousands of papers have been passed on, just because somebody—I don't know who it was, but God knows—put a parcel in my charge one day.

Those who let their light shine before men—hiding the hand which holds the light—will be surprised when they find how far the light has shone and how many other lamps have been kindled at it. No man liveth to himself!—or so St. Paul declared. Perhaps he was judging others by himself. It was so foreign to his nature to pile up good things for his own gratification. He had discovered the truth of that saying of his Master's "It is more blessed to give than to receive."

I know a little boy who was told that saying, and who earnestly exclaimed "Well, that is certainly one thing in which the Bible is wrong!" That was several years ago. Now he has discovered that the Bible was right, after all, and that it was his own point of view that was wrong. It is far more interesting to do things for other people than for one's



Women's Institute Lecturers.

Annual Convention of Women's Institute Lectures, held in the Parliament Buildings, Toronto, on April 1, 2, 3.

- Names, reading from left to right, are: FRONT.—Mrs. Watts, Toronto; Mrs. Dawes, Thedford; Mrs. W. H. Hunter, Brampton; Miss Susie Campbell, Toronto; Mrs. Geo Brodie, Newmarket; Miss Pearl M. Gray, St. Thomas; Mrs. H. W. Parsons, Toronto. SECOND Row.—Dr. Backus, Aylmer; Mrs. M. Sullivan, Emo; Miss B. Gilholm, Bright; Mrs. K. B. Coutts, Thamesville; Dr. L. K. Sirra, Campbellville; Miss E. M. Collins, Ancaster; Mrs. J. Patterson, Gadshill; Mrs. M. Bolton, Warton; Mrs. W. H. Price, Toronto; Mr. G. A. Putnam, Superintendent, Toronto. THIRD Row.—Mrs. B. O. Allen, Fort William; Miss M. Powell, Whitby; Mrs. J. J. Lowe, Preston; Miss D. M. Sutherland, Toronto; Mrs. Jas. Reid, Renfrew; Miss E. Hopkins, Lindsay; Dr. M. Patterson, Toronto; Dr. G. C. Creelman, Commissioner of Agriculture, Toronto. BACK Row.—Miss B. Duncan, Toronto; Miss G. Gray, Toronto; Dr. Mary Mackenzie Smith, Gravenhurst; Miss E. M. Chapman, Toronto; Miss A. Coutts, Thamesville.



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self; and life becomes a splendid thing when you are always in close touch with the Head of the Body, and are trying to obey Him as simply and swiftly as your hand obeys your head. Your hand needs training before it can reach its full effectiveness, and so do we need training.

Shall we rebel, in this time of strain and stress, at the training and discipline which our Head sees fit to give us? A soldier's part is not to question "Why!" but to do what he is told, and die—if that great adventure be required of him—as part of the day's work. The effectiveness of an army depends very largely on its "morale", and each one of us has a share in the responsibility of the "morale" of Christ's Army. We don't know how much we can do to make the Church the "salt of the earth"—as our Head expects it to be. If our Christianity has "lost its savor"—if we are living for ourselves, instead of for His brethren and ours—what other army will do the work demanded of it? We constantly are asked the question: "Has Christianity failed?" and we are constantly told that those men, who have looked unafraid into the face of Death, will come back expecting to find a real and not a sham religion. Will they find the insincere, hollow profession of Christianity, which we sometimes are not afraid to offer to Him whose eyes are as a flame of fire? If Christianity should be a decaying, dying thing—which it is not! the gates of hell cannot prevail against it, any more than Might can prevail against Right—does the anxious world know of anything else that can take its place? Do you know anything else? The very hopelessness of the question: "Has Christianity failed?" may fill us with new hope. Evidently men who don't profess to be Christians still look to it as the one religion that can possibly be expected to be the "salt" (the purifier and preserver) of humanity. To whom shall they go, if Christ cannot inspire and uplift them?

Christianity has not failed—it is the lack of real, living Christianity, in the hearts of multitudes of professing Christians, that has failed. Of course it failed, it was only a sham and a hollow mockery. Civilization without spirituality, without obedience to God and love to man, has certainly failed. No outward show can really uplift mankind. We are not able to do our allotted work, as living members of Christ, unless His Life is within us and He is able to do His work through us.

"God asks not what, but whence the Work is—
From the first He turns His eye away,
To prove the inmost root."
DORA FARNCOMB.

The Beaver Circle

Dickey Brown.

LOUELLA C. POOLE.

In driving through a country town One day, we called on Mrs. Brown, A farmer's wife, and as we three Were sitting on the long settee That stood upon the porch outside, A rooster marched with pompous stride Across the porch, and fluttering His handsome plumage, with a spring Upon the seat he cuddled down Quite close beside good Mrs. Brown.

We were amazed to see this sight— A rooster there as though by right Of eminent domain. Then said The farmer's wife: "This fowl we bred Here on the place: when but a chick He threw his wing out—'tis a trick Of fowls, you know. He seemed distraught With pain and fright; at last I caught The little chap and set his wing— 'Twas simply out of joint—poor thing!

"Well, from that day he's followed me Just like a dog continually. Whether indoors I am or not My Dickey follows me about. His favorite seat is this settee, Cuddled up very close to me, And sometimes right within my lap He settles down and takes a nap, He's just the nicest bird in town; Aren't you, old Dick?" said Mrs. Brown.

Little Bits of Fun.

An Added Burden.—A small boy who had been in the habit of leaving food on his plate was warned that Mr. Hoover would not approve of it.

He meditatively replied: "I've always had to mind daddy and mother and Aunt Mary and God, and now here comes along Mr. Hoover."—Life.

Youthful Sancho Panza.—An old gentleman reproved his nephew for fighting with another boy.

"But," said the lad, "he called my sister names."

"Why, you haven't any sister and never had one!" exclaimed the other in astonishment.

"I know that," replied the boy doggedly; "but he thought I had and said she was squint-eyed, and I went for him."—Philadelphia Ledger.

Prize Essays.

A White Calf.

Well, the animal I am going to tell you about is a white calf, who boasts the name of Sir Wilfrid. The calf is six months old and is getting more mischievous every day of his life.

What things he loves to do best are: first, eating mangolds; secondly, bunting me, and thirdly, stealing his partner's dinner. A calf like this is sure to come to a bad end, sooner or later.

I must describe the personal appearance of this aforesaid young rascal. Well, as I have told you, he is white, although his mother was black. He is fat, with short legs, a thick neck, a large head, a black nose, and a most remarkably thick skull.

One day last autumn, while carrying a pail from the barn, I was suddenly alarmed by a "baa." I recognized Sir Wilfrid's voice, so without even looking backwards, I proceeded to "make myself exceedingly scarce." Well, to make a long story short, I jumped over the gate, and looked back in time to see Sir Wilfrid charging down at full speed straight for the gate. I was sure he would run into it. Did any of the Beavers ever turn a hand-spring? Well, I thought that was what the calf was trying to do. I don't know to this day how he put on the brakes so quickly, and I don't suppose he knows himself.

One of my daily duties is to take a pail of water out to this calf. He seems to think he is too big to drink milk so we have to give him water. When he once gets his head in the pail it takes a genius to make him shift his position.

I could tell you much more about Sir Wilfrid, but I suppose the w. p. b. has enough to eat without having to digest all this.

Auburn, Ont. ELDEN STOLTZ.

Becky, Betty and Bill.

I always had a great interest in poultry, especially ducks and geese, and last summer I was eager to get some ducks. Soon I found out our neighbor was raising ducks. He had no one to help him in with his hay, so he told me he would give me two ducks if I would help him in with some of it. So I said "all right".

The ducks were eight weeks old and had black streaks across, over and under their eyes. They would come up to me when I called them.

Soon after I bought a drake named "Billy." He is a bluish-grey color, with a topknot on the top of his head.

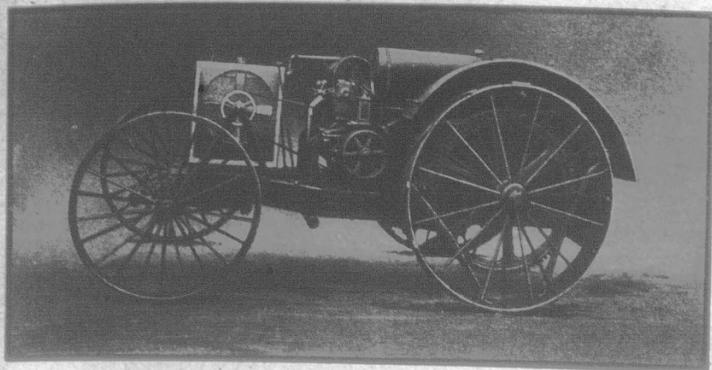
It was comical to see them in the summer when you would call them to feed. They would come marching up and "quack, quack, quacking," one after the other, and if you give them something to eat out of a trough they will fight to see who can get the most. They try to bite the hens to keep them away.

We have no pond around our place for them, but they do not stray away. Last fall the barn-yard was a little bit muddy and they would go out and try to swim. One day Betty got a stick in her throat. I thought she was going to die, but in a couple of days she was all right.

They stayed in the chicken-house on cold winter days. Well, I have had my ducks for over six months now and have never given them an ounce of bought feed, and they weigh seven pounds apiece.

I will close wishing your Circle every success.

EARL G. POWELL.
R. R. 4, Ingersoll, Ont.



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LETTUCE —Rennie's Selected Nonpareil	.05	.30	.90	2.75	
MUSKMELON —Delicious Gold Lined	.10	.40	1.20	3.50	
PARSLEY —Champion Moss Curled	.05	.25	.75	2.25	
PEAS —Little Marvel Improved Stratagem	.10		.15	.45	2.00
RADISH —Cooper's Sparkler	.05	.20	.65	2.20	
TOMATO —Bonny Best	.10	.60	1.75		
Early Detroit	.10	.60	1.75		
TURNIP —Golden Ball (Orange Jelly)	.05	.25	.75	2.50	
		Prepaid	Not Prepaid		
ONION SETS —Yellow Sets—Selected.		lb. 5 lbs.	lb. 5 lbs.		
		.35 1.70	.25 1.20		

FLOWER SEEDS

	Pkt.
Lavender Gem Aster	.15
Early Blooming Cosmos—Mixed	.10
Giant Yellow Tulip Poppy—California	.10
New Red Sunflower	.25
Rennie's XXX Mammoth Flowering Hollyhock—Mixture	.20
Mastodon Pansy—Mixture	.25
Rennie's XXX Select Shirley Mixture—Single	.10

When buying from dealers, insist on Rennie's. If your dealer hasn't them, we will ship direct.

THE WILLIAM RENNIE COMPANY LIMITED.
KING & MARKET STS. TORONTO
ALSO AT MONTREAL WINNIPEG VANCOUVER

CLOVERLEA FARM HOLSTEINS

Special offering for this month is a nice, straight heifer, due to freshen in May.
For price and particulars, apply to

GRIESBACH BROS.

COLLINGWOOD, ONT.

Put up "CAN'T-SAG" Gates—the Gates with every good feature

If you are planning new gates, get our prices first and see if it won't pay you to put up "CAN'T-SAG" Gates—the best made. "CAN'T-SAG" Gates are built of steel angle uprights and truss braces, everlastingly bolted (not nailed), to seasoned hardwood.

homemade all-wood gate and will last three times as long, yet is 25% lighter. "CAN'T-SAG" gates are always plumb and true. Stock can't break them, hogs can't open them, time and usage can't sag them.

with your name or "NO TRESPASSING" sign, ready to hang, or, if you prefer, we can supply you with the angle steels, braces, bolts, lag screws, hinges and socket wrench, with full directions, so you can get boards from your dealer and build an A 1 gate yourself.

Less Weight—Yet Stronger—Longer Lasting

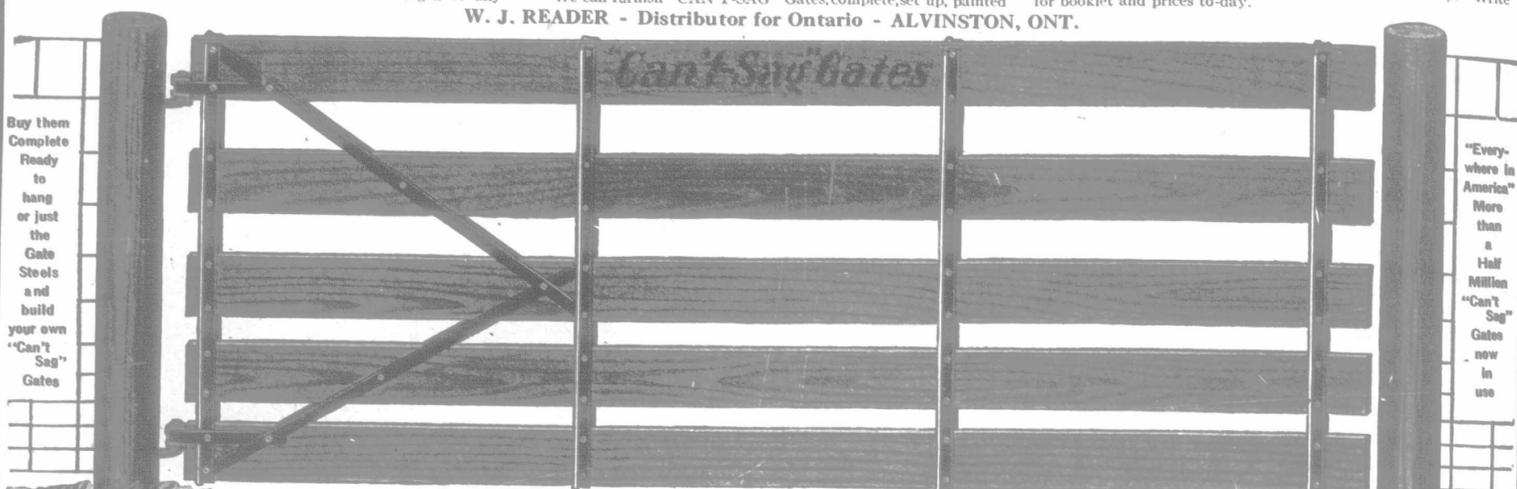
Build them Yourself—if Preferred

Elevating attachment, for raising gate when required, furnished at trifling extra cost, also barbed-wire attachment for top. Write for booklet and prices to-day.

A "CAN'T-SAG" gate has ten times the strength of any

We can furnish "CAN'T-SAG" Gates, complete, set up, painted

W. J. READER - Distributor for Ontario - ALVINSTON, ONT.



Buy them Complete Ready to hang or just the Gate Steels and build your own "Can't-Sag" Gates

"Everywhere in America" More than a Half Million "Can't-Sag" Gates now in use

"Can't-Sag" Gates can be made of boards 4 or 6 inches wide, height 4, 4½ or 5 ft., any length desired. Send for our complete Catalog, showing sixty different sizes of complete Gates and Gate Steels.

Current Events.

Canadian aviators are to return from Texas to Canadian camps.

Quebec city is again quiet, with the military in full control.

The new regulations prepared by the Canadian Food Board are aimed at removing the speculative element from the Canadian produce business, limiting the amount of produce a dealer may hold in storage to reasonable requirements.

Hon. C. C. Ballantyne, Minister of Marine and Fisheries, declared in the House that it is time for Canada to begin building steel ships as a national permanent policy.

The Art Museum of Toronto at "The Grange", bequeathed to the city by Prof. Goldwin Smith, was formally opened by Sir Edward Walker. The event was marked by a joint exhibition by the Royal Canadian Academy and the Ontario Society of Art. At the General Assembly of the Academy Mr. Homer Watson of Doon, Ont., was elected President of the R. C. A. for the ensuing year.

The most Reverend Cosmo Gordon Lang, Archbishop of York, was accorded an enthusiastic welcome in Toronto, and delivered an impressive address in Massey Hall.

A gift of half a million dollars has been presented to the Canadian Red Cross Society by the American Red Cross.

The Irish Convention terminated its sessions on April 5.

Japanese naval forces have landed at Vladivostok to protect life and property.

The White Star steamer "Celtic" was torpedoed on April 1st while on its way from England to America.

During March the Allies brought down 838 German airplanes.

It is proposed in England to raise the age limit for military service from 41 to 50.

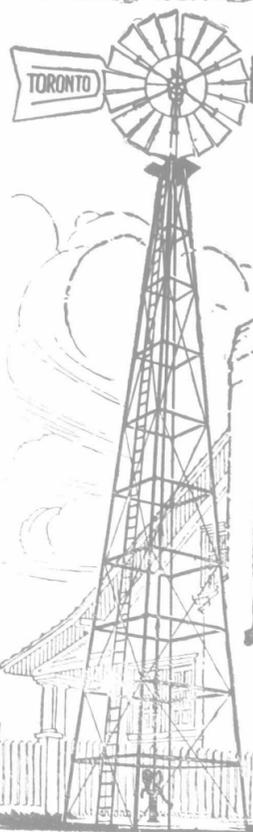
On March 31 and April 1 French airmen threw 13 tons of bombs on German positions in Northern France.

Japan is helping the United States with the shipping needed to rush troops to France. They are turning over at once 150,000 tons at the usual rate, and later will supply 100,000 tons more.

On April 4th the great Battle of Amiens was resumed by the Germans over a 20-mile front against the British and a 9-mile front against the French

ONTARIO WIND ENGINE & PUMP CO. LIMITED
TORONTO

DOUBLE GEARED WINDMILLS



FREE POWER

Running water in your home, barns, and pastures, without a cent of cost for power! Wind power, of course! Not the old style wind power, accompanied by sleep destroying rattle, constant repairs, frequent oilings, and trouble half the time. To-day a TORONTO Windmill gives all the pumping power you need—no repairs, no expense for upkeep beyond an occasional oiling. What is the main difference? The Toronto Windmill is built so that all side strain is removed, saving wear on bearings, stopping rattling and enabling the mill to run in the lightest breeze. It is a revolution in windmills that has brought wind power back to favor! We are sending out windmill books as fast as we receive requests. Send us your name and address without delay.

Ontario Wind Engine & Pump Co., Limited

Atlantic Ave., Toronto.
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the portions attacked lying between the Somme and Aves Rivers. So far the enemy has only succeeded in advancing a very little towards the coveted city, and that at a terrible cost. There is little news from any other fighting section except that in the East the city of Erzeroum has been taken from the Turks by the Armenians. In Northern Italy the entire strength of the Austrians is said to be concentrating for another great attack upon the Italians.

In the story of the first great German offensive to the West, which is now coming little by little, especial mention has been made of the heroic stand of Sir Julian Byng's Third Army, which has proved a veritable wall north of the Somme.

Part of this army is the famous 51st Division of Highland Territorials who fought 6 days without stopping, being so worried for want of sleep that when relief came they could not walk. Especial honor has also been accorded to the Canadian Motor Machine Gun Corps, which at Villiers-Carbonnel on the St. Quentin Road delayed the German advance for 6 hours; and by the French who, during the past few days have successfully held 9 miles against the onslaught of 100,000 men. The main Canadian positions appear to be still Vimy Ridge and Hill 70.

General Rawlinson is now in command of the British Fourth Army, in which remnants of the old Fifth Army have been absorbed.

The Dollar Chain

For the soldiers and all who are suffering because of the war. Contributions from March 29 to April 5: Spencer Merritt, Grassie, Ont., \$1.50; "Toronto", \$5.00. Previously acknowledged..... \$5,392.80

Total to April 5th..... \$5,399.80
Kindly address contributions to The Farmer's Advocate and Home Magazine, London, Ont.

Serial Story.

An Alabaster Box.

BY MARY E. WILKINS FREEMAN AND FLORENCE MORSE KINGSLEY.

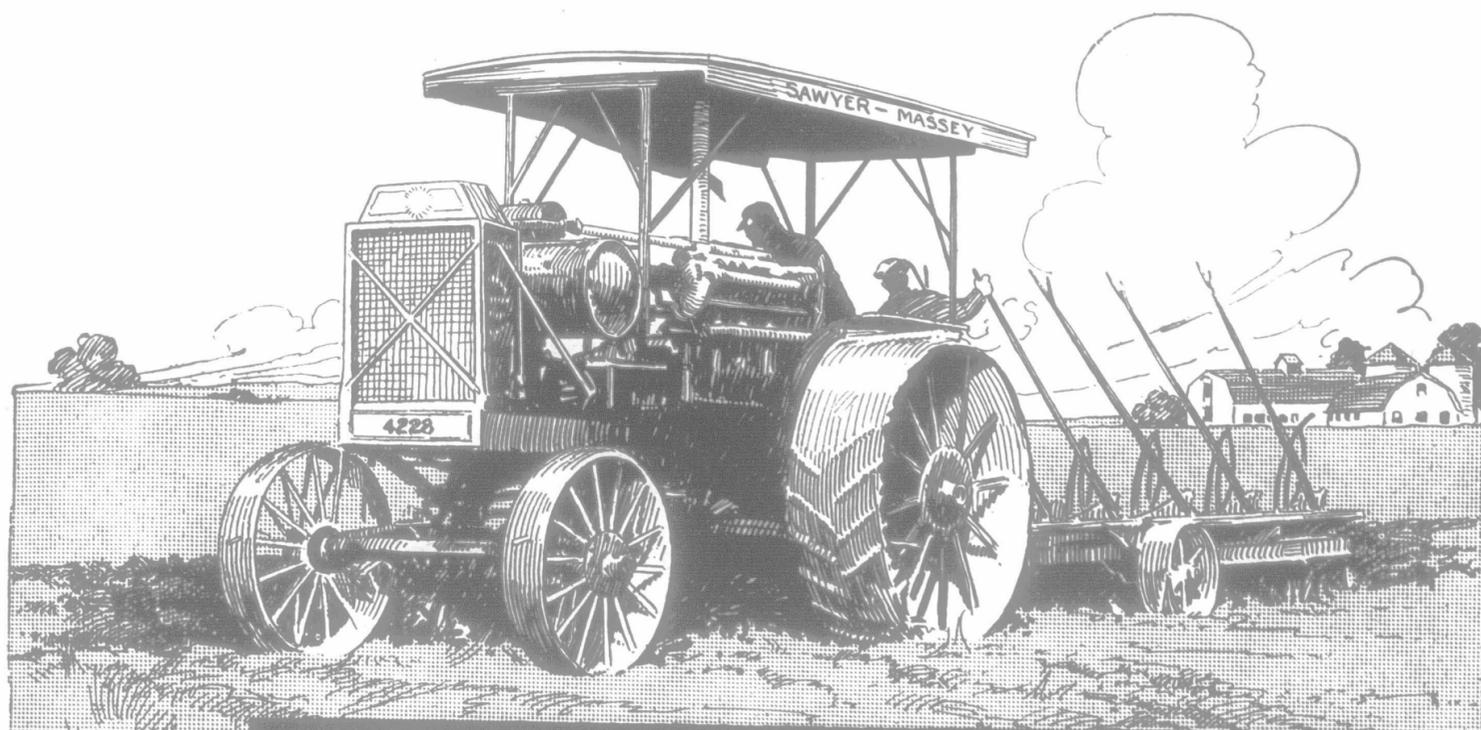
By arrangement with McClelland, Goodchild & Stewart, Publishers, Toronto, Ont.

Chapter XXII.

A mile from town, where the angry wind could be seen at work tearing the purple rainclouds into rags and tatters, through which the hidden sun shot long rays of pale splendor, Wesley Elliot was walking rapidly, his head bent, his eyes fixed and absent.

He had just emerged from one of those crucial experiences of life, which, more than the turning of the earth upon its axis, serve to age a human being. For perhaps the first time in the brief span of his remembrance, he had scrutinized himself in the pitiless light of an intelligence higher than his own everyday consciousness; and the sight of that meaner self, striving to run to cover, had not been pleasant. Just why his late interview with Andrew Bolton should have precipitated this event, he could not possibly have explained to any one—and least of all to himself. He had begun, logically enough, with an illuminating review of the motives which led him into the ministry; they were a sorry lot, on the whole; but his subsequent ambitions appeared even worse. For the first time, he perceived his own consummate selfishness set over against the shining renunciations of his mother. Then, step by step, he followed his career in Brookville: his smug satisfaction in his own good looks; his shallow pride and vanity over the rapid insincerities he had perpetrated Sunday after Sunday in the shabby pulpit of the Brookville church; his Pharisaical relations with his people; his utter misunderstanding of their needs. All this proved poignant enough to force the big drops to his forehead. . . . There were other aspects of himself at which he scarcely dared look in his utter abasement of spirit; those dark hieroglyphics of the beast-self which appear on the whitest soul. He had supposed himself pure and saintly because, forsooth, he had concealed the arena of these primal passions beneath the surface of his outward life, chaining them there

Four Cylinders



FULL TRACTOR VALUE FOR CAREFUL BUYERS

THE TRACTOR you buy must be *strong* so that it will last for years; it must be *easy to handle* and *economical to operate*; and above all, it must give you *dependable service*.

Strength—in-built ability to stand up under all conditions—is a feature of Sawyer-Massey Gas-Oil Tractors that make their cost-per-year really small.

Ease of operation is the result of simplicity—of standardized design, perfect four-wheel balance and one adjustment carbureter.

Sawyer-Massey vertical 4-cylinder, valve-in-head motors develop unusual power. This power is transmitted direct to *both* traction wheels on which 75% of the tractor weight rests. This assures traction under all conditions.

Sawyer-Massey Air Cleaners remove dust from air fed to carbureter—no foreign matter can get into and injure the cylinders.

Sawyer-Massey Gas-Oil Tractors are built in four sizes: 11-22 H.P., 17-34 H.P., 20-40 H.P., 27-50 H.P. There is a size for your individual need.

The Sawyer-Massey eighty year reputation for quality is behind their tractors. The Sawyer-Massey intimate knowledge of the Canadian farmer's need is in them. Warehouses at the principal agricultural centers assure Sawyer-Massey owners of adequate service.

*Bulletins describing Sawyer-Massey Tractors
or Grain Separators forwarded on request.*

SAWYER-MASSEY COMPANY LIMITED

Head Office and Factory: HAMILTON, ONTARIO

Branches and Warehouses:
WINNIPEG REGINA SASKATOON CALGARY

Four Cylinder Sawyer-Massey Gas-Oil Tractors *Kerosene Burning*



The Best Advice Obtainable

Every farmer and dairyman knows that breeders or owners of record breaking cows don't experiment or take chances with their champions.

It is obvious then, that in regard to the care of cows, and the best method of milking, no better advice is obtainable than given by the owners of championship stock.

Mr. G. A. Brethen of Norwood, Ont., owner of many champions, Senator A. T. Fancher, owner of the world record holder, "Fancher Farm Maxie", and hundreds of the leading farmers throughout Canada advise—and by using, endorse



The experience of these owners of Empire Milking Machines proves that cows and heifers take readily to being milked by an Empire. The soft, gentle massaging of the vacuum cups sets up a pleasant sensation which soothes, causing the cows to give down willingly and contentedly.

If you have ten cows or more, an Empire can be installed economically, paying for itself in a short time by saving time and labor. With an Empire one man can do the work of three men milking by hand in the same time.

Empire Milking Machines do away with drudgery on the farm—they are always ready to work—and always work well, saving the cost of extra men, time and trouble.

The breeders of Champion Stock who use Empire Milking Machines have given us valuable information, which we have put into booklet form. It's certainly worth a stamp, so drop us a line now while you have the inspiration.

THE EMPIRE CREAM SEPARATOR CO.
of CANADA, Limited

Address Dept. J

Montreal Toronto

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like leashed tigers in the dark. Two faces of women appeared to be looking on, while he strove to unravel the snarl of his self-knowledge. Lydia's unworldly face, wearing a faint nimbus of unimagined self-immolation, and Fanny's—full of love and solicitude, the face which he had almost determined to forget.

He was going to Lydia. Every newly awakened instinct of his manhood bade him go.

She came to him at once, and without pretence of concealment began to speak of her father. She trembled a little as she asked:

"He told you who he was?"

Without waiting for his answer she gravely corrected herself.

"I should have said, who we are."

She smiled a faint apology:

"I have always been called Lydia Orr; it was my mother's name. I was adopted into my uncle's family, after father—went to prison."

Her blue eyes met his pitying gaze without evasion.

"I am glad you know," she said. "I think I shall be glad—to have every one know. I meant to tell them all, at first. But when I found—"

"I know," he said in a low voice.

Then because as yet he had said nothing to comfort her, or himself; and because every word that came bubbling to the surface appeared banal and inadequate, he continued silent, gazing at her and marveling at her perfect serenity—her absolute poise.

"It will be a relief," she sighed, "when every one knows. He dislikes to be watched. I have been afraid—I could not bear to have him know how they hate him."

"Perhaps," he forced himself to say, "they will not hate him, when they know how you—Lydia, you are wonderful!"

She looked up startled and put out her hand as if to prevent him from speaking further.

But the words came in a torrent now: "How you must despise me! I despise myself. I am not worthy, Lydia; but if you can care—"

"Stop!" she said softly, as if she would lay the compelling finger of silence upon his lips. "I told you I was not like other women. Can't you see—?"

"You must marry me," he urged, in a veritable passion of self-giving. "I want to help you! You will let me, Lydia?"

She shook her head. "You could not help me; I am better alone."

She looked at him, the glimmer of a smile dawning in her eyes.

"You do not love me," she said; "nor I you. You are my friend. You will remain my friend, I hope?"

She arose and held out her hand. He took it without a word. And so they stood for a moment; each knowing without need of speech what the other was thinking; the man sorry and ashamed because he could not deny the truth of her words; and she compassionately willing to draw the veil of a soothing silence over his hurts.

"I ought to tell you—" he began.

But she shook her head:

"No need to tell me anything."

"You mean," he said bitterly, "that you

Bob Long

UNION-MADE

Overalls
Shirts &
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Known from
Coast to Coast



Bob Long says:

"My overalls and shirts are the best made, because—I know what a man wants—long wear, solid comfort and all-round satisfaction."

Insist on "Bob Long" brand, and ask for Big 11—the big grey overalls—the cloth with the test.

R. G. LONG & CO., Limited, Toronto, Canada

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This Great Cosy Rocker Only \$9.85



Wonderful value this! Either chair or rocker at this price. Deep, comfortable spring seat, upholstered in fine quality leatherette, choice of black or brown covering. Sent to any station in Ontario at above price.

Catalogue
No. 7

shows hundreds of similar good values in furniture for all rooms in the home. Write to-day to

Adams
Furniture Co., Ltd.
TORONTO

Canada's Largest Homefurnishers

saw through my shallow pretenses all the while. I know now how you must have despised me."

"Is it nothing that you have asked me—a convict's daughter—to be your wife?" she asked. "Do you think I don't know that some men would have thanked heaven for their escape and never spoken to me again? I can't tell you how it has helped to hearten me for what must come. I shall not soon forget that you offered me your self—your career; it would have cost you that. I want you to know how much I—appreciate what you have done, in offering me the shelter of an honest name."

He would have uttered some unavailing words of protest, but she checked him.

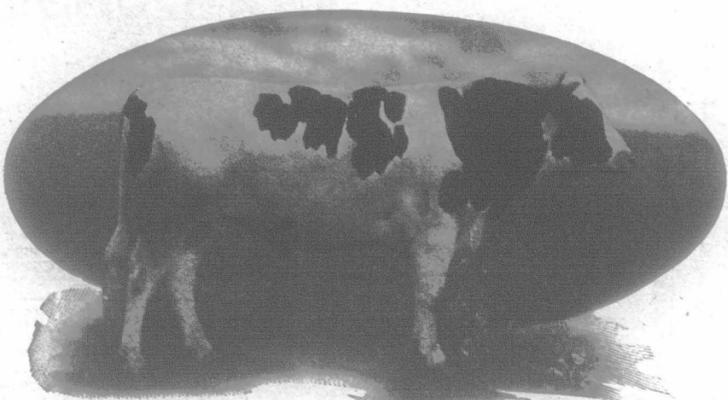
"We shall both be glad of this, some day," she predicted gravely. "There is one thing you can do for me," she added: "Tell them. It will be best for both of us, now."

It was already done, he said, explaining his motives in short, disjointed sentences—his motives in short, disjointed sentences.

Then with a feeling of relief which he strove to put down, but which nevertheless persisted in making itself felt in a curious lightening of his spirits, he was again walking rapidly and without thought of his destination. Somber bars of crimson and purple crossed the west, and behind them, flaming up toward the zenith in a passionate splendor of light, streamed long, golden rays from out the heart of that glory upon which no human eye may look. The angry wind had fallen to quiet, and higher up, floating in a sea of purest violet, those despised and flouted rags of clouds were seen, magically changed to rose and silver.

To be continued.

Manor Farm Announcement



KING SEGIS PONTIAC POSCH

KING SEGIS PONTIAC POSCH

Sire: *King Segis Pontiac Alcartra*
(The \$50,000 Bull)

Seventeen A. R. O. Daughters. The first six to freshen averaged over 21 lbs. butter in 7 days.

DAM: Fairmont Netherland Posch

At 4 Years:	26 Days:
Butter.....	32.54
Milk.....	511.50
Average per cent. fat.....	5.09
At 3 Years:	
Butter.....	29.62
Milk.....	461.50
Average per cent. fat.....	5.13
	<i>(World's record when made)</i>

In this advertisement I announce the sale of a half interest in my senior herd sire, King Segis Pontiac Posch, to Joseph O'Reilly, R. R. No. 5, Peterboro, Ontario. In the future he will be Mr. O'Reilly's chief sire, and working jointly on the two herds, his prospects and the prospects of his get will have one of the brightest futures of those of any sire in Canada to-day. The records of King Segis Pontiac Posch (shown above) furnish every guarantee as to his breeding, and his success in the show-ring each year since he carried away junior championship honors at both Toronto and London in 1915, should, it seems to me, furnish equally as strong a guarantee as to his individuality. There are now in the Manor Farm Stables

THIRTY-FIVE DAUGHTERS OF KING SEGIS PONTIAC POSCH

AND THESE ARE BEING BRED TO MY JUNIOR HERD SIRE

KING KORNDYKE SADIE KEYES

The cut shown below of King Korndyke Sadie Keyes, my younger sire, is not as good as I would have liked to have shown you. It was taken at the age of 11 months—and badly taken at that. To-day, however, those who see him do not need to be told that his dam, Lulu Keyes, was without doubt the most perfect type of all the high-record cows the breed has ever known. Still further, those who have had the opportunity of seeing his first and second crop of calves, that are now in the Manor Stables, tell us that they are as choice a lot as can be found, sired by any one bull in Canada to-day. Many of these youngsters that are coming now are from daughters of the senior sire—daughters that we will be testing right along now. Several have bull calves—thick, deep, good quality fellows, and like our older bulls that are sired by our senior sire, all are listed at prices that will pay those who can wait for a sire to buy them while still young.

King Korndyke Sadie Keyes

Sire: *Sir Sadie Korndyke Segis*
Brother to MABEL SEGIS KORNDYKE

At 4 Years:

Butter (7 days).....	40.32
Milk (7 days).....	610.20
DAM: Lulu Keyes	
Butter (7 days).....	36.05
Milk (7 days).....	785.40
Butter (30 days).....	144.39
Milk (30 days).....	3,191.80
Highest day's milk.....	122.80



King Korndyke Sadie Keyes. The Junior Sire at Manor Farm.

CLARKSON, G.T.R., 2 miles. - - - Farm on Toronto and Hamilton Highway. - - - OAKVILLE, G.T.R., 4 miles.

ADDRESS ALL CORRESPONDENCE TO:

GORDON S. GOODERHAM - Manor Farm - CLARKSON, ONTARIO

POULTRY AND EGGS

Condensed advertisements will be inserted under this heading at three 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 50 cents.

AMERICA'S GREATEST WINNING, MARVELOUS egg-producing Indian Runner ducks. Eggs one-fifty the setting; also drakes. L. Murray, Harrow, Ont.

ANCONAS, SINGLE-COMB, STRONG, vigorous, yearling hens, genuine egg machines, mated to Sheppard strain cockerels. Eggs \$1.25 per fifteen, \$8.00 per hundred. W. E. Williams, Chateaufort, Ont.

AFRICAN GEESSE, INDIAN RUNNER AND Muscovy ducks, Barred Rocks, Rhode Island Reds, Black Spanish, Guineas, Campines, Hamburgs, Wyandottes, Eggs only. Mating list free. Fox Terrier puppies. John Annesser, Tilbury, Ont.

ANNESSE'S INDIAN RUNNERS, LAY MORE eggs, eat less, and are more profitable than chickens. John Annesser, Tilbury, Ont.

BARRED ROCK EGGS, WE HAVE BRED for large size and egg production and we think we have succeeded. John Annesser, Tilbury, Ont.

BARRED ROCK AND RHODE ISLAND RED cockerels. Special price to close them out. John Annesser, Tilbury, Ont.

BARRED ROCK EGGS—O. A. C. STRAIN, Two dollars per fifteen. J. Acres, Thorabury.

BARRED ROCK EGGS, PURE-BRED, HEAVY winter laying strain. \$1.50 per fifteen. Mrs. C. Newell, Campbellville, Ont.

BEAUTIFUL WHITE ROCKS, TRAP- nested. Last year's best pullets, mated to a son of 1st Ont. Cock 1916, one pen only. Eggs \$2.50 the setting. J. A. Butler, M. D. Newcastle, Ont.

BLUE ORPINGTON EGGS \$4—FIRSTS, Western Fair, London International Shows; also solid Buffs, layers. \$2. A. J. George, 52 Clarence St., London, Ont.

BRED-TO-LAY BARRED ROCK EGGS, O.A.C. strain, \$1.25 per fifteen. Fowls are healthy and have free range. Russell Ballantyne, St. Paul's Sta., Ontario.

BRED TO LAY A FULL BASKET OF EGGS. Try a few settings of my Single-Comb White Leghorns, \$2—15 eggs, \$3—30 eggs, \$8—100 eggs. David G. Houston, 52 Ellsworth Ave., Toronto, Ont.

BARRED ROCKS—PURE-BRED, GRAND laying strain; \$1.50 per 15 eggs, \$3.75 per 45. L. S. Cressman, Hillcrest Farm, R. R. 1, New Hamburg, Ont.

BRED-TO-LAY BARRED ROCK EGGS FOR hatching—the big, healthy kind that have free range. Should hatch well. Eggs \$2 per 13, \$5 per 50. Biggar Bros., Oakville, Ont.

BRONZE TURKEYS—SELECTED FOR SIZE and vigor. Eggs \$5 per 9; also eggs from White and Barred Rocks, Brown Leghorns and Rouen ducks. J. H. Rutherford, Albion, Ont.

BARRED PLYMOUTH ROCKS—200 EGG line. Champion Guelph winners; write for circular. Eggs \$2.00 per 15. Jno. Fenn, Plattsville, Ontario.

BLACK MINORCA EGGS—BOTH COMBS, two dollars for fifteen; good layers. Write: Fred. Reekie, Camperdown, Ont.

CHANTRY FARM BLACK LEGHORNS. Winners at all principal shows, including Silver Cup, London Winter Show. Eggs, Coop No. 1, \$3.00; No. 2, \$1.50, per fifteen. Ed. de Gex, Kerwood, Ont.

CANADIAN RINGLET BARRED ROCKS; trapnested; heavy winter laying strain. Eggs, \$3.00 setting—guaranteed. F. Coldham, Box 12, Kingston, Ont.

EGGS, \$2.00 FOR 15, S.-C. BLACK MINORCA, S.-C. Ancona, Mammoth Dark Cornish. Hugh McKay, 33 Curry Ave., Windsor P.O., Ontario.

EGGS—PURE INDIAN RUNNER EGGS— bred-to-lay, \$1.50 per twelve. Ray Clark, Harrow, Ont.

"FAIRVIEW" S.-C. BROWN LEGHORNS, Eggs \$1 per 15. Wn. Bunn, Denfield, Ont.

FOR SALE—PURE-BRED, LARGE, ROSE- COMB Brown Leghorn cockerels, bred from our best pens, at most reasonable prices. Satisfaction guaranteed. Galloway & English, Ingersoll, Ont.

GOLDEN AND SILVER WYANDOTTES— Good Silver cock for sale. Eggs from both varieties—three dollars setting of fifteen, two settings for five dollars. From winning stock. Peter Daley, Box 12, Seaford, Ont.

HIGH-CLASSED BARRED ROCKS—A superior laying strain. Large, heavy-boned, healthy fowl. No separate pens. All have free range. Cockerels of last season's hatch weighed eight, nine and ten pounds, majority weighing nine. Eggs for hatching \$1.50 per 15. R. A. Cowan, Streetsville, Ont.

HEDGE ROW FARM S.-C. BROWN LEG- HORN eggs for hatching, \$1.50 for 15; out of a beautiful flock of extra heavy layers. Order now. H. W. Thur, Elora, Ont.

HATCHING EGGS—BABY CHICKS—UTIL- ITY laying strains. Eggs \$1.50 per setting. Barred Rocks, Rhode Island Reds, White Leghorns, White Wyandottes, Golden Wyandottes, White Rocks, Non-Bearded Golden Polish. Write for price list. Satisfaction guaranteed. Tay Poultry Farm, Perth, Ont.

HATCHING EGGS FROM PRIZE-WINNING stock. It pays to get the best, and that is what I have. Winners from nineteen Ontario Shows. Barred Rocks, Dark Cornish, Partridge Wyandotte, Buff and White Orpingtons and White Crested Black Polish, three dollars per setting. A beautiful Single-Comb White Leghorn Cockerel, five dollars. Three White Orpington hens and cock—a grand pen—eighteen dollars. Douglas Wark, Picton, Ontario.

PLYMOUTH ROCK EGGS—O. A. C. LAYING strain; \$1.50 per setting. Mrs. Berry, 52 Queen's St., Guelph, Ont.

SINGLE-COMB BLACK MINORCAS, EGGS for hatching, \$2 per fifteen. Satisfaction guaranteed. William Ewing, R. R. 4, Camilla, Ont.

SCHNICK'S COLUMBIAN WYANDOTTES— Eggs from prizewinners and grand layers—two and three dollars. Chicks by arrangement. Fred. W. Schnick, Box 85, Smithville, Ont.

TWENTY-FIVE YEARS A BREEDER OF Barred Rocks that are barred and bred right, and from first-class laying hens. Eggs \$3 for 15, \$8 for 50, \$15 per 100. Order direct from this advt. Satisfaction guaranteed. Walter Bennett, R.R. 1, Cottam, Ont.

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

TILT STRAIN PURE-BRED ROUEN DUCK eggs, \$1.50 per eleven. A. F. Thornton, Thamesford, Ont.

WINNERS—SILVER CUPS, GOLD MEDAL— Eggs, Single-Comb White Leghorns, \$1.50 and \$3 setting; Barred Rocks, \$1.50. Nine chicks guaranteed. H. Berscht, Caledonia, Ont.

WHITE WYANDOTTES; IMPORTED, bred-to-lay. Cocks dams' records over two hundred eggs per year. Barred Rocks, bred-to-lay, excellent layers. Prices—eggs, chicks on application. A. W. Hamilton, Parkhill, Ontario.

WOODRIGHT WHITE WYANDOTTES— Bred for laying. Hatching eggs \$1.50 per 15. Wainwright & Woodcock, Seagrave, Ont.

WHITE INDIAN RUNNER DUCK EGGS for sale. From a choice pen—\$2 per 12. Winfred McPherson, St. Ann's, Ont.

"UTILITY POULTRY FARM"

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APRIL 11, Growing

Comparative their own root reason for this to extra work e ditions, to the could be impos failure to unde of growing veg biennials. The resulting in an commodities h ducing their ov gratifying that success. The f tive to vegetabl in Dominion Ex Circular No. especially with vegetable seeds

Value of

Many persons seed every year do so. The se often germinate they buy and t seed is from the vegetable which again next year. grow their -ow melons, beans, are, however, al seed can be gat it is planted. grow their own celery, cabbage which require ty but just as satis tained from th vegetables.

Canadians h other countries biennial vegeta a large extent, w but the supply whence such se very uncertain a grow one's own sirable to do so, that would be s tion of growing that they will time. In order duction of hom scarcity, prizes different Horti Vacant Lot Asso plants.

During the ye more attention of vegetable se Farm, Ottawa, and considerably gathered from From the result recommendation fidence that, if th the home garden the little trouble is not claimed th obtained as from stocks and it is r tinue growing from year to ye such uncertainty of good seed, it the grower's whi

General Dire Biennial

The ordinary p on the vacant l tory in growing v soil that is fertil will give the bes of soil or manure

After the roots out in the garde loose and the g order to make th as possible for str danger of the pl as there will be r celery and perha wooden stake sho the plant and th space required for carrot, parsnip a from 2 x 3 to 3 x 1 x 3 feet, and fo by 2 to 3 feet. across one end of will take up littl cent to grow m seed that would seven kinds of ve carrots make the these might be pl row, which migh parsnips, 2 turn 3 celery each 1 fo 6 inches apart; 2 2 feet apart. Be

Growing Garden Seeds.

Comparatively few Canadians grow their own root and vegetable seeds. The reason for this can partly be attributed to extra work entailed, to unsuitable conditions, to the low price at which they could be imported, and possibly to the failure to understand the proper method of growing vegetable seeds, especially the biennials. The curtailing of importations resulting in an increased price for these commodities has led many to try producing their own supply of seeds. It is gratifying that their efforts have met with success. The following information relative to vegetable seed production is given in Dominion Experimental Farms Special Circular No. 12. The circular deals especially with the growing of biennial vegetable seeds.

Value of Home-grown Seed.

Many persons in Canada save vegetable seed every year and find it profitable to do so. The seed they grow themselves often germinates better than that which they buy and they know that their own seed is from the kind, variety or strain of vegetable which they would like to have again next year. Many market gardeners grow their own strains of tomatoes, melons, beans, peas, corn, etc. These are, however, all annual crops from which seed can be gathered the same year that it is planted. Comparatively few people grow their own seed of beets, carrots, celery, cabbage, onions, parsnips, etc., which require two years to produce seed; but just as satisfactory results can be obtained from these as from the annual vegetables.

Canadians have been dependent on other countries for most of their seed of biennial vegetables as they have been, to a large extent, with the annual kinds also, but the supply of seed from Europe, whence such seeds mainly come, is now very uncertain and, as it is quite easy to grow one's own seed it would seem desirable to do so, not so much for the money that would be saved as for the satisfaction of growing the seeds and knowing that they will be available at planting time. In order to encourage the production of home-grown seed during this scarcity, prizes might be offered by the different Horticultural Societies and Vacant Lot Associations for the best seed plants.

During the years 1915, 1916 and 1917, more attention was paid to the growing of vegetable seed at the Experimental Farm, Ottawa, than in previous years, and considerable information has been gathered from the experiments tried. From the results obtained the following recommendations are made with confidence that, if the directions are followed, the home gardener will feel well repaid for the little trouble and labor involved. It is not claimed that as good results will be obtained as from carefully selected seed stocks and it is not recommended to continue growing seeds without selection from year to year, but while there exists such uncertainty in regard to the supply of good seed, it would seem to be worth the grower's while to grow his own seed.

General Directions for Growing Biennial Vegetable Seeds.

The ordinary garden soil or that found on the vacant lot will be found satisfactory in growing vegetable seeds and, while soil that is fertile and in good condition will give the best results, no special kind of soil or manure is necessary.

After the roots or plants have been set out in the garden, keep the surface soil loose and the ground free of weeds, in order to make the conditions as favorable as possible for strong growth. If there is danger of the plants being broken down, as there will be in the case of cabbage and celery and perhaps some of the others, a wooden stake should be driven down near the plant and the latter tied to it. The space required for plants of beet, cabbage, carrot, parsnip and turnips to develop is from 2 x 3 to 3 x 3 feet, for celery about 1 x 3 feet, and for onions about 6 inches by 2 to 3 feet. One row of seed plants across one end of a twenty-five foot plot will take up little room and will be sufficient to grow more than enough of the seed that would be required of, at least, seven kinds of vegetables. Parsnips and carrots make the sturdiest plants, hence these might be planted at each end of the row, which might be planted thus: 2 parsnips, 2 turnips, each 2 feet apart; 3 celery each 1 foot apart; 5 onions each 6 inches apart; 2 cabbages, 2 carrots, each 2 feet apart. Between this row of seed

plants and the first row of vegetables there should be about three feet.

After the seed is ready to harvest, the sooner it is harvested, dried and cleaned, the better. Care should be taken that when drying there is a good circulation of air through the seed heads or pods so that they will not mold. When cleaned, put in paper bags or envelopes and keep in a dry place until spring. As mice are very fond of some kinds of seed see that they are safe from them.

The following table will give some idea of the probable seed yields per plant of the different kinds, the approximate number of seeds per ounce, and the amount of seed required for a hundred-foot row. It is sometimes necessary to make more than one sowing and sufficient seed is suggested to make two sowings, if necessary. The figures given are based on results obtained at the Experimental Farm, Ottawa.

Kind of Vegetable.	Yield per plant, in ounces.	Quantity of seed usually recommended for 100-ft. row.
Beet.....	2½ to 5½	2 to 3 ounces.
Cabbage.....	2 to 5	75 plants.
Carrot.....	1½ to 2½	½ to 1 ounce.
Celery.....	1 to 2½	250 plants.
Onions.....	¼ to ½	½ to 1 ounce.
Parsnip.....	2 to 4	½ to 1 ounce.
Turnip.....	5 to 9	¼ ounce.

Beets.—One good beet will produce more than enough seed for an average vacant lot or city garden. Before the winter's supply is used up, select two well-shaped specimens, in case anything should happen to one, and set aside until spring, making sure that the beet is of good, dark color by taking a small piece out. When the soil is ready for seeding, plant the beet deep enough in the ground so that the top will be slightly below the surface. The flower stalks will soon be thrown up and when the plant is well grown it is desirable to tie the stalks loosely to a stake as they are liable to be broken down. Most of the seed will ripen at one time. When the seed begins to turn brown and before it is quite ripe, cut the plant and tie up for a few days to dry thoroughly, then with a light stick, thresh off the seed and blow clean, and keep dry until spring.

Cabbage.—One head of cabbage will produce more than enough seed for the part of a city lot which is likely to be used for this vegetable. Save two solid heads and as soon as the ground is ready in the spring, plant about one-third of the head in the ground, and make a slit with a knife cross-wise over the top of the head, which will give the seed stalks a better chance to push out. In a short time these will do so and soon the plant will be in flower, pods will be formed and seed will develop. It is necessary to plant, at least, two cabbages as the flowers of one must be crossed with those of another in order to get pods well filled with seeds on either. This cross-pollination is done by insects. It is more satisfactory to plant the whole cabbage with the root attached, as there is less danger of the head rotting when this is done. When the roots are left on, the head simply rests on the soil, the roots only being planted. Good seed can be grown from the stump or root after the head has been removed, though this method is not recommended. Where only a small quantity of seed is grown the earliest ripe pods can be cut off as they turn yellow and the others as they mature. The seed is beaten out when dry, and cleaned.

Cauliflower.—As in most parts of Canada it is not possible to carry cauliflower over the winter the seed of this vegetable is more difficult to grow than most kinds, but plants started early will, in some places, go to seed if the heads are left uncut. Sometimes cauliflower seed is grown in a green-house.

Carrot.—One carrot will produce enough seed for a home garden. Save two shapely ones and in the spring plant as recommended for beets. The seed ripens much more unevenly than the beet and it is necessary to harvest each head as the seed gets ripe. Keep these clusters of seeds in a dry, airy place, and, when the seed is thoroughly dry, rub or beat out and keep dry until spring.

Celery.—One plant will produce enough seed for the home garden, but as disease sometimes attacks them it would be safer to plant three. At Ottawa, plants of both early and late varieties have been



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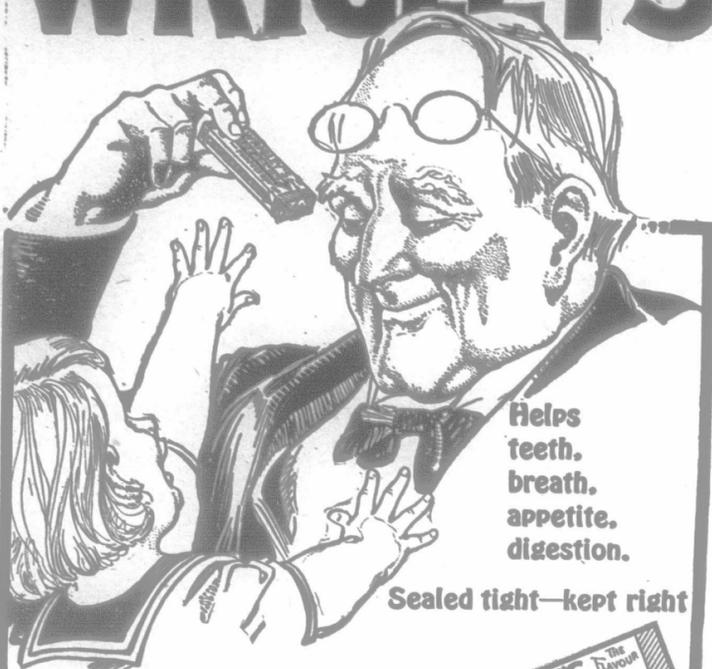
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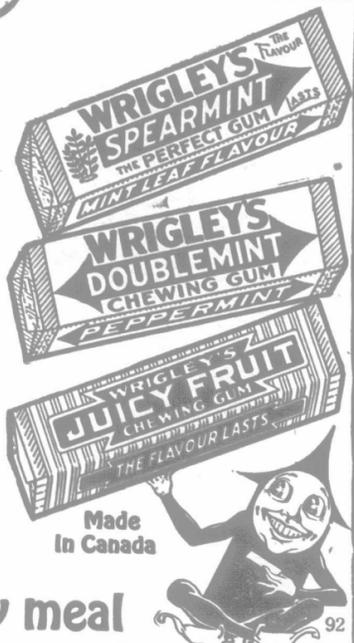
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"Give it to me,
please, Grand-
daddy."

"Why Bobby, if
you wait a bit
for it you'll
have it to en-
joy longer!"

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no argument with
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'cause the flavour
lasts, anyway!"

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Made
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kept over winter outside by opening a trench just before severe frost and putting the plants close together and deep enough so that the tops are about level with the surface of the ground. A heavy layer of about a foot of straw is put over the tops and then soil thrown over to a depth of about fifteen inches. Even if the plants kept in the house or outside over winter have nothing but the heart or inner stalks left in good condition by spring, they will produce seed of good quality.

Plant in the spring about the depth the plant was when taken up in the autumn. It will not be long before the seed stalk will be thrown up. The seed does not all ripen at the same time but as seed will give good results even if harvested a little on the green side, the heads should be cut before much of the earliest ripe seed drops. When, however, there is the crop of only one plant to harvest, the seed can be gathered as it ripens. If the plant is cut before the seed is ripe it should be hung up to dry. Celery shells easily when the seed is ripe and as it is very valuable, loss should be avoided.

Onions.—A few well-shaped, firm onions should be saved for seed purposes. They should be planted out early in the spring about 6 inches apart in the row. If the onions have sprouted, the sprout should be cut off when being planted as straighter stalks will be thrown up if this is done. The upper side of the bulbs should be an inch or two below the surface of the ground after being planted. This will protect them from spring frosts. When the plants have grown sufficiently they should be banked up about 6 inches to help support the plants when the tops become heavy with flowers and seed. When the seed stalks show yellow near the ground the seed balls are cut off with about two inches of the stalk attached. The heads or seed balls are then spread out to dry and later the seed is threshed out. It is important to dry onion seed as rapidly as possible and to keep it dry.

Parsnip.—The parsnip is treated much as the carrot and it is surprising to a beginner in growing seeds to find how much seed can be produced from one root. In saving a parsnip for seed, select one that is the most free from side roots and one of the shortest and thickest available. There is a worm which is liable to eat the parsnip seed before it is ripe, but the worms can be picked off by hand before they do much harm if one is on the lookout for them.

Salsify.—Save two or three plants of salsify for seed and plant and treat like the other roots.

Turnip.—Select two of the best-shaped, sound turnips and set aside for seed purposes. The roots are planted as the carrot, beet, onion and parsnip and seed harvested when the pods turn yellowish-brown.

A Seed Selection System for Practical Farmers.

If the purity and yield of our farm crops are to be maintained at a high standard it is essential that seed selection be applied regularly from season to season by the grower. The method does not matter so much as long as it eliminates the weak, multiplies the vigorous, and removes all foreign varieties. The following is an outline of a recommended system of selection in which there are two essential factors—the seed plot and the multiplying field. This method is simple and efficient, and when followed correctly will ensure the maximum of purity and productivity.

The special seed plot is the nursery of the grain field and should be large enough to produce sufficient seed, (after the rejected plants and light grain has been removed) to sow the multiplying field the following season. This field should also be of sufficient size that enough seed will be produced to sow the whole acreage of that particular crop the next year. The size of these plots will vary, depending entirely on the productivity of the soil, climatic conditions and the amount needed for seed. For instance, sowing oats at the rate of two and one-half bushels per acre, for twenty acres a multiplying block one and one-quarter acres in size would produce sufficient seed, if the soil were reasonably productive, while one-tenth of an acre would be large enough for the special seed plot.

In the operation of this work the following points should be emphasized:

1. Secure pure foundation stock. A few pounds of "pedigreed" seed is better than several bushels of an unknown variety. If you do not know where this can be procured, write to your nearest experimental station, agricultural college or to the Dominion Cerealists, Experimental Farm, Ottawa.
2. Establish a seed plot the first season whether you have secured five pounds or twenty-five bushels of "pedigreed seed."
3. Place this plot on the best part of your grain field.
4. Close off every eighth drill and leave a narrow path around the plot so that you may go through and around it without tramping down the plants.
5. "Rogue" carefully, removing all plants showing abnormal height, variation in shape of head, color of chaff, etc. If thoroughly rogued three times during the season it will be sufficient, although the best plan is to devote to it a few minutes every day or so.
6. Harvest carefully, and thresh separately, preferably with a flail the first season.
7. Fan thoroughly and hand-pick the grain from the seed plot the first season. This can be done in the winter-time and will remove any foreign varieties that may have got in during the threshing. One person can easily hand-pick a bushel a day. With careful threshing after the first season, this hand-picking can be avoided *except the seed for the seed plot, which should be hand-picked every year.*
8. Sow with this hand-picked seed the second year, first a seed plot, then the remainder in a multiplying field. The latter should, of course, receive casual inspection, although, if proper care has been taken, systematic roguing should not be necessary.
9. Examine and harvest the seed plot with the same care as the previous year.
10. Clean the threshing mill thoroughly, first thresh the multiplying plot, then the seed plot.
11. Fan thoroughly the grain from the multiplying plot and use this the next season for seeding your total acreage. This means that in the third year after the system is established, you have three distinct lots of grain, the special seed plot, the multiplying plot and the main field.
12. When growing nothing else but "pedigreed seed" and without a threshing mill of your own, thresh these three lots in this order, first the main crop, next the multiplying field, and last the special seed plot. In this way the chances of mixing are reduced to the minimum.

This system is practical and profitable, guaranteeing pure seed and high yields. Study it carefully, then try it.—Experimental Farms Note.

Bad Year Ahead in Forest Fires.

The danger season for forest fires is near at hand. Rapidly drying soil has left the old grass, brush, leaves, etc. in most perilous condition for starting fires.

An effort is being made by the fire rangers in this province to keep down the forest losses this year to a minimum. They will succeed only if every camper carefully extinguishes his camp-fire before leaving it, if every smoker refrains from tossing away burnt matches or tobacco in or near a wood, and if settlers in the newly-opened districts guard their land-clearing fires with the utmost care. Settlers' fires continue to be the very worst source of forest conflagration, although campers and careless smokers are close competitors. "The fire rangers," says the Canadian Forestry Association "want every good citizen to regard himself as a deputy ranger from now until November first."

"A Canadian forest was never worth so much to-day, as never gave so many jobs as to-day, never put money into circulation as it does this year."

An Irishman out of work applied to the boss of a repair shop in Detroit. When the Celt had stated his qualifications for a "job" the superintendent began quizzing him a bit. Starting quite at random, he asked:

"Do you know anything about carpentry?"

"Sure."

"Do you know how to make a Venetian blind?"

"Sure, I'd poke me chisel in his eye."—New York World.

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NEITHER you nor any other woman needs to be reminded that washing is a mighty disagreeable household task by the "wash-tub and wash-board" method. I have discovered that most women are keenly interested in finding some mechanical aid that will remove this most objectionable of drudgeries. That is why so many Canadian housewives have come to me as the result of my claim that I have the machine that answers the "wash" problem completely. My "1900" Gravity Washer will save you all the work of washing. It does away with all the drudgery of the back-breaking rubbing. It washes clean, because the hot soap-suds are driven right through the clothes until they are thoroughly clean. And it does not wear or tear the clothes; they are firmly held while the tub and water are in motion. The finest linens and laces or blankets, come out of the "1900" Gravity Washer without having been strained or stretched—without frayed edges or broken buttons.

The "1900" Gravity is operated with an ease

N. V. MORRIS, Manager "1900" Washer Company
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you will marvel at. Gravity is the basic reason for its ease of operation. A child can run it.

"Does it wash with speed?" you will ask. The "1900" Gravity Washer takes just six minutes to wash a tub full of very dirty clothes. Of great importance, too, is the lasting quality of this "1900" Gravity. The tub (detachable, by the way) is made of Virginia White Cedar, bound together with heavy galvanized steel hoops that will not rust, break or fall off. The "1900" Gravity is built for use; it will last a lifetime.

If you are interested, let me tell you more about it. Thousands of Canadian women have written to let me know what a genuine help the "1900" Gravity is to them. A New Brunswick woman says about hers:

"I enclose payment in full for washing machine and wringer. I am very much pleased with the washer. It is the best I have seen. It makes wash-day a pleasure."

Try the "1900" at my expense. I will send it to you for a free trial, without a cent deposit. Do as many washings with it as you like within the trial period of four weeks, and if you then find that you can afford to do without it, send it back at my expense. If you want to keep it, as I know you will, pay for it out of what it saves you, week by week, 50c a week if you like, until it is paid for. If you want to know specially about this trial offer, better address me personally.

Fair Trees

EDITOR "THE FARMER'S ADVOCATE"

Having read your article in your issue of April 4, on the farm, I am of your opinion. I help farmers get in hay and too heavy work. The farm cases, drive home men, but when it is too late, it is too late. I was not created in the fields. I purpose, and was not requiring Mr. McDiarmid man he had, and more just as a chance to harden farm work. It man who is seated at a desk stand heavy muscular power pretty poor me farming, but we of these men to is the farmer city man can k and make good try to help the the start. By how things ought sure that they assigned to the customed to m work and are able to over-see the "green" city spect him to co standard for a who are accustomed and offices can the heat in the seasoned hand. I continued drill before rigors of actual city man have to before he can su the harvest field. McDiarmid's reputation his city girl pens without an surely startling. is not a common more, do not n "green" city help to leave his city help increase pro

Halton Co., Ont.

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Here are the Denmark station tatoes will repla grain; the Wisconsin pounds of potato of cornmeal; the that 5½ pounds lent to 1 pound of the Wisconsin cheap a feed as p bushel. Or, a bu place 13½ pound test by the United Agriculture at B were compared w pound of corn 5 were required. ration required f pork produced 27 supplement than ration.

Feed grain with ers consider cooked than raw ones. grain with the p latter are cooked until cool enough sixth to one-four grain as of potato Add milk if poss add one pound of of tankage to e grain-potato miz University Farm,

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R. 2 FREEMAN, ONTARIO.

It is not only good business but necessary precaution to have your will made. Don't put it off. Get Bax Legal Will Form from stationers, 35c. Be sure it's a Bax—simple—full direction and specimen will to guide you.



Strawberry Plants, etc. We have a full line of first-class Strawberries, Raspberries, Currants, Gooseberries, Grapes, Asparagus Roots, Fruit Trees, Ornamentals, Roses, Seed Potatoes, etc. Write for free catalogue.

H. L. McConnell & Son, Port Burwell, Ont.

Fair Boards Object to Interference With Their Fairs.

The following is a copy of a resolution passed by the officers and directors of the Ontario Association of Fairs and Exhibitions, re discontinuance of fairs and exhibitions during the war:

"That in view of the possibility of the introduction into the Federal Parliament of a bill to discontinue the exhibitions and fairs of Canada until after the war, we, the officers and directors of the Agricultural Societies of Ontario, hereby express our strong disapproval of such proposed legislation as being detrimental to the encouragement of agricultural production.

"That the holding of fall fairs is entirely a Provincial matter, and, whereas in Ontario they are considered an essential educational factor in agriculture and a strong stimulus to increased production such action as proposed by the member for Missisquoi would be disastrous, particularly this year when so many young people from the towns and cities are to assist on the farms, and will become interested in the 'Back-to-the-land movement' and will, doubtless, receive many of their most valuable lessons on better farming at Ontario's fair and exhibitions.

"That this season the farmers will work 16 hours a day, to offset the food shortage in these strenuous times, and should not be deprived of their fair day, and the only one they deem their own, to which every man, woman and child on the farms look forward with pleasure each year for reunion after the harvest is over.

"That for upwards of 100 years the farmers of Ontario have held annually these agricultural educational institutions which have made this the banner Province of Canada, both in field crops and live stock.

"That the fair boards in this Province are composed of energetic, enthusiastic directors who have increased largely their prize-lists in order to encourage a greater production, and they would view with disfavor the putting into force of any law that would close this farmers' institution conducted each year by the Agricultural Societies of Ontario.

"That we do not believe that any true representative of a farming community will support such a measure.

"And that this Board of Directors of the three hundred and fifty Agricultural Societies holding fall fairs in Ontario enter a strong protest against the action of the member for Missisquoi, and that a copy of this resolution be forwarded to the Prime Minister, Sir Robert Borden and the Minister of Agriculture, Hon. T. A. Crerar."

Wm. S. SCARF, J. LOCKIE WILSON,
President, Secretary.

Notes From Leeds.

EDITOR "THE FARMER'S ADVOCATE":

I thought possibly you would like to hear from Leeds County, Ontario, again after the severe winter through which we have just passed. In this locality farmers are all well up with their work; next year's wood for fuel is nearly all sawn into stove lengths or is all ready for the stove. Sugar-making is in full swing, but the weather is a little too cool. Most farmers have plenty of feed in so far as fodder is concerned, but some are short of oats, which are selling around \$1.00 per bushel. Cheese factories are getting ready for business; several are putting in whey butter plants. The condensary plant at Brockville is going to cut the cheese business considerably by taking milk, and this will possibly stiffen the price, which we farmers can stand fairly well and will surely need to cope with the increase in expenses which we are now called upon to bear.

On my own farm I always aim to have the cellars cleaned and lawns and yards raked up before the land is ready to work. We also have our garden ready and we are in fairly good shape to start seeding as soon as the weather will permit. The help problem is a hard one to solve. What few men there are available in our section work by the day, and they hardly know what wages to ask, for they are all out to get the last cent and hold farmers up when they know we will pay almost any wage to get our farm work done. I am sure farmers do not need any daylight saving, as there will not be enough daylight to get our seed in the ground and crops harvested this year.

D. F. ARMSTRONG.

Leeds Co., Ontario.



A Matter of Life and Death

There is no more vital question before the poultry raiser right now than that of saving Baby Chicks. The most important factor is proper feeding. Wrong methods of feeding mean, literally, life or death to the chicks.

Pratts' BABY CHICK FOOD

brings the chicks safely through the critical first three weeks. Prevents the usual heavy mortality in young chicks. Insures rapid growth, sturdy constitutions and freedom from intestinal trouble, leg weakness and other diseases common to the newly hatched. Start right with "Pratts." Feed it exclusively for the first three weeks. About one cent per chick is all it costs for the entire period.

Money Back if not Satisfied

At your Dealer's in popular-priced pkgs., also in money-saving 50-lb. and 100-lb. bags.

Pratts' White Diarrhoea Remedy

prevents bowel trouble. Use it in drinking water

Pratts' Poultry Disinfectant

frees the coops and brooders from lice and mites. Keeps down bad odors.

Write NOW for Pratts' new "Baby Chick Book." It's FREE.

PRATT FOOD CO. of CAN., Ltd.
66-J Claremont St. Toronto.

P-8



Feed Ensilage Keep Your Livestock Sleek

Corn silage is not only the cheapest food, but it most nearly approaches the efficiency of pasture grass, and has the additional advantage of being available at all times, regardless of the season. Silage will increase milk production during the winter and during the dry spell in midsummer. It will keep your herd in first-class condition the year round. The

Burlington Cable Band Silo

is the strongest-hooped silo on the market. The seven-strand, steel cables used are stronger than iron, twice as easy to put on, allow for expansion or contraction of the silo, and may be adjusted easily.

No. 1 Norway Pine Staves, 2"x 6", side and end matched, used only. The Cable Band Silo is air-tight, frost-proof, water-tight and vermin-proof. It will last a lifetime.

The Burlington Silo can be erected very easily and quickly. You can do the work yourself with the help of your hired man in 10 to 15 hours. This means a big saving.

Our "Factory to Farm" plan saves you many dollars, write for full information and price list. It will pay you to act at once.

THE NICHOLSON LUMBER CO., Ltd., Burlington, Ont.



CREAM WANTED

It will pay you to ship us your cream. We pay express out on empty cans and express in on your cream. We remit for every can DAILY. We supply cans.

WE WANT YOUR CREAM.

LINDSAY CREAMERY LIMITED, Lindsay, Ont.

25% Better—

"Gold Dollar" Calf Meal

CUMMINGS FEED MILLS
OTTAWA

J. A. SIMMERS, LIMITED, Distributors, TORONTO



The Buckeye in extensive universal recognition. Many rural Colleges for development contract ditch more profitable drainage incre

"A Perfect" BU Trac

and price Buckeye Gen in Apr \$2200.00 bills and investmer myself, as to lay the tiling before work also too treatment ane is all tha for, and your to me when

You get coa a perfect tr ready for the Get our "D learn of the abilities of this request.

The Buckeye Ditch

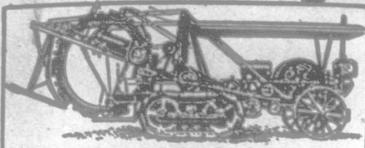
205 Crystal Ave. Our Service will assist you started right.

Question M

Conta

Having been cate for nearly ask your opin ter that is of so may be of in Last fall I pu said to have N 1917. On Nev finishing the ch and thought sl three days at n stable next mo lying behind he parently never the cow in the n half gone in call 3rd another co June 4th last g On March 31st about six weeks is the cause of been well fed an condition. If t why would two calves full nin birth to dead lose her calf, o accident, would would cause an all four cases I I keep a bull an disinfected by u of zinc. The fir again on March thing to do? heifers which m Under the circ them for beef? Agriculture pul abortion?

Ans.—There your herd is i abortion, one of to treat. It is ing has anything Quite frequently certain of the calves almost fu a dead foetus, calf on account be dangerous in from such cause i and would not s contagious form



The Buckeye Traction Ditcher has been in extensive use for years and has won universal recognition as the standard power ditcher. Many States and State Agricultural Colleges have bought these machines for development work, and the business of contract ditching is becoming more and more profitable as the demand for ditch drainage increases.

"A Perfect Trench at One Cut"
BUCKEYE
Traction Ditcher

the jobs are completed in such short time that everybody profits and is happy. The average earnings of Buckeye Ditcher owners are

From \$15 to \$25 a Day

and you deal with a class of people who are able and glad to pay the price for the service you render them. As a typical illustration of Buckeye success we print this letter from Mr. Uvaas, of Larsen, Wis. Gentlemen: I purchased one of your No. 1 tile ditching machines in April, 1915, and my gross earnings from 84 days operation were \$2200.00. I paid out for help and supplies \$278.00 and my repair bills amounted to \$20. This left me \$1902.00 for my own work and investment in the machine. My crew consisted of one man besides myself, as the land owner furnished the man to lay the tile. I had never done contract tiling before getting your machine and my farm work also took up considerable of my time. The treatment and service your company has given me is all that any fair-minded man could ask for, and your machine is exactly as represented to me when I bought it. ED. UVAAS.

You get complete results with the Buckeye—a perfect trench that is true to grade and ready for the tile at one cut.

Get our "Dollars in Ditches" book and learn of the large money-making possibilities of this business. Sent free on request.

The Buckeye Traction Ditcher Co.

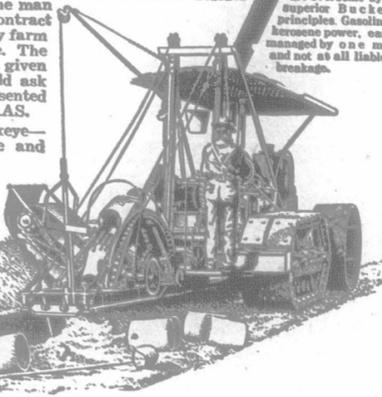
308 Crystal Ave., Findlay, Ohio
Our Service Department will assist you in getting started right.

Increased Crops for Others—Bigger Profits for Yourself.

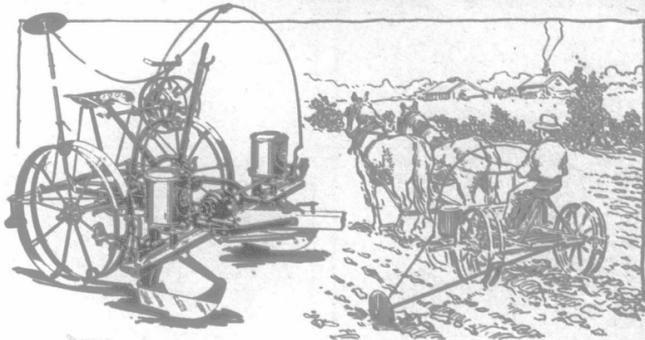
Tile drainage is acknowledged as a sure means of increasing crop productions in all parts of the country where wet conditions are encountered. In every section there are many farms badly in need of tiling. The problem is how to get it done. Labor is so scarce and hand work so slow that the great need cannot be met except by power ditching.

There is little real competition for the man who will take a Buckeye Traction Ditcher and put in ditches on contract. There's big money in it right from the start. The work done by the Buckeye is so clean and true to grade, and there is so little time that everybody profits

Buckeye Ditcher cuts through frost and hardpan. Apron wheels give ample support on swampy land. You'll be surprised at the ease with which difficult conditions are overcome by the superior Buckeye principles. Gasoline or kerosene power, easily managed by one man and not at all liable to wreckage.



The Planter Starts the Crop



You know how much better chance a corn crop has when it gets a good early start with an even stand. It takes a good planter to give it that start, an INTERNATIONAL CORN PLANTER that is easily adjusted and that stays adjusted until the job is done. Consider these planters, feature by feature.

They plant corn accurately, whether used with edge drop, flat drop or full hill drop plates; whether the corn is checked or drilled. The drop clutch can be changed, while the planter is working, to drop 2, 3 or 4 kernels to a hill. The tongue is easily adjustable to the height of the horses. A handy foot-drop lever makes head-row planting easy.

When you look the INTERNATIONAL Planter over, don't miss the automatic marker, a handy feature that saves a lot of work and time. There are fertilizer attachments if you want them, combination pea and corn-planting hoppers, open wheels or closed—your planter will be equipped just as you want it. You can plant in rows as narrow as 28 inches apart by 2-inch adjustments, with four distances between hills.

These planters are so good you will want to know all about them. Drop a line to the nearest branch and let us send you full information.

International Harvester Company of Canada, Limited

East—Hamilton, Ont.; London, Ont.; Montreal, Que.; Ottawa, Ont.; Quebec, Que.; St. John, N.B.

West—Brandon, Man.; Calgary, Alta.; Edmonton, Alta.; Estevan, Sask.; Lethbridge, Alta.; North Battleford, Sask.; Regina, Sask.; Saskatoon, Sask.; Winnipeg, Man.; Yorkton, Sask.

Questions and Answers. Miscellaneous.

Contagious Abortion.

Having been a subscriber to the Advocate for nearly twenty years I venture to ask your opinion or advice about a matter that is of some importance to me, and may be of interest to many readers. Last fall I purchased a pure-bred cow said to have been served on April 2nd, 1917. On New Year's evening when finishing the chores I took a look at her and thought she would calve in two or three days at most. When I went to the stable next morning I found the calf lying behind her dead. The calf had apparently never moved. About Feb. 15 the cow in the next stall, a little more than half gone in calf, lost her calf. On March 3rd another cow which had been served June 4th last gave birth to a dead calf. On March 31st another cow lost her calf about six weeks or so before due. What is the cause of all this? The cows have been well fed and were all in good thrifty condition. If this is contagious abortion why would two of the cows carry their calves full nine months and then give birth to dead calves? If a cow should lose her calf, or abort, on account of an accident, would there be any germ which would cause another cow to abort? In all four cases I had to remove afterbirth. I keep a bull and have tried to keep him disinfected by using a solution of chloride of zinc. The first cow referred to was bred again on March 24th. Was this a wise thing to do? I have about a dozen heifers which might be bred this summer. Under the circumstances should I sell them for beef? Has the Department of Agriculture published any bulletins on abortion?

SUBSCRIBER.

Ans.—There is little doubt but that your herd is infected with contagious abortion, one of the most difficult diseases to treat. It is not likely that the feeding has anything to do with your trouble. Quite frequently in contagious abortion certain of the cows may carry their calves almost full time, and still present a dead foetus. Any cow which loses a calf on account of an accident would not be dangerous in the herd, as an abortion from such cause is not itself a germ disease and would not spread to the others. The contagious form of the trouble is, how-

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IMMENSE WEALTH IN WESTERN CANADA

Send for **FREE Book**

"Home-Seekers' and Settlers' Guide"

Contains valuable and interesting information based on Government Reports

ENTERPRISE and ENERGY—One Alberta town reports at least 100,000 acres of new land in that vicinity plowed last fall for crop this year; has six elevators now and three new ones and a flour mill under way. The reason—1917 values for wheat, oats, barley and flax seed alone for the prairie provinces is \$613,885,700.00. Start now, share it this year.

THOUSANDS OF FREE FARMS—Whether you have capital or not, there is a farm for you along the Canadian Northern Ry.—160 acres of Government homestead lands, surveyed and ready for entry. First comers have the choice.

Improved Lands from \$15 UP PER ACRE

Thousands of acres of selected lands, close to the railway, can be purchased on easy terms, cash, or part cash and crop payments. This means schools, good roads, transportation and market facilities. Prices continually advancing; the values are there.

Low Fares Comfortable Trains Interesting Features

By Canadian Northern, the logical route from Eastern to Western Canada. Through tickets everywhere. Get copy of the "Guide" to-day; any agent, or write General Passenger Dept., Montreal, Que.; Toronto, Ont., or Winnipeg, Man.

FISH NETS TRAPS GUNS

Gill, Hoop, Brook, Trammel, Pound and Dip Nets and Seines.

Traps for all animals—We carry in stock the largest assortment of animal traps in Canada—Guns and rifles of the popular makes—Tents, Camp Stoves, Canoes, Bicycles, Headlights and Sporting Goods.

FREE—Hallam's Sportsman's Supply Catalog—32 pages illustrated—write for your copy to-day.

John Hallam Limited

81 HALLAM BUILDING, TORONTO.

For Sale:

- 1 reg. Dairy Shorthorn bull, sired by Robin; 15 months old.
- 1 reg. " " calf, sired by Ashley H.; 7 months old.
- 1 reg. Ayrshire bull, sired by Auchenbrain Pride; 2 years old.
- 1 pure-bred Ayrshire bull calf, three months old.
- 1 " " Dairy Shorthorn bull calf, three months old.
- 1 heavy Draft Gelding, 7 years old, weight 1,600 lbs.

APPLY:

F. M. PASSOW; Eustis, P., Que.

ever, as the name implies, a germ disease which spreads rapidly throughout a herd and is always difficult to control. It is sometimes wise to defer breeding cows which have aborted for several months, and in the meantime to use disinfectants in flushing them out and for their external generative organs. We would not advise you to sell your heifers. Take every precaution from now on to thoroughly disinfect the stable and the cows which have aborted. If you can do so, separate the aborters from the rest of the herd; if this is impossible use the disinfectant all the more freely and often. The Veterinary Director General's Department have experimented with serum and vaccine in the treatment of this disease and they offer to treat, free of charge, a limited number of herds in which the disease has occurred. If you desire to try this treatment, write the Veterinary Director General, Department of Agriculture, Ottawa. It would be wise anyway to get in touch with that Department. You should burn or otherwise destroy all after-birth from cows with this trouble. Retention of the after-birth commonly goes with the disease. Use as a disinfectant in the stable, a carbolic-lime wash of about a pound of crude carbolic acid to each 5 gallons of water; a solution of corrosive sublimate, 30 grains to a gallon of water, heated before using, to be used to disinfect the exterior generative organs. The womb should be flushed out daily with about a gallon of this fluid until all discharge ceases. A cow which aborts should not be bred again for about nine months, and a bull bred to an aborted cow should not be used again for at least six months, and in the meantime be thoroughly disinfected.

At the Lambs' Club one night, the members were discussing the tendency of the average comedian, to insist that his forte is really tragedy, when some one chanced to ask Billy Crane if he were an exception to the rule. "No," replied Crane, "I can't say that I am. Years ago in the West I tackled Hamlet."

"I suppose", the questioner continued, "the audience called you before the curtain."

"Called me!" Crane repeated. "Called me! Why, man, they dared me!"

Harper's Weekly.

SEED GRAINS

We can supply, on short notice, limited quantities of Choice, High-Quality Field Grains from the following varieties:

Marquis Wheat, Goose Wheat, O.A.C. No. 21 Barley, Bunker King Oats, O.A.C. No. 72 Oats, Silver Hull Buckwheat, Centennial Peas, Also Highest Grades of Clovers and Timothy

Ask for our prices on Mangels, Turnips, Onions, Potatoes, Beets, Corn and garden seeds of all kinds.

If in need of feeds, write us. We can supply Cotton Seed Meal, Linseed Oil Cake Meal, Corn Oil Cake Meal, Gluten Feed (23% Protein), Bran, Shorts, Corn, Cracked Corn, Corn Meal, Re-Cleaned Standard Screenings, Ground Screenings, Beef and Bone Scrap, Poultry Grit, Oyster Shell, Alfalfa Meal etc.

We manufacture the well-known "Good Luck" Brands of Poultry Feeds and can supply any quantity. Try our Good Luck Baby Chick Feed. It gives results.

Long-Distance Phone: Day Junction 314 Night J. 314-4044 Write or Phone for Prices.

CRAMPSEY & KELLY
Dovercourt Road, Toronto, Ont.

LIFT YOUR CORNS OFF WITH FINGERS

Tells How to Loosen a Tender Corn or Callus so it Lifts Out Without Pain.

A noted Cincinnati chemist discovered a new ether compound and called it Freezone, and it now can be had in tiny bottles as hereshown for a few cents from any drug store.

You simply apply a few drops of Freezone upon a tender corn or painful callus and instantly the soreness disappears, then shortly you will find the corn or callus so loose that you can just lift it off with the fingers.

No pain, not a bit of soreness, either when applying Freezone or afterward, and it doesn't even irritate the skin. Hard corns, soft corns, or corns between the toes, also toughened calluses, just shrivel up and lift off so easy. It is wonderful! Seems magical! It works like a charm! Your druggist has Freezone. Ask him!

Clover Seeds
(Government Standard)

	Per bus.
No. 1 Red Clover.....	\$24.00
No. 2 Red Clover.....	23.00
No. 1 Alsike.....	16.50
No. 2 Alsike.....	15.50
No. 1 Northern-grown Alfalfa.....	17.00
Ontario Varigated Alfalfa No. 2.....	24.00
No. 2 Timothy. (This seed grades No. 1 for purity.....)	5.50
No. 3 Timothy.....	5.00
Mixed Timothy and Alsike.....	9.00
White Blossom Sweet Clover.....	18.00
O. A. C. No. 72 Oats.....	1.50
Marquis Spring Wheat.....	3.25
O. A. C. No. 21 Barley.....	2.25
Canadian Beauty Peas.....	5.50
Golden Vine Peas.....	5.00
White Seed Beans.....	10.00

Terms:—Cash with order. Bags extra, at 45c. each.

On all orders, East of Manitoba, of \$25.00 or over we will pay the freight.

We guarantee seeds to satisfy or ship back at our expense.

Ask for samples if necessary.

TODD & COOK
Seed Merchants
Stouffville - Ontario

NURSERY STOCK
AT WHOLESALE PRICES.

First-class and true to name. Send for catalogue. No agents.

The Imperial Nurseries, Ridgeville, Ont.

Questions and Answers.
Miscellaneous.

Cement Whitewash.

Please publish in your next issue a receipt for mixing whitewash, using cement. E. S.

Ans.—We have no recipe for making whitewash, using cement. The following is, however, a good whitewash: Take half a bushel of unslacked lime, slack with warm water. Cover it during the process to keep in the steam, strain the liquid through a fine sieve or strainer; add a peck of salt, previously well dissolved in water, 3 lbs. of ground rice boiled to a thin paste, stirred in boiling hot; half pound Spanish whiting and one pound of glue, also previously dissolved, by soaking in boiling water in an ordinary glue pot. Add 5 gallons of water to the mixture, stir well, and allow it to stand for a few days, protected from dirt. The lime-wash should be applied hot, and one pint properly applied with a small brush will cover a square yard. We can give you a recipe for a cement paint, which is as follows: Take a quantity of Portland cement, put in a suitable can or pail and add enough coloring to make it of the desired shade. Stir well so as to get the color thoroughly mixed with the cement, then add enough milk (whole milk is best) to make the cement of the consistency of rich cream and apply with an ordinary paint brush. Do not mix up very much with the milk at one time as it inclines to set and harden. For that reason also the mixture must be well stirred.

Fertilizer and Poultry Queries.

1. I have three hundred lbs. of good fertilizer left over from last spring's stock. I have stored it in a good dry place. Would there be as much strength in it now as there was when I used it last year? Can it be sowed with little onions or rather the onion sets? How should it be applied? I have no drill to sow with. Could it be applied by hand and worked in and then let it lie for a short time before sowing onions?

2. I have pure bred hen eggs for sale. I received an order from the United States a short time ago for a few settings. Is there any duty on pure-bred chicken eggs? If so could you tell me how much? Should there be a small statement on the box concerning pure-bred eggs?

3. I noticed in an issue in 1917 where there is a fine for selling gasoline on Sunday. Where should one report to when our gasoline men are violating the law?

4. Could you give me the address of some poultrymen who have Silver Laced Wyandottes pure? I would like to buy from prize-winning stock. There is one ad. in your paper every week but I have purchased from him.

G. L.

Ans.—1. If the fertilizer has been properly kept, it will be all right to apply by hand this spring on the land, working in shortly before the onions are planted.

2. We do not know that there is any duty on eggs for hatching going into the United States. However, there may be, but it would be paid at the other end when the eggs got there. It would be advisable to state on the outside of the package that they were eggs for hatching from pure-bred stock.

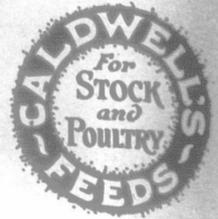
3. Lay your complaint before your local magistrate.

4. Breeders of this class of poultry should advertise in "The Farmer's Advocate."

Canadian Flax For Aeroplane.

Word has been received at Ottawa that Colonel Wayland of the Canadian Expeditionary Forces has been requested by the War Office to immediately proceed to Canada to supervise the distribution of fibre flax seed, which is anticipated will be urgently required in order to supply the manufacturing needs for aeroplanes in the near future. As the importance of these supplies cannot be exaggerated it is exceedingly desirable that there shall be cordial co-operation between the farmers who will sow this special flax seed and Colonel Wayland who will distribute the seed to be sown. Colonel Wayland has been empowered to offer suitable terms to farmers sowing this seed. He is proceeding to Canada at an early date, and in the meantime enquiries may be addressed to him care Grain Exchange, Winnipeg.

A Bacon Producer Without an Equal



In this crisis of world food shortage—with its meatless and baconless days—it is important that stock be fed products that will produce most rapid gains at a reasonable cost. If you are fattening a batch of hogs, and want quick results, start feeding

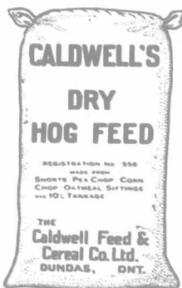
CALDWELL'S HOG FEED

We make two kinds — Molasses Hog Feed, in which the meal is thoroughly covered with Molasses. It contains 11% Protein, 3% Fat, and 8% Fibre.

Dry Hog Feed is made from shorts, corn chop, oil cake, pea chop, low grade flour and 10% tankage. It contains 19% Protein, 2½% Fat, and 19% Fibre.

Order from your feedman.

The Caldwell Feed and Cereal Co., Ltd.
Dundas, Ontario



CO.W OWNERS EXPECT MORE FROM A DE LAVAL

- more cream
- longer wear
- better service
- better value,

AND THEY GET IT

A Catalogue of the NEW De Laval Machines will be gladly sent on request, and if you don't know your nearest local agent please simply address the nearest De Laval main office as below.

THE DE LAVAL COMPANY, Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA
Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns and Buttermakers. Catalogues of any of our lines mailed upon request.
MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

Big

This does

It pulls loads to the silos—without

If you critical

H

Mod

Model kerosene: it

The Ha enough for corners and corner finish

With n lbs., model combination of machine all

If you meet your r

Send

The R He

Questions
Misc

Scr

I have a mare scratches which Small lumps have appear like raw fl

Ans.—1. Son rather difficult to raw surfaces appe

in foal purge her 2 drams ginger, 1½ ounces Fowle

twice daily for a legs with warm lin powdered charcoal

nights, then dress a solution made acetate of lead to a pint of water.

Can

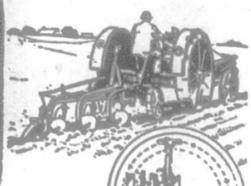
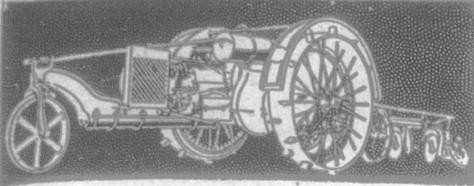
1. What is a called mullet so th for summer use?

Ans.—1. We factory recipe for possibly some of our had experience alor to give a recipe f

readers. The foll smoking salmon, whether it would or not. Keep th

ordinary salt and days, then take from them over a fire of juniper twigs and allow them to re

days. This fire n house or in a barrel on sticks above the that the fire does and that an abund produced.



Big Results at Low Cost

THE HAPPY FARMER Model B abundantly makes good this claim because it does everything other tractors do, and does it on cheap coal oil.

It pulls plows, drills or harrows, pulls the binder, draws loads to market, or does road grading; it helps saw wood, fill the silos—does every kind of pulling and belt work on coal oil without carbon trouble or smoke nuisance.

If you want early plowing, seeding and harvesting in critical times, make sure of them by using the

Happy Farmer Tractor

Model A—8-16 horse power
Model B—12-24 horse power

Model B's motor is not merely adapted, it is designed specially for kerosene: it is the most perfect kerosene burning motor made.

The Happy Farmer makes good on the heaviest plowing, yet it is light enough for use with the drill. It's great how it gets around in close corners and in small fields. It plows right up close to the fence with every corner finished right. It turns on its own tracks.

With more than 2,000 lbs. draw bar pull, and weighing only 3,700 lbs., model B does not pack the soil in cultivating or seeding. This combination of power with light weight means economy and a less expensive machine all around.

If you prefer a less powerful machine for smaller farm, Model A will meet your requirements.

Send for prices, terms and descriptive literature. Write to-day.

The Renfrew Machinery Co., Limited

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"How a man with no surplus estate, but still with enough money to pay the premium on a life insurance policy, can refuse to do it and then look his children in the face and say his prayers at night on going to bed, expecting them to be answered, is a mystery that I have never yet been able to fathom."

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LIFE INSURANCE is the only method by which a man can create an estate immediately, without a large expenditure of money.

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If the Insurance be taken on the Endowment Plan you can rest assured that ten, fifteen, twenty years hence the protection you now provide will be available in full with certainty. No other form of investment can create an estate with equal certainty.

During the past year the number of homes protected by policies in the Mutual increased by twenty per cent. Since 1869 the Mutual has distributed to policyholders, or their dependents, nearly \$23,000,000.

The Mutual issues policies on many different plans, one of which is sure to fit your particular requirements and means. Write for literature about Mutual policies.

The Mutual Life Assurance Company of Canada
Waterloo, Ontario

533

Questions and Answers. Miscellaneous.

Scratches.

I have a mare which is affected with scratches which have been neglected. Small lumps have formed on the leg which appear like raw flesh. J. P.

Ans.—1. Sometimes scratches are rather difficult to heal, especially when raw surfaces appear. If the mare is not in foal purge her with 8 drams aloes and 2 drams ginger, then follow up with 1½ ounces Fowler's solution of arsenic twice daily for a week. Poultice the legs with warm linseed meal and a little powdered charcoal for two days and nights, then dress three times daily with a solution made of one ounce each of acetate of lead and sulphate of zinc to a pint of water.

Canning Fish.

1. What is a recipe for canning fish called mullet so they may be preserved for summer use? J. A.

Ans.—1. We cannot find a satisfactory recipe for canning mullet, but possibly some of our subscribers who have had experience along this line may be able to give a recipe for the benefit of our readers. The following is a recipe for smoking salmon, but we do not know whether it would apply to the mullet or not. Keep the fish in a brine of ordinary salt and a little nitre for four days, then take from the cask and suspend them over a fire of birch of oak leaves, juniper twigs and juniper berries, and allow them to remain there for three days. This fire may be in the smoke-house or in a barrel and the fish suspended on sticks above the fire. It is important that the fire does not burst into flame, and that an abundant quantity of smoke be produced.

PRESTON Farmer's Garage



Build Your Own Garage

Low Cost—Little Labor

THIS fine Preston Garage for farmers gives you the satisfaction of building your own garage, yet saves all the time-killing and back-breaking work of sawing lumber. The material is shipped to you flat—every piece, cut and fitted. The doors and windows come ready-built. Included is all necessary hardware, together with high-grade composition roof.

Any handy man can nail together the whole job and put it up on your place in quick order.

Besides this big saving of labor and time, you get the material at low cost—due to our big factory equipment and resources.

Figured in terms of produce, the prices of all buildings are much lower than before the war. The garage illustrated, for example, will be shipped as above for \$65. That is, 30 bushels of wheat will pay for it. In 1914 it was worth 55 bushels.

And this low price buys a good-looking, sturdy, serviceable building—10 feet wide and 16 feet long—8 feet to the eaves.

There are PRESTON garages in many other sizes and styles, including all-metal covered. Catalog shows pictures, prices and all details. Write for it—today!

The Metal Shingle & Siding Co., Ltd., Preston, Ont.
Makers of Preston Barns, Storage Buildings,
Garages and Implement Sheds

High Records For Ayrshires.

J. G. Watson, of the Extension Service of the Ayrshire Breeders' Association, writes as follows regarding the entries in the advanced registry for the quarter ending March 20: "Since January 1, 90 yearly records have been completed in the several classes. The average of the 90 animals, all ages, is 9,951 lbs. milk, 401.61 lbs. of fat, with an average test of 4.3 per cent. This is an average increase of 410 lbs. of milk and 17.09 lbs. of fat over the previous quarter, when the average for 104 animals was 9,549 lbs. milk and 384.52 lbs. fat. The following summary shows the statistics by classes with their average production. The best record completed in this quarter is McAllister's Betty, owned by Percival Roberts, Pennsylvania. Her record is 19,189 lbs. of milk and 785.80 lbs. of fat.

Class	Average Record	
	Milk	Fat
25 Mature.....	11488	452.25
6 Senior 4.....	10788	439.58
6 Junior 4.....	10188	447.75
10 Senior 3.....	9020	357.01
5 Junior 3.....	9352	383.88
13 Senior 2.....	8198	340.17
11 Junior 2.....	7951	322.30

Little Betty, just initiated in the first teachings of the Sunday-school, has displayed special interest in a future life.

"Mother, will I go to heaven when I die?"

"Yes, if you are good."

"Will my dog go, too?"

"No, because dogs have not souls."

A pause; then, eagerly, "Well, will our cow go?"

"No, animals have no souls."

"Oh, then we'll have to go to hell for our milk."

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Any shaped wall or ceiling can be tastefully covered

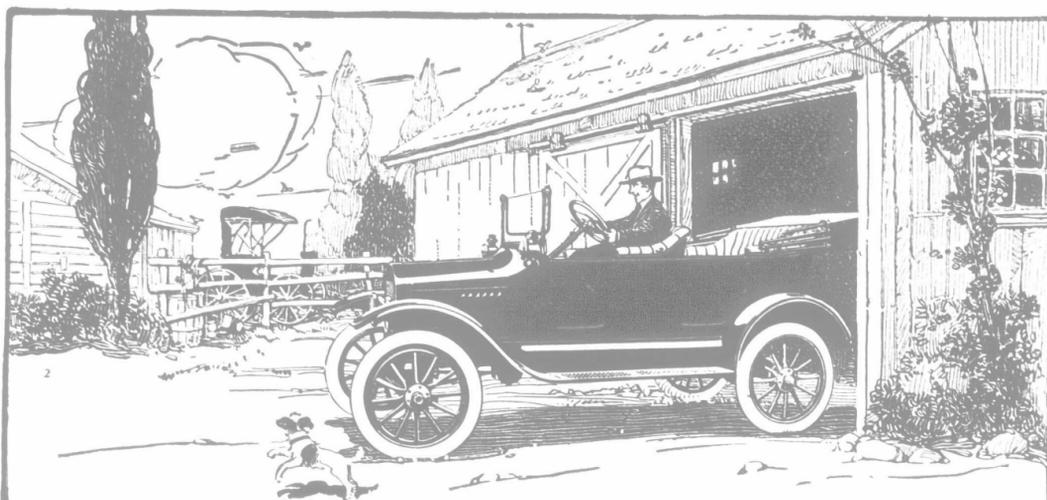
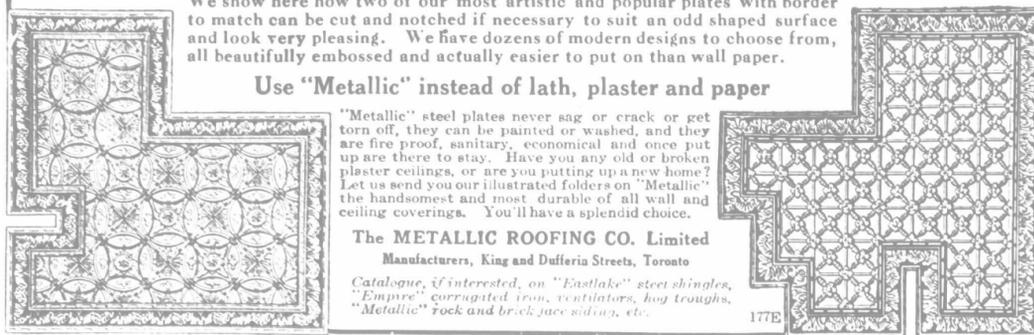
We show here how two of our most artistic and popular plates with border to match can be cut and notched if necessary to suit an odd shaped surface and look very pleasing. We have dozens of modern designs to choose from, all beautifully embossed and actually easier to put on than wall paper.

Use "Metallic" instead of lath, plaster and paper

"Metallic" steel plates never sag or crack or get torn off, they can be painted or washed, and they are fire proof, sanitary, economical and once put up are there to stay. Have you any old or broken plaster ceilings, or are you putting up a new home? Let us send you our illustrated folders on "Metallic" the handsomest and most durable of all wall and ceiling coverings. You'll have a splendid choice.

The METALLIC ROOFING CO. Limited
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Catalogue, if interested, on "Eastlake" steel shingles, "Empire" corrugated iron, ventilators, hog troughs, "Metallic" rock and brick face siding, etc.



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MORE than 100,000 Fords are owned by people in Canada in preference to the old horse-drawn buggy and other makes of cars.

Your neighbors, and farmers in every section of the Dominion are abandoning their old buggies—selling their driving horses and buying Fords.

Ford cars are utility cars. They are built to endure the strain of constant daily use over rough roads.

These are the tests every farmer gives his car. The Ford meets them in a satisfactory manner. It is the farmer's car, so why not replace *your* horse and buggy with a Ford?

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

Ford Motor Company of Canada, Limited
Ford, Ontario

Smiles.

Not Her Quarrel.—The fact that corporal punishment is discouraged in some public schools is what led Harry's teacher to address this note to the lad's mother. "I regret very much to have to inform you that your son Harry idles away his time, is disobedient, quarrelsome, and disturbs the pupils who are trying to study their lessons. He needs a good whipping, and I strongly recommend that you give him one." Whereupon Harry's mother responded as follows:—"Dear Miss Jones: Lick him yourself. I ain't mad at him. Yours truly, Mrs. Smith."

Farmers' Organizations and Their Benefits.

Following is an address delivered before the District of Beauharnois Dairymen's Convention, by A. A. MacMillan of Macdonald College:

It is not necessary for me to discuss what may be included under the head of farmers' organizations, or in other words, co-operation among farmers. Co-operation is now well beyond the experimental stage, but it is not so many years since the word co-operation was viewed with disgust by the great majority of farmers on account of the failure of many so called co-operative schemes, which were exploited at the expense of the farmer, by individuals who were not in any way connected with agriculture and who were in most cases anything but friends of the farmer. Even yet it is not uncommon to hear a farmer say, "Co-operation is a splendid thing but farmers will not hold together." The recent success of many truly co-operative societies has done much to dispel the old-time scepticism, and now the farmer is realizing the possibilities and benefits to be derived from organization.

Four years of war and its resultant effect on economic conditions resulting in a general food shortage, acute transportation problems and increased cost of production have brought the farmer much in prominence as a national unit. At the same time he is brought face to face with an organized industrial and financial machine against which, on account of rapidly changing conditions, he has found it necessary to take a much more active part in deciding issues that directly concern his business. As an organized body the farmer naturally becomes the controlling factor in the country's finance. Unorganized he becomes more and more the pawn of the profiteering cultures that have a tendency to multiply so rapidly in periods of national crisis.

In the matter of organization the farmer must be careful to build his structure solidly and in accordance with each and every law pertaining to the economics of the times. He must not forget that while he may be considered the foundation of the country's prosperity, yet on this foundation is built the superstructures of industry and its associated affiliations, the growth and prosperity of which must go hand in hand with agriculture.

In its present partially organized state, agriculture is at a decided disadvantage. The co-operative agricultural societies' system must become much more extensive and complete before agricultural enterprise will obtain the same measure of protection as other commercial interests. The commercial interests have largely been able to control the farmer although he, in many cases, produces the actual products from which these interests have been able to establish a business. The farmer, except in a very few and local cases, does not set the price of the products which he offers for sale, while on the other hand, he has to pay the price set by industry for the articles he buys.

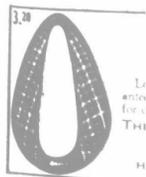
In the present agricultural crisis the extension of the agricultural societies' system is being urged in Great Britain with a view to equalizing distribution, preventing waste and eliminating profiteering. In Canada as a result of the increased production campaign which has been instigated, the advantages of agricultural societies have become apparent not only to the progressive farmers, but also to the Dominion and Provincial Governments as a means of reducing cost of production and marketing, improving quality and quantity of products,

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The addition of a small teaspoonful of Bovril to the diet as a peptogenic before meals leads to more thorough digestion and thus saves food, for you need less.

5,184

and providing education along necessary lines.

In the light of present circumstances it would appear that every farmer would accept the co-operative idea as a whole without question and give it his substantial support, but there are many who do not realize the significance of its importance and as yet support in no way the co-operative idea. They do not realize that farming to-day has become a specialized science, that it involves a great knowledge of detail in regard to the production of farm crops and stock. The modern farmer not only wishes to produce abundantly and economically, but he wishes to market profitably, and in order to do this to best advantage he must eliminate more and more the old-time method of individual barter and rely to a greater extent on the more modern and better protective system of co-operative selling and purchase.

With our Governments encouraging co-operation and farmers disposed to launch further along lines of agricultural organization it is well to survey present accomplishments with a view to launching new enterprise. It has been much more difficult to organize farmers than other interests because, firstly, individual farmers units are small in size; secondly, each unit produces a large number of products that have varying degrees of importance relative to their sale; and thirdly, farming units have little or no control over type of soil, climate and location, all of which affect their business enterprise. However, notwithstanding these handicaps much has already been accomplished in the way of successful organization. In this connection the Western Grain Growers may be cited as the most outstanding accomplishment.

Each of the three western provinces have a large number of local grain growers' associations which are affiliated with a provincial grain growers' association. In 1916, the United Grain Growers of Alberta amalgamated with the old grain growers' grain company of Manitoba into what is now known as the United Grain Growers Ltd. This Company is organized on the joint stock company basis, that is, profits are divided among shareholders only. The Saskatchewan Grain Growers refused to become amalgamated with the United Grain Growers Ltd. because they are organized on the co-operative basis, that is, profits are divided equally among patrons whether they are shareholders or not on the basis of annual business transacted. Both of these companies in 1917 handled over 43,000,000 bushels of wheat and had a turnover of over a \$100,000,000. Besides handling wheat they have now opened up a purchasing department and handle farm machinery, binder twine, fence wire and many other articles required by the farmer. They have also established a live stock marketing department and it is now possible for any member to market his stock co-operatively through this channel. Both these departments have made marvelous developments in the last two years.

Organization became necessary for the western grain grower because without his own elevators he was forced to sell his wheat in the fall of the year when the price was lowest. Under the present arrangement it can be stored and sold when the market appears at its best. The western grain growers attribute their success to the fact that they are backed up by plenty of capital and that they encourage the organization of local associations all of which are a part of and have a voice in the management of the larger organization. The grain growers are now the most powerful organization in the West and have been responsible for setting the price of wheat at \$2.21 a bushel instead of \$1.30 as was at first proposed.

Another organization that I wish particularly to mention is the Canadian Co-Operative Wool Growers Ltd. This Company was organized in Toronto on February 6 by the Wool Growers of the Dominion, in fact the sheep men of Canada have the distinction of being the first to organize on the Dominion basis. The Canadian Co-Operative Wool Growers Ltd. is capitalized at \$200,000. Provision is made for 15 directors and 30 delegate shareholders, these to be appointed on the basis of one from each province and the remainder on the basis of the total number of shareholders in any one province relative to the total number in the Dominion.

Co-operative grading and sale of wool began in Ontario and Quebec in 1913

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Two-piece, double-strength steel hame. Tested strength 565 lbs., which is equivalent to pulling a load of over 1,000 lbs.

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from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone, or similar troubles and gets horse going sound. It acts mildly but quickly and good results are lasting. Does not blister or remove the hair and horse can be worked. Page 17 in pamphlet with each bottle tells how. \$2.50 a bottle delivered. Horse Book 9 R free.

ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; heals Sores. Allays Pain. Will tell you more if you write. \$1.25 a bottle at dealers or delivered. Liberal trial bottle for 10c stamps.

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STALLION, rising 3 years, large size, good conformation and action; from imp. sire and dam. Also two fillies.

HOLSTEINS—Friesies—a number fresh. Also two brood sows (4-5 Yorkshires) due to farrow May 5.

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Clydesdales and Shorthorns

for sale, Shawanigan King Imp. No. 15708; Baron Knight No. 1112; 4 Shorthorn bulls, over 15 months and under 2 years. Some young cows and heifers, bred to Shawanigan Imp. No. 107291, and with calves at foot.

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For Sale

Registered Holstein pure, four years old, good pedigree. Weighs seven-fifty. For particulars address: W. H. K. R., ST. GEORGE, ONT.



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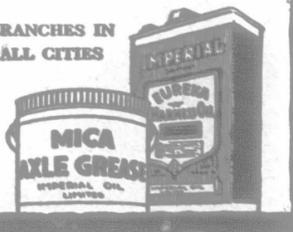
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Angus - Southdowns - Collies
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Rams and ewes. Heifers in calf to Queen's Edward, 1st prize, Indiana State Fair.

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Young bulls of serviceable age, got by Victor of Glencairn Imp.
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Since then the work has extended to every province in the Dominion and in 1917 over a million and a half pounds of wool were handled co-operatively. The present organization links up all the provinces and assures the wool growers of the Dominion protection in the sale of their wool.

Coming to the East we have in Quebec La Société Co-opérative Agricole Des Fromagers de Quebec, which has 4,500 shareholders, and in 1917 had a turnover of \$472,024.24. This Company does business with 85 local associations, has a reserve fund of \$83,000, and in 1917 paid a dividend of 8 per cent. to its shareholders. It handles cheese, butter, eggs, poultry, maple products, honey and meats. Up till the present its activities have been confined largely to the French speaking farmers, although in the near future an effort will be made to secure the trade of the English speaking farmers.

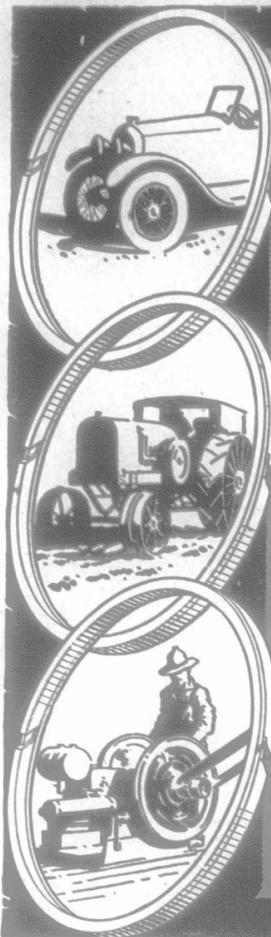
The Comptoir Co-operatif de Montreal, another company with headquarters at Montreal, confines its activities to the purchasing of farm products, such as feeds, fertilizers, binder twine, etc. Both of these Companies are organized on the \$10.00 share basis and have been very successful.

In Ontario we have the United Farmers of Ontario, an association which also has accomplished a great deal in the way of assistance to the farmer, but up till the present time this association has not seen fit to raise its annual membership fee above 50 cents, and although in 1917 the United Farmers had a turnover of \$918,000 their activities have been repeatedly handicapped for lack of capital.

These larger organizations we may term the head offices of the farmers. They have been of great educational value, have standardized the products with which they have been connected, and have outlined definite lines of action in the communities in which they have operated. They have not only improved quality and quantity but they have marketed economically and have saved their members many thousands of dollars annually.

The farmers' clubs, of which we have many in the East, have confined their efforts largely to educational purposes, and the fact that more business enterprise was not included in their policy has led to the abandonment of many a farmers' club. Another source of failure with the farmers' clubs lies in the fact that they have existed as separate units without any central body which would tend to give them a united effort and insure a larger financial backing. The large majority of farmers' clubs still have very little financial backing and on this account have not been able to secure favorable terms with the larger interests with the result that the local dealer has frequently undersold the farmers' club, he not hesitating to sell without profit and in some cases at a loss until the club went out of business. Were the farmers' clubs to become amalgamated under one head, secure more capital and outline a definite policy of action which would be continuous from year to year and allow for expansion, they would soon become a much stronger power in the farming world.

The same principles will apply in a measure to all the other organizations such as the fruit, bean, potato and vegetable growers. The beef and pork interests have as yet been scarcely touched from an organization standpoint, although this is under consideration. The dairymen, although the most progressive of our agriculturists, are still far from being well organized. This applies not only to the dairymen who are shipping milk to our large cities, but it applies as well to those who are selling to condensing factories, etc. As a concrete example there are some 4,000 milk shippers to the city of Montreal. The annual turnover in milk sales alone of these men is approximately \$1,000,000. With a membership of three to four hundred the Milk Shippers Association of this district has accomplished wonders and has been able to set the price of milk from year to year. However, the milk shippers have not yet seen fit to place the sale of their milk in the hands of a business manager or the Secretary-Treasurer of the Milk Shippers' Association, and the result has been that the oldtime practice of individual sale still exists and many thousands of dollars are lost annually by farmers selling to the small milk dealer who has not been able to meet his debts, or who still operates but is owing in many cases as high as three and four hundred dollars each to his shippers. Again



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We have a splendid selection of last spring's bull calves to offer, sired by our noted herd bulls and from our choice home-bred and imported cows. Inspection invited. Berkshire Boars and Sows.
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30 Shorthorns for Sale—Eight bulls and a lot of good breeding, registered females, in all conditions. Buyers from this herd in past years want more of the same kind. As breeders, feeders and milkers they satisfy the people. Only selected bulls have headed this herd from the first. Price of bulls from \$125 to \$250; females, \$150 to \$400. One choice milk strain bull near two years old, \$185. **JOHN ELDER & SONS, Hensall, Ont.**

"Sunny Brook Scotch Shorthorns"—We are offering two choice young bulls, a roan and a red. Their dams tracing to Lavinia Imp., sired by Sir Edward Derby. Some of the very close sires are Diamond Jubilee Imp., 28861, Rosewood Chief 13671, etc. These are excellent bulls and the best of pedigrees. Three miles to Strathroy, G. T. R. **JOHN A. McDONALD, R.R. No. 1, Strathroy, Ont.**

farmers who are been able to se a gallon more t is less acquainte With better orga sale, the irrespo soon become elin either have to p in some other w ing to enable l weekly. The m have more power of price setting a of delivery. It the farmer is no thirty cents a gal if it takes twenty it after arrival. less than \$10.0 often drives mor station with his pays the freight produces the m station and pays yet he only rece more than the p obligations than uncommon to see wagons deliveri in Montreal whe street could be for a third of the present system. blamed for the pr but he can be bla that he has not fluence to reduc which is now two price in Montreal Farmers must co-operative mov from themselves. be accomplished a make progress as probably is not ve farmer cannot be a national unit.

Careful Selection for Grow Burley

The constant "Sick" or root-rot tobacco growing ce it necessary for th to exercise their b ing land on which t The usual custom a certain spot on t has been grown co years has caused since the land usu with the fungus cr a rule the last tw due to the constan in the soil.

The grower of practice at least a is, the 1st year tol 3rd year some barley or oats, an it would probably the land remain in before returning way there would b land becoming infe fungus. After land it is a very hard m disease. It is not disease will remain especially those wit content and poorly

Some work has b 3 years by the treatment of such soil fungicides but w of a practical natu things that can be c at the present time rotations or entirel tobacco on such soi of root-rot resistan Burley. Some root- of White Burley h from year to year o with good results. that the growing of White Burley in th soils will do much t from this disease. last year, the losses greater during a w just after transplan of strong healthy sterilization of bed decrease the losses fr It is hoped that th of White Burley, w more attention and in the selection of th grow this crop.

farmers who are good business men have been able to secure as high as a cent a gallon more than their neighbor who is less acquainted with business practice. With better organization and co-operative sale, the irresponsible milk dealer would soon become eliminated because he would either have to put up sufficient bonds or in some other way secure sufficient backing to enable him to meet his debts weekly. The milk shippers would also have more power to deal with the matter of price setting and particularly the cost of delivery. It is absurd to think that the farmer is not entitled to more than thirty cents a gallon delivered in Montreal if it takes twenty cents a gallon to deliver it after arrival. The farmer has seldom less than \$10,000 in his business, he often drives more than four miles to the station with his milk, and in addition he pays the freight to the city. The farmer produces the milk, delivers it at the station and pays the freight to Montreal, yet he only receives ten cents a gallon more than the party who has no other obligations than safe delivery. It is not uncommon to see as many as five to six wagons delivering milk on one street in Montreal when all the milk on the street could be delivered by one man for a third of the cost involved under the present system. The farmer is often blamed for the present high cost of milk, but he can be blamed only to the extent that he has not exerted sufficient influence to reduce the cost of delivery which is now two thirds of the delivered price in Montreal and other cities.

Farmers must bear in mind that the co-operative movement can come only from themselves. There is still much to be accomplished and now is the time to make progress as the time will come, and probably is not very far distant, when the farmer cannot be too highly organized as a national unit.

Careful Selection of Land for Growing White Burley Tobacco.

The constant increase of "Burley Sick" or root-rot infected soils in the tobacco growing centers of Ontario, makes it necessary for the growers in the future to exercise their best judgment in selecting land on which to grow White Burley.

The usual custom in the past of selecting a certain spot on the farm where tobacco has been grown consecutively for 4 or 5 years has caused rather heavy losses, since the land usually becomes infected with the fungus causing root-rot, and as a rule the last two crops are very poor, due to the constantly increasing infection in the soil.

The grower of White Burley should practice at least a 4-year rotation; that is, the 1st year tobacco, 2nd year corn, 3rd year some cereal, either wheat barley or oats, and the 4th year grass. It would probably be better still to let the land remain in grass for 2 or 3 years before returning to tobacco. In this way there would be less chance for the land becoming infected with the root-rot fungus. After land has become infected it is a very hard matter to free it of the disease. It is not known how long this disease will remain active in the soil, especially those with a rather high clay content and poorly drained.

Some work has been done for the past 3 years by the tobacco division in the treatment of such diseased soils with soil fungicides but with rather poor results of a practical nature. About the only things that can be offered to the growers at the present time are to practice wider rotations or entirely avoid the growth of tobacco on such soils, and the growing of root-rot resistant strains of White Burley. Some root-rot resistant strains of White Burley have been tried out from year to year on badly diseased soils with good results. It is quite possible that the growing of resistant strains of White Burley in the future on diseased soils will do much to decrease the losses from this disease. As was experienced last year, the losses from this disease are greater during a wet season, especially just after transplanting. The growing of strong healthy seedlings by steam sterilization of beds will do much to decrease the losses from this source.

It is hoped that the growers, especially of White Burley, will give this matter more attention and exercise greater care in the selection of the land on which to grow this crop.

G. C. ROUTT,
Plant Breeder & Pathologist.



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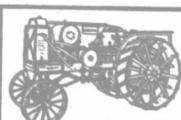
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But there is a scientifically correct and extremely efficient lubricant for each type of engine and fuel. There is an oil for every lubricating condition. At Imperial Oil stations in all parts of Canada, you can find the oil that will make you forget lubrication troubles and give you the full power and usefulness of your machine.

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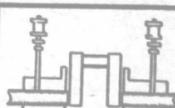
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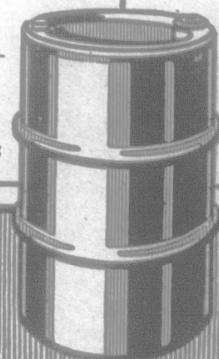
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Four good young bulls of serviceable age; Nonpareil Ramsden =101081= and Royal Red Blood =77521=, at the head of the herd. These young bulls range in age from 8 to 15 months, and are for immediate sale. They are out of good dams, which will bear inspection. Our cows and heifers will please, and you'll like the bulls. Also three extra-good grade heifers, from heavy milk-producing dams.
James McPherson & Sons, Dundalk, Ontario

SHORTHORN BULLS Will. A. Dryden

of my own breeding, around a year old; best families and good colors, are for sale. Also a few young imported bulls.
Brooklin, Ontario County
Myrtle, C.P.R., Brooklin, G.T.R.
Brooklin, C.N.R.

BLAIRGOWRIE SHORTHORNS

I have females all ages and bulls of serviceable age. Worth while to come and see or write.
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My present offering—Several young bulls, all from imported stock, bred for milk through many generations. Dams of big frame and fine conformation.
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Present offering, 7 yearling bulls:
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All pure Scotch, and extra good; also a few young cows with calves, and yearling heifers.
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We have a choice offering in young bulls, fit for service. They are all of pure Scotch breeding, and are thick, mellow fellows, bred in the purple.
WM. SMITH, COLUMBUS, ONTARIO. Myrtle, C.P.R., Brooklin, G.T.R., Oshawa, C.N.R.

SHORTHORNS—T.L. Mercer, Markdale, Ont.

ROSEWOOD CHAMPION, by Nonpareil Archer, Imp., at the head of the herd. I have almost 100 Shorthorns in my stables at present. Marr Missies, Campbell-bred Claretas, Nonpareils, Minas, Rosemarys, etc.—the best of breeding and the best of cattle; bulls or females; also have a few Herefords.

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No. 1.—An extra well-bred Roan Lady, and an extra good calf; red; 10 months.

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No. 3.—An Imp. Flora. Roan — and a great calf, 12 months.

No. 4.—An Imp. Roan Lady; red; bred by Wm. Anderson. 12 months.
I am badly in need of stable space and will sell worth the money.

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Newcastle Herd of Shorthorns and Tamworths For Sale:—2 boars 8 and 12 months old, several boars and sows 2 to 6 months old. Young sows bred and 2 show sows 2 years old, safe in farrow. All descendants of Colwill's choice, champions at Toronto Industrial 3 years in succession, and Imp. Cholderton Golden Secret. Long-distance Phone. A. A. Colwill, Prop., R.R. No. 2, Newcastle, Ont.

Evergreen Hill R. O. P. Shorthorns

Offering a 13-month son of the R. O. P. bull, St. Clare. Dam has record of 7,000 lbs., test 4.5%. S. W. JACKSON, WOODSTOCK, R.R. 4, ONT.

Lakeview Farm Shorthorns

A few females for sale sired by a son of Clansman, 87809. Apply to: A. J. FOX HARROW, ONT.

Shorthorns—Pail-fillers for sale. Young bull and heifers out of high record cows. A few young cows and bulls with extra good breeding and quality. PETER CHRISTIE & SON Manchester P. O. Port Perry, Ont. Co.

MAPLE LEAF FARM In Shorthorns, the herd header you are looking for, a real bull, dark red and Stamford bred, No. = 115239 =, 13 months, and sure, having used him on a few of our best cows. John Baker, R. No. 1, Hampton, Ontario

Brownlee Shorthorns. Offers a choice lot of young bulls, ranging in ages up to nine months and sired by the Nonpareil bull, Royal Saxon. See these before buying elsewhere. Could also spare a few females. Douglas Brown, Bright, Ont., R. R. 3. Ayr Station, C. P. R.

Glenfoyle Dual-Purpose Shorthorns

Herd bull College Duke 4th, 95430, big, thick young cows and heifers for sale: 8 young bulls, some herd headers. Also a yearling Clyde, stallion STEWART M. GRAHAM, LINDSAY, ONT.

Questions and Answers.

Miscellaneous.

Unthrifty Heifer.

I have a two-year-old heifer which has not been thriving. I am feeding her two quarts of roots in the morning and two quarts of grain at night. I put coal oil on her for lice, but she is so thin and weak that I have to help her to rise. Is coal oil good for lice?

2. I was thinking of sowing some rape with oats for early pasture. If it were sown about July 1 would it make fall pasture? Is there any danger of the rape making the straw heat? G. B.

Ans.—1. A heifer will need more than two quarts of roots and a little grain to keep her in good condition. Two or three quarts of grain and a half bushel of turnips, besides what hay and straw she will eat night and morning would not be out of the way. If she is not affected with any disease she should respond to good feeding. Increase her ration and if this does not bring relief, have your veterinarian examine her. Oil will destroy lice but one part hellebore to four parts cement, dusted on the backs and sides of the animals, is preferred by many stockmen.

2. Rape is sometimes sown with the grain so as to furnish pasture in the fall. If sown as late as July 1 with the grain, it would not amount to much. However, if sown at that time in rows or broadcast on well-prepared soil you will have abundance of pasture early in September, if conditions are right. It makes good pasture for sheep, hogs and cattle. If sown with the grain and it made a rank growth, there might be difficulty in getting the straw properly dried.

More on Labor.

EDITOR "THE FARMER'S ADVOCATE":

Misther Iditor—Oi have jist been raidin' thim lethers of Pat Murphy to me wofe Bridhget, about the troubles hez bin havin' about gittin' min to work on his farm, and as Oi am havin' me troubles too Oi thought Oi would write yez a few loines.

Oi belave if that man Murphy wuz in the Government hired hilp would not be so scarce, and Oi have jist been wonderin' if some of thim fellys wouldn't let him have their sate in Parlymint fer awoille. Shure thim, we'd git thim danged commercial thravellers on the farms roight away; but wan objection Oi see to that is they be so used to thravellin' they moight not want to sthay long, but we could thry thim annyway.

The other mornin' ather oi'd been raidin' the Farmer's Advocate most of the noight—yez see Oi am so busy wid me pigs and shape and chickens and cattle and horses Oi jist git toime to raid it at noight, and thim Oi dhrame about it the rist of the noight, but it makes good raidin' and good dhramin'—and nixt mornin' sez Oito Bridget, sez Oi, "Oi wonder why the Dominion Government don't make thim fellys work on the farms, who the dhctors put in Class E, and sez they be no good?" Then Kathlane, me oldest girl, sez—and, by the way, Kathlane is as pretty a girl as yez ever clapped an eye on—sez she, "Shure, dad, they have other work." "Now do tell me," sez Oi, "and begorra, very aften the other work don't amount to much."

Fer instance, Misther Iditor, we have wan of thim fellys in our post office and store, and he is so chesty and important as niver wuz. He reminds me of our little bantam rooster last summer. Wan day little Tim went into the hin house and there wuz a goose egg lyin' on the floor and that bantam wuz standin' aside that egg, as important as cud be and crown. Tim looked at him for a few siconds and thim sez he, "Yer a liar."

Now any young loidy cud fill that felly's job in the post office, and if him, and a lot more loike him, would hilp on the farm, they moight git the consate knocked out of thim and be of some good in the world, but maybe if we can git Pat Murphy in the Government he will look ather thim too.

Bad cess till it, Oi don't see phwat wuz be goin' to do for hilp. Bridget sez if Oi buy her and Kathlane two pair of overalls, loike—sills for loidies, they would hilp. Oi always sez as how Oi would wear the britches, but begorra, Oi belave Oi will have to consint to buy the wimmin overalls.

Now me pigs and me hins and me shape and cows and childer are callin' me so Oi sez "Good-bye".

Man, MIKE O'FLANNIGAN.

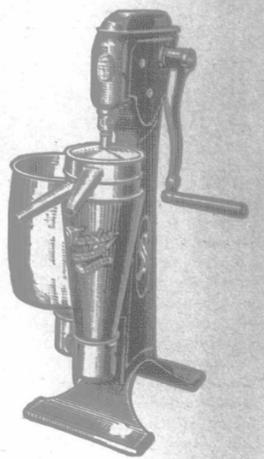
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Herd headed by Gainford Marquis (Imp.), undefeated in England and Canada. Sire of the winning group at Canadian National, 1914, 1915, 1916. Can supply cattle, both sexes, at all times. J. A. WATT, ELORA, ONTARIO

Robert Miller, Stouffville, Ont.

still has a few Shorthorn bulls, fit for service, and some females that are as good as can be found for the man that wants to start right in Scotch Shorthorns. They will be sold for a low price, considering the quality, and the freight will be paid.

Write for anything in Shorthorns One hour from Toronto

Imported SCOTCH SHORTHORNS

Our present offering includes 100 imported females and 12 young imported bulls, representing the best desirable lines of breeding. If interested come and see them. Burlington Jct., G.T.R. is only half mile from farm. J. A. & H. M. PETTIT, FREEMAN, ONTARIO.

SPRING VALLEY SHORTHORNS

Herd of seventy head, straight Scotch, good individuals. Headed by the great show and breeding bull, Sea Gem's Pride 96365, and Nonpareil Ramsden 83422. We have for sale four as good young bulls as we ever had, and a few females. KYLE BROS., Drumbo, Ont. (Phone and telegraph via Ayr.)

FIFTY IMPORTED SHORTHORNS

I have fifty head of newly imported Shorthorns (42 females, 8 bulls) which are acknowledged to be one of the strongest lots that have left Britain this season. You should see these if you are wanting something choice. George Isaac, (All Railroads; Bell Phone) Cobourg, Ontario.

PLEASANT VALLEY FARMS

Herd headed by (Imp.) Newton Grand Champion and Belmont Beau. We have for sale a goodly number of real good young bulls that will suit the most exacting; also females. Inspection invited. Geo. Amos & Sons C. P. R., 11 miles east of Guelph Moffat, Ontario.

FAIRVIEW SHORTHORNS AND CLYDESDALES

In Shorthorns we can offer you a choice, from 60 head, including both bulls and females, of Lavender Missie, Augusta, Duchess of Gloster, Village Girl, Miss Ramsden and Clara breeding—the best of cattle and the best of pedigrees. In Clydesdales, write for our list of winnings at Toronto, London and Guelph 1917 shows, Canadian-bred classes. We also have a nice offering in Shropshires. ROBERT DUFF & SONS Myrtle Station, C.P.R., and G.T.R. MYRTLE, ONTARIO

Questions and Answers. Miscellaneous.

Stified Horse.

1. What is the best treatment for a stified horse? A. M.

Ans.—1. The horse should be kept quiet in a level place. Where there is a complete dislocation it will be necessary to place a rope around the fetlock and have an assistant draw the limb well forward, using the hand to press the bones forward and inward. Once it is in place it is best kept there by keeping the limb well forward by means of the side-line. A blister should then be applied and there is possibly no better one than 2 drams each of biniodide of mercury and cantharides mixed with 2 ounces of vaseline. It may be necessary to make two or three applications. Clip the hair off the front and inside of the joint and rub the blister well in. Tie so he cannot bite the parts. In 24 hours rub well again with the blister and at the end of another day, wash off and apply sweet oil. Keep the horse as quiet as possible and apply sweet oil every day. Recovery is oftentimes very slow.

Alfalfa Meal.

How does alfalfa meal compare with corn in feeding value? Is it laxative in its action on the animal's digestion? Would it be a practical means of saving a crop of alfalfa in a spell of wet weather? A. K.

Ans.—1. Alfalfa meal is ground alfalfa hay. It varies in fineness from a product nearly as fine as cornmeal to a coarsely chopped or shredded material. Alfalfa meal varies in composition depending on the quality of hay from which it is made. It is very often compared with bran for feeding purposes. However, in several experiments which have been carried on in the United States, comparing alfalfa meal and wheat bran pound for pound, it was found that there was a slight loss in milk flow when this material was fed to cows. It is rather difficult to compare it with corn as they are two entirely different feeds in composition. Corn is of a carbonaceous nature producing heat and energy, while alfalfa is rich in protein, a material which goes to repair tissues in the animal body and is valuable for milk production. Consequently, it will depend on what results were wanted when figuring a comparative value of these feeds. For a dairy cow or a growing animal the alfalfa meal would furnish the materials wanted. The meal is more or less laxative in nature and it would be possible to save a crop of alfalfa in this way, provided you had the machinery for doing the grinding and then drying it so it could be stored.

Barn Roof.

1. In changing a common roof barn to a hip-roof barn (50 feet wide) what length should the lower run of rafters be, and also the top run of rafters? What height will the per-line plate be above the main or lower plate. Do you think it would be necessary in a barn this wide to have more than one run of per-line plates?

2. Have engines mounted on binders given satisfactory results, that is for driving machinery only? What horse-power is required? Where can they be purchased? Would the same engine be strong enough to operate a power hoist in a barn for hayfork and slings? A. R. M.

Ans.—1. Not knowing the height you wish to make the roof, it is rather difficult for us to state the length of rafters. Some prefer a much steeper roof for the first run than others. There would be the main plate and then a plate on top of the posts where the pitch in the roof changes. We would advise you to consult a framer in regard to this matter, as you could then explain to him the height you wished to make the roof, etc.

2. Small engines of two to three horse-power, and even smaller, have been used satisfactorily on binders. They are manufactured by different firms and you should be able to secure one through your implement agent. As to whether the engine would be strong enough to operate a power hoist would depend on a number of circumstances, among which would be the size of load to lift and the height of the hoist.



Big Implements will Make Up for the Labor Shortage

ONLY in one way can the situation created by the present scarcity of men be met, and that is by the use of large Machinery which will enable one man to do what formerly required two or three.

This is especially true of farming operations, and just now, when increased production is so important, the use of Labor-Saving Implements cannot be too strongly urged.

Whether you want Implements for use with horses or with Tractor we can supply your needs, and you can rest assured that you are getting the best Implements that the highest-grade of

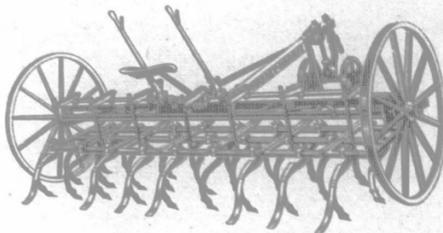
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Plowing, Harrowing, Seeding, Cultivating, Haying, Harvesting, Grinding, Wood Sawing, Hauling, Spreading, Cream Separating—for all these various jobs we can fit you out to your entire satisfaction.

You owe it to yourself to get the very best in

Implements, so that your efforts may be most effective, and we are satisfied that, if you investigate carefully, the "MASSEY-HARRIS"

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NICHOLSON'S SHORTHORNS

We have about a dozen young bulls (ages 8 months and upwards), sired by our herd headers, Best Boy = 85552 = and Browndale Winner = 106217 = . Write or come and see. R. and S. Nicholson, Parkhill, Ontario

CREEKSIDE SCOTCH SHORTHORNS

Herd headed by Gay Monarch 79611; dam, Sally 8th imp., and sire, the great Gold Sultan 75411. My present offering of young bulls includes several 7 to 14 months' youngsters, all thick, mellow, well-grown fellows—reds and roans—and priced right. Can also supply females in most any numbers. Geo. Ferguson—Elora Station, C.P.R., G.T.R.—Salem, Ont.

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SHORTHORN CATTLE AND LEICESTER SHEEP. HERD ESTABLISHED 1855—FLOCK, 1948. The great show and breeding bull, Browndale = 80112 =, by Avondale, heads the herd. Extra choice bulls and heifers to offer. Also a particularly good lot of Leicester rams, mostly from Imp. ewes. JAMES DOUGLAS CALEDONIA, ONTARIO

IMPORTED SHORTHORN BULLS

We have several newly-imported bulls of serviceable age—Cruickshank, Marr and Duthie breeding, as well as a number of choice, home-bred young steers, got by our noted herd sire, Proud Monrch, by Royal Blood. Get our prices before buying elsewhere. RICHARDSON BROS., Columbus, Ont.

SHORTHORNS

Will price 4 richly-bred Lavinia heifers, 5 to 27 months, oldest one due to calf to Lochiel (Imp). Still have stallion rising 2 years old, rich in Baron's Pride blood; size and quality combined; gelding price. Wm. D. Dyer, R.R. No. 3, Oshawa, Ont. 4 1/2 miles to Brooklin, C.N.R., or Myrtle, C.P.R. 2 1/2 miles to Brooklin, G.T.R.

CLYDESDALES

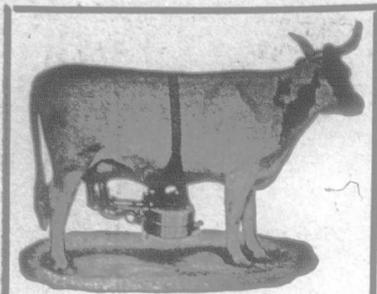
Dual-Purpose Shorthorns

Herd headed by Dominator No. 10624, whose grandam on his mother's side has an R. O. P. record of 13,535 lbs. of milk, testing 3.99, and whose dam has an R. O. P. record of 10,689 lbs. of milk, testing 3.88. We have several choice bulls, about ready for service, from this sire, and out of dams with records running from 8,000 to 11,000 lbs. in one lactation period.

WELDWOOD FARM, Farmer's Advocate London, Ontario.

Mardella Shorthorns

Dual-purpose bulls, 20 young cows and heifers—bred, some calves by side. Size, type, quality; some full of Scotch. The great massive Duke—dam gave 13,599 lbs. milk, 474 lbs. butter-fat—at the head. Thomas Graham, Port Perry, R. 3, Ont.



THE Omega Milking Machine

has these advantages over other machines. Transparent celluloid milking tubes instead of rubber ones which harbor germs and are difficult to clean. Pail and test-cups are suspended from the back of the animal. The udder has no weight to carry. The pail cannot be knocked over and the test-cups cannot fall on the stable floor and suck up straw or filth. The Omega milks fast and milks clean.

Omega the Best by Test
The Omega is used and recommended by Mr. R. E. Ness, of Howick, Quebec, one of the largest importers and breeders of record Ayreshire cattle in Canada. We writes regarding the Omega as follows—"It certainly has all other machines beaten in point of cleanliness, with those celluloid tubes instead of rubber. The pail hanging on the cow's back never touching the floor, the position in which the test-cups are held insuring the most cleanly way of milking known to-day."

WRITE NOW for our FREE illustrated booklet, describing the many superior features of the OMEGA.

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ST. MARY'S, ONTARIO



Prize Butter Makers Use Windsor Dairy Salt
Made in Canada
THE CANADIAN SALT CO., LIMITED

Heaves CURED
—by removing the cause—and cured to stay cured—If 3 boxes of Fleming's Tonic Heave Remedy fail to effect a cure of any case, old or new, we will refund the full amount paid.
Per Box, \$1.00; 3 for \$2.50. Mailed on receipt of Price.
Scratches Disappeared
Gentlemen—I gave a course of your Tonic Powders, which has put a horse and his mate in fine shape, and a touch of scratches has quite disappeared.
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Full information in Fleming's Vest Pocket Veterinary Adviser
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FLEMING BROS., Chemists
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HOLSTEINS
1 bull 2 years old; 1 bull 18 mos. old, from a 23½ lb. 3-year-old dam. One bull 13 mos.; others younger.
R. M. Holtby, Port Perry, Ont.
For Milk, Butter, Cheese, Veal Holstein Cows Stand Supreme
If you try just one animal you will very soon want more.
WRITE THE
HOLSTEIN-FRIESIAN ASSOCIATION
W. A. Clemons, - Secretary - St. George, Ont.

Questions and Answers. Veterinary.

Fatality in Pigs—Cripple Pig.

1. Sow farrowed seven pigs. I fed her on shorts and they had plenty of exercise. One pig died at 10 days of age, and in about 10 days more two others died. They became stiff and turned purple before death.

2. Pig 4 months old, fed 1 part wheat to 5 parts ground oats and kept in warm pen is stiff and has difficulty in walking.

Ans.—1. The pigs died of constipation. The administration of a tablespoonful of raw linseed oil in the early stages might have saved them. Constipation must have been caused by the nature of the dam's milk. If she had been given a little milk, a little chopped oats, barley or peas mixed with the shorts, and raw roots, it is probable the trouble would not have occurred.

2. This crippling is due to too high feeding and want of exercise. Purge with 2 to 3 tablespoonfuls of raw linseed oil, and follow up with 3 grains nuxvomica 3 times daily. Feed on milk, chopped oats with the hulls sifted out and raw roots and see that he gets daily exercise.

Miscellaneous.

Orthopedic Hospital.

Is there an Orthopedic institution in Quebec or Canada? Can patients go from Canada to such a hospital in the United States?

Ans.—1. We understand that there is such an institution on Bloor Street, Toronto. Undoubtedly a Canadian would be admitted to such a hospital in the United States.

Power on Farm.

We have electric power on our farm. Would it be cheaper to use a motor run by electricity than a gasoline engine for cutting corn, running a milking machine, pumping water, etc? What horse-power motor would it be necessary to install?

Ans.—1. It depends a good deal, in fact, entirely, on what you have to pay for electricity and for gasoline. Some have found the electric power to be cheaper than gasoline power and a little handier; others have found the reverse to be the case so far as cheapness is concerned. A five-horsepower motor will run a small cutting-box with carriers, will run a small threshing machine, a grinder, and any machinery requiring a smaller amount of power.

Alfalfa Versus Vetch.

Which is the more profitable for hay and forage, alfalfa or winter vetch? Must vetch be seeded every season or is it a permanent crop?

Ans.—We believe you would get more satisfactory feed from alfalfa, provided it will grow. The winter vetch is fairly hardy and stands the average Southern Ontario winters without injury. The winter vetch is a winter annual. This is a plant which sprouts in the fall, grows the following spring, produces a crop and then dies. It is generally sown in the summer; the exact time depending on the climate. The object should be to obtain a good stand before the cold weather begins. In Ontario it is largely grown as a cover or green manure crop. It produces a bulk of green matter. Half a bushel of good seed per acre is considered sufficient.

Four-Horse Evenner.

1. What are the measurements of the doubletrees as to length where the pulleys are attached on a four-horse evenner?

Ans.—1. In regard to the four-horse evenner which works with pulleys, the first pulley is 7 inches from one end of the doubletree and the plow is hitched 15¼ inches from the pulley. The second pulley is 2 feet from the first and the chain hooks to one set of doubletrees, through the two pulleys and back to the beam of the single plow, or the axle of the double plow. The main doubletree would be a trifle over 5 feet long. One of our subscribers found that the chain worked best just behind the bridle or clevis on the left side. The length of the chain will depend on just where it is hitched. Some have found more satisfaction in hitching one place than another; consequently it might be advisable to experiment a little bit in order to find out where the chain will work best on your particular plow.

A NECESSITY

at the head of your herd.
A bull that combines type and production.

FOREST RIDGE FAYNE HENGERVELD
will suit you. His dam and sire's dam average over 32 lbs. butter per week. Write for pedigree, photo and price on what you want in Holsteins to:

Forest Ridge Farms Or better come and see them. **L. H. Lipsit, Straffordville, Ont.**

Roycroft Farm Holstein-Friesians

Our 30-lb. bulls have all been sold, but we still have several sons of Pontiac Korndyke of Hot Loo, that are just nearing serviceable age. Get one of these for your next herd sire, have a brother of Hot Loo Pietertje, the world's greatest junior two-year-old, at the head of your herd. We also have a 9-months, 27.78 lb. son of King Segis Alcartra; and one other, same age, by Dutchland Colantha Sir Mona. See them at once or write early.

W. L. SHAW - ROYCROFT FARM - NEWMARKET, ONTARIO.
Take Yonge Street Radial Cars from N. Toronto

CHOICE BULLS READY FOR SERVICE

No. 1—By a son of MAY ECHO SYLVIA. His two nearest dams (both Canadian champions), average 35.62 lbs. butter in seven days. Price \$1,000.
No. 2—By a son of MAY ECHO SYLVIA. His two nearest dams (one a four-year-old), average 34.17 lbs. butter in seven days. Price \$600.
Some extra choice young bull calves from \$300 to \$1,000. We have sold 37 bulls this winter.

HIGHLAND LAKE FARMS
R. W. E. Burnaby, (Farm at Stop 55, Yonge Street Radial) Jefferson, Ont.

LYNDALE HOLSTEINS

One 13-months-old Bull—Sire, May Sylvia Pontiac Cornucopia (¼ brother to Champion Echo Sylvia Pontiac) whose two grandams are K.P. Pontiac Lass, 44.18 lbs. butter in 7 days, and May Echo Sylvia, 41 lbs. in 7 days, 152 lbs. milk in 1 day. Dam of bull offered—Pietje Inka Pietertje, 4-year-old; butter in 7 days, 30.77 lbs.; 30 days, 124.34 lbs.; milk in 1 day, 102½ lbs.; 7 days, 696 lbs.; 30 days, 2796 lbs.

BROWN BROS., LYN, ONTARIO

Hospital for Insane, Hamilton, Ont.

ONLY THREE BULLS LEFT

(1) A splendid fellow, more white than black, born May 1917. He is a grandson of Dutchland Sir Mona, and his dam is a half sister of the famous Toitilla of Riverside.
(2) Born September and December, 1917, of A. I. R.O.P. dams.

APPLY TO SUPERINTENDENT.

SUMMER HILL HOLSTEINS

A number of choicely-bred bulls. One a real show bull, beautifully marked, dam a 30.76 junior four-year-old; sire's dam 31.60. The three nearest dams average over 100 lbs. milk a day. Can spare a few good heifers.

D. C. FLATT & SON, R. R. 2, HAMILTON, ONT.

MAPLE SOIL STOCK FARM OF HOLSTEINS
I am offering a few choice heifers, sired by King Segis Pietertje, that have just been bred to FINDERNE King May Fayne; also some heifers and cows due to freshen all the way from February until April. All bred to FINDERNE King May Fayne; a few heifer calves sired by FINDERNE King. Get some good ones.

H. C. HOLTBY R. R. No. 1, GLANWORTH, ONTARIO.

SILVER STREAM HOLSTEINS

Present Offering — six extra well bred bull calves, sired by bulls with 34-lb. backing, and from tested dams, individually as good as their breeding. For fuller particulars and prices, write, or better come and see them.

J. MOGK & SON, R. R. 1, TAVISTOCK, ONTARIO

Here's a Top-notch!
Sire, King Segis Walker; dam, 30-lb. daughter of Pontiac Korndyke, who herself has a 30-lb. daughter. He is a youngster, but he'll grow.
A. A. FAREWELL, Oshawa, Ont.

DUMFRIES FARM HOLSTEINS

Present Offering—A few bull calves.

S. G. & ERLE KITCHEN ST. GEORGE, ONT.

LOW BANKS HIGH-RECORDS: SONS OF "FAIRVIEW KORNDYKE BOY"
who now has seven daughters out of a total of eleven, with records of from 20 to 23 lbs.—two have milked over 600 lbs. of milk in 7 days. Also some young bulls from these heifers sired by Sir Echo. Only one ready for service from 30.14 dam, with a 20-lb. two-year-old daughter.

K. M. DALGLEISH, KENMORE, ONTARIO

WILLOWBANKS HOLSTEIN-FRIESIANS

Herd headed by King Walker Pride (C. H. B., 17362), (A. H. B., 207261) who is a son of the famous King Walker and the great show cow, Pride Hengerveld Lennox, 30.12, who is a granddaughter of Blanche Lyons De Kol, 33.31 and King Segis, who is a grandsire of world-champion cow, also of the two highest-priced bulls of the breed. Young stock for sale.

C. V. Robbins Bell Phone Wellandport, Ontario.

EVERGREEN STOCK FARM HOLSTEIN-FRIESIANS
Our unparalleled success at the Toronto and London Exhibitions during the past five years places Evergreen Holsteins in a class by themselves. The strong combination of size and type found in our individuals makes record producers. Your next herd bull should be carefully selected. See our offering before buying elsewhere.

A. E. HULET, (Oxford County) NORWICH, ONT.

Riverside Holsteins

We still have some good bulls on hand, including two half-brothers of Toitilla of Riverside, former Canadian R.O.P. Champion. Write or phone your wants to—**J. W. Richardson, Caledonia, Ont.**

Pioneer Farm Holstein Herd With big yearly records and high average butter-fat test, and headed by Canary Hartog, grandson of Royalton Violet, at 10 years, 30.39 lbs. butter, 735 lbs. milk in 7 days; 29,963 lbs. milk, 1,300 lbs. butter in 1 year. Sire's dam, Royalton De Kol Fern, 34.60 lbs. butter in 7 days, 116 lbs. milk in 1 day. Bull calves for sale, born after Jan. 25th, 1917; dam over 11,000 lbs. milk up to nearly 16,000 lbs. milk in 1 year at 2-year-old. **Walburn Rivers, R. R. No. 5, Ingersoll, Ontario, Phone 343L, Ingersoll Independent Line.**

RIDGEDALE STOCK FARM

offers for sale young bulls from high-testing dams, such as Lakeview Dutchland Wayne Rose, the highest producing cow of her age in the world. It will pay you to inspect these before buying.

DR. F. A. HESLOP, Prop., R. R. No. 1, FREEMAN, ONTARIO. CHAS. HESLOP, Manager

Questions and Answers. Miscellaneous.

1. I have a yearling calf with a white hoof. How can I get the hoof to turn black?
Ans.—1. It may be due to the shoe on the foot splitting farther, necessary to polish the hoof, especially if it is a pea. Applying a good hoof dressing immediately above the hoof is brought prevented from blister may have times.

Tuberculosis.
1. I killed a hen that seemed perfectly healthy, but had yellow spots of a pea. Would this be tuberculosis?
2. We had a few chickens that appeared to become fat. What is the cause?
3. Horse's sheath is sore. Should I do for it?

Ans.—1. The yellow spots of a pea are an indication when spotted. While a hen usually becomes a heavy weight, the disease is valent in fat hens. To use the meat.
2. The symptoms of anemic trouble can be done for by tuberculosis gets in necessary to get rid of thoroughly disinfecting more birds a heavy loss every year. Symptoms should be the main flock, or buried deeply or treatment is unavailing the better plan.
3. Try bathing in warm water. It will cleanse it on the inside will disappear.

Cut Worms.
How can we rid the soil for this year to eradicate the pest?
Ans.—Cut worms hiding in the soil the best way is to sprinkle poisoned plants. The following are for controlling cut worms:
1. Plow fields after crop is off, to plow up and attracting.
2. Use poisoned about sunset; a spot dropped beside each. Make mash as follows: bran in a box, moist patent pail of water molasses or cheap sugar of Paris green by dust at a time, then mixing till the green can be through the bran. Water, but just enough that the mash will fall like sawdust. It is to scatter a little of the over the ground a setting out cabbage tract the cut worms and marching in army can usually be stop furrow with the stem of them, though so trench is necessary, outside of the trench be dry and quite loose pillars crawling up. A rake may be used to furrow or trench to caterpillars.

4. As an extra precaution a yard or two in green, 2 lbs. to 40 gal.
5. Where practical after sunset or early heavy roller kills many.

Questions and Answers.
Miscellaneous.

Split Hoof.

1. I have a yearling colt with a split hoof. How can it be cured? J. S.

Ans.—1. It may be necessary to put a shoe on the foot to prevent the hoof from splitting farther, and then it would be necessary to poultice the foot for a few days, especially if there is any inflammation. Applying a blister to the coronet immediately above the crack, may be effective as an increased secretion of the horn is brought about and the crack prevented from becoming longer. The blister may have to be repeated several times.

Tuberculosis in Fowl.

1. I killed a hen the other day which seemed perfectly healthy, but her liver had yellow spots on it about the size of a pea. Would this meat be good to use?

2. We had a few hens that gradually got weak and then died. Their feathers appeared to become dead but did not fall out. What is the cause of this?

3. Horse's sheath is swollen—what should I do for it? R. K.

Ans.—1. The symptoms are those of tuberculosis. It is almost a sure indication when spots appear on the liver. While a hen suffering from this disease usually becomes anaemic and light in weight, the disease is sometimes prevalent in fat hens. We would not care to use the meat.

2. The symptoms are not very clear, but we are inclined to think that the hens are possibly suffering from some anaemic trouble or tuberculosis. Little can be done for birds so affected. When tuberculosis gets in a flock, it is almost necessary to get rid of the flock and then thoroughly disinfect the premises before securing more birds. The disease causes a heavy loss every year. Any bird showing symptoms should be isolated from the main flock, or, better still, killed and buried deeply or burned. Medicinal treatment is unavailing. Prevention is the better plan.

3. Try bathing it frequently with warm water. It may be necessary to cleanse it on the inside before the swelling will disappear.

Cut Worms.

How can we rid our garden of cut worms? What is the best way to prepare the soil for this season's planting so as to eradicate the pests? B. S.

Ans.—Cut worms work at night, hiding in the soil by day. One of the best ways is to poison the worms by sprinkling poisoned mash around the plants. The following are methods given for controlling cut worms:

1. Plow fields as soon as possible after crop is off, to prevent weeds springing up and attracting moths to lay eggs.

2. Use poisoned bran mash, applied about sunset; a spoonful or a little less dropped beside each plant is sufficient. Make mash as follows: Place 50 lbs. of bran in a box, moisten with about one patent pail of water sweetened with molasses or cheap sugar. Add one pound of Paris green by dusting a little over it at a time, then mixing well and repeating till the green can be seen everywhere through the bran. Do not add too much water, but just enough to moisten, so that the mash will fall through the fingers like sawdust. It is also often desirable to scatter a little of this poisoned material over the ground a day or two before setting out cabbage or tomatoes to attract the cut worms and kill them.

3. If the caterpillars are very abundant and marching in army-worm fashion, they can usually be stopped by plowing a furrow with the steep side out ahead of them, though sometimes a regular trench is necessary. The soil on the outside of the trench or furrow must be dry and quite loose to prevent caterpillars crawling up. A fine-toothed garden rake may be used to loosen it after rain. Postholes can be dug at intervals in the furrow or trench to trap and destroy caterpillars.

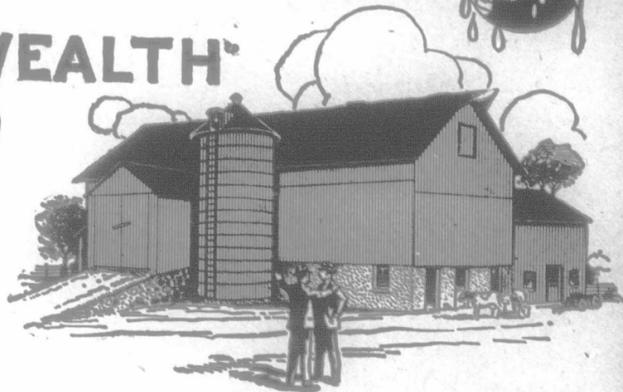
4. As an extra precaution, spray the plants a yard or two in front of the trench or furrow very thoroughly with Paris green, 2 lbs. to 40 gallons of water.

5. Where practicable, rolling a field after sunset or early in morning with a heavy roller kills many cut worms.

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The Paint for
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S-W COMMONWEALTH BARN RED is a bright, rich Red, that works easily, covers well and dries with a fine, smooth, durable finish. Put up in convenient sized cans, all full Imperial Measure. Why not try it this year to protect your barn against the weather?

You have a heavy investment in farm machinery, implements, wagons, etc. Increase their life and usefulness by protecting them against rust and decay, by using **SHERWIN-WILLIAMS WAGON AND IMPLEMENT PAINT**. The longer they last the less they cost.

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Color schemes and suggestions for any part of your building furnished by expert decorators, free upon application and without any obligation.

Send for our book:—"The A.B.C. of Home Painting" written by a practical painter, telling how to paint, varnish or enamel every surface in and around your home.

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CHOICE BULLS AND FEMALES. We have six young bulls of serviceable age, all from R.O.P. dams. Three are by our senior sire, Brampton Dairy Farmer, and three are by our junior sire, Brampton Bright Togo. Write for records. We also have females.

R. & A. H. BAIRD (G.T.R. Stations—New Hamburg, Bright) **NEW HAMBURG, ONTARIO**

THE WOODVIEW FARM CANADA'S MOST BEAUTIFUL JERSEY HERD Imported Champion Rower at its head.

JERSEYS This bull, with his get, won first prize on the island of Jersey, 1914, second in 1916, and again first in 1917. Present offering—A few yearling heifers in calf to our great young bull, Woodview Bright Prince (7788), and bred from imported sire and dams. We show our work cows and work our show cows.

LONDON, ONTARIO **Jno. Pringle, Proprietor**

THE EDGELEY CHAMPION HERD OF JERSEYS

Write us about your next herd sire. We now have sons of our present herd sire, Edgeley's Bright Prince, who is a son of Canada's champion butter cow, Sunbeam of Edgeley. Pay us a visit. Sunbeam of Edgeley is not the only high-record cow we have. We are pleased to show our herd at all times.

JAMES BACG & SONS (Woodbridge, C.P.R., Concord, G.T.R.) **EDGELEY, ONTARIO**

Twenty-Five Years Breeding REGISTERED

JERSEYS and BERKSHIRES Fernbrook Ayrshires

We have bred over one half the world's Jersey champions for large yearly production at the pail. We bred, and have in service, the two grand champion Berkshire boars. If you need a sire for improvement, write us for literature, description and prices.

HOOD FARM, LOWELL, MASS. **COLLIER BROS., Beachville, Ontario (OXFORD COUNTY)**

RAVENSDALE AYRSHIRES

A few splendid 12-months-old bulls, out of R. O. P. and imp. high-testing dams. January test averaged 4.6%; also younger bulls and heifers. I have three registered Clydesdales for sale, eight months old. Write for prices or come and see stock. **W. F. KAY, PHILIPSBURG, QUEBEC.** 50 miles south of Montreal. St. Armand Station, G. T. R.

CITY VIEW AYRSHIRES One bull, ten months old; dam's R.O.P., 6,500 lbs. milk, 4.64% fat as a two-year-old. Several bull calves—might spare a few females. R.-C. and S.-C. Reds, White Wyandottes—eggs for setting now ready. **James Bagg & Son, St. Thomas, Ont.**

Glencairn Ayrshires Herd established 40 years. Producing ability from 8,600 to 11,022 lbs. If that sort of production appeals to you, we have heifers all ages and young bulls for sale. **Thos. J. McCormick, Rockton, Ont. Copetown Station, G. T. R.**

GLENHURST AYRSHIRES—ESTABLISHED 50 YEARS

For a half-century Glenhurst Ayrshires have been noted for their depth and size, good teats and smoothness of conformation. Our famous Flos family has produced dozens of 60 and 65-lb.-a-day cows, many on twice-a-day milkings. We have young bulls up to twelve months, and females all ages. If you are looking for a combination of size, type and production—plus high butter-fat—write me or visit the farm. **JAS. BENNING, Summerstown, G.T.R.; Williamstown, G.T.R., Williamstown, Ont.**

4.07% Butter Fat was the average from 971 Ayrshire Cows for 1 Year.

WRITE **W.F. STEPHEN**, Secretary
CANADIAN AYRSHIRE BREEDERS ASSN.
Box 513 Huntingdon, Que.

Kelso Farm R. O. P. Ayrshires. Herd headed by Palmston Speculation Imp. We never had a stronger line-up of R. O. P. producers than we have at present. Our 1917-1918 young bulls are sure to please. **D. A. MacFarlane, Care Crossing, G. T. R., Athelstan N. Y. C.; Kelso, Que.**

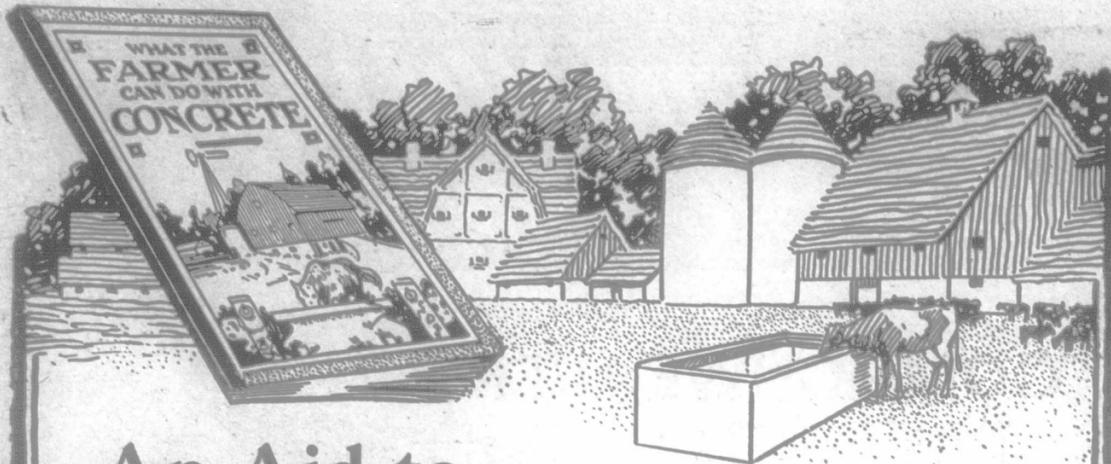
Choice Offering in Ayrshires At Special Prices. Several young bulls of serviceable ages. All from R. O. P. sires and dams. Come and see them. **John A. Morrison, Mount Elgin, Ontario**

LABELS Live-stock Labels for cattle, sheep and hogs, manufactured by the **Ketchum Manufacturing Co., Ltd., Box 501, Ottawa, Ont.** Write for samples and prices

SHROPSHIRE

30 Yearling Rams—12 Yearling Ewes.
W. H. PUGH, MYRTLE STATION, R. R. 1 Farm 2 miles from Claremont

Gloverdale Shropshires and Berkshires—40 shearing rams, 70 shearing ewes; an exceptionally choice lot, true to type and well grown, nearly all sired by the show ram, Nock 16 Imp. In Berkshires, the usual strong offering, including sows just bred. **C. J. LANG, Burketon, Ont.**



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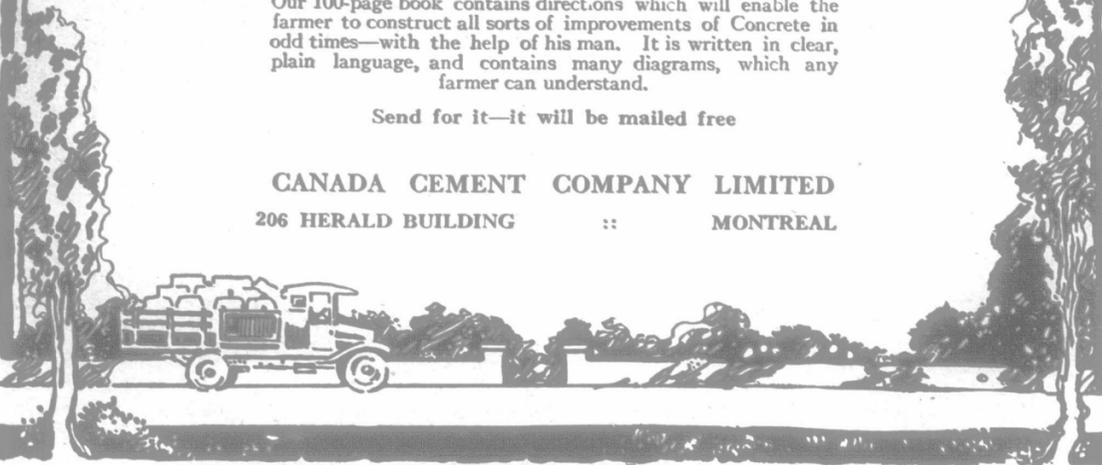
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Inverugie Tamworths

Some choice young sows bred. Sows carrying their second litters. Bears ready for service. Young stuff, any age. All orders promptly attended to.

LESLIE HADDEN, R. R. No. 2, Pefferlaw, Ont.
DUROC JERSEYS

Our herd won all champion prizes at Toronto and London, 1916 and 1917. Pairs not akin. Young stock, all ages for sale. Visitors welcome. For further particulars write:

CULBERT MALOTT, No. 3, Wheatley, Ont.
Lakeview Yorkshires If you want a brood sow or a stock boar of the greatest strain of the breed, (Cinderella), bred from prizewinners for generations back, write me.

JOHN DUCK, PORT CREDIT, ONTARIO
SPRINGBANK CHESTER WHITES
Several young sows ready to breed and boars fit for service; young pigs, both sexes, ready to wean, by Sunny Mike—15917—first at Toronto in 1917. Satisfaction guaranteed, inspection invited.
Wm. Stevenson & Son, Science Hill, Ontario

Featherston's Yorkshires—The Pine Grove Herd
I have the choicest lot of young sows of breeding age that were ever on the farm. A few are already bred. Also have 10 young litters. Prices reasonable.
J. K. FEATHERSTON, STREETSVILLE, 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, Paris, Ont., R. R. 1

Meadow Brook Yorkshires
Have a splendid offering of young stock to offer at reasonable prices. Write your wants to:
G. W. MINERS, R. R. No. 3, EXETER, ONT.

AVONHURST YORKSHIRES
We offer a few nice sows ready to breed. Choice young pigs, both sexes. One of our sows has farrowed 121 pigs in 7 litters. We guarantee satisfaction.
B. Armstrong & Son, Codrington, Ont.

Shorten Piggy's Growing Stage

—prevent him from getting a set-back at weaning—get him in the habit of putting on weight fast—and have him ready for market weeks earlier by feeding him

GARDINER'S PIG MEAL

This is the greatest feed you can get for pigs at the weaning period. It gives them just the right start for that quick growth that spells profit.



Gardiner's Pig Meal is put up in 25, 50 and 100-lb. bags. If your dealer hasn't it, write us for prices—and for particulars about Gardiner's Calf Meal, Ovatum, Sac-a-fat and Cotton Seed Meal.

GARDINER BROS.,
Feed Specialists,
SARNIA, Ontario. 13

BERKSHIRES

My Berkshires for many years have won the leading prizes at Toronto, London and Guelph. Highcleres and Sallys, the best strain of the breed, both sexes, any age.
ADAM THOMPSON, R. R. No. 1, STRATFORD, ONT. Shakespeare Station, G.T.F.

TAMWORTHS

Young sows bred for spring farrow and a nice lot of young boars for sale. Write:
John W. Todd, R. R. No. 1, Corinth, Ontario

Morrison Tamworths and Shorthorns—Bred from the prizewinning herds of England. Tamworths, both sexes; boars from 2 to 12 months. Shorthorn bulls from 5 to 10 months-old, reds and roans—dandies.
CHAS. CURRIE, Morrison, Ont.

ELMHURST LARGE ENGLISH BERKSHIRES

From our recent importation of sows together with the stock boar, Suddon 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

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

Gossip.

The Ayrshire Herd at Glenhurst.

Canadian Ayrshire breeders, east or west, need very little introduction to the famous Glenhurst Ayrshire herd owned by Jas. Benning of Williamstown, Ont. Established in the early seventies by importations from the best herds in Scotland, the Glenhurst herd has since enjoyed an almost continuous wave of popularity and as seen recently by a Farmer's Advocate representative there was never a time when they were more worthy of favorable consideration than they are showing at the present time. Notwithstanding the two big public sales of 1910 and 1916, held at the farm by Mr. Benning, there are again almost seventy head of high-class pure-breeds in the stables of which over ninety per cent. are females. These, too, like most of the animals sold in both of the public sales mentioned, were, with very few exceptions, all bred at Glenhurst and compare favorably with the strongest line-up ever seen by us in the stables. Among these are a choice lot of three, four and five-year-old cows by the former herd sire, Lessnessock Comet (imp.), a bull now recognized as one of the greatest sires ever imported into Canada. There are also over a dozen one and two-year heifers in the herd at present that are got by a son of Lessnessock Comet and the noted imported cow, Torrs Coney, that are exceptionally promising and combine the Torrs Coney and Mr. Bennings famous Floss families together, making a combination for type and production that is hard to excel. The majority of the the cows that are freshening now, are bred to Glenhurst Torrs Master a young bull bred this way and the offering going out from the farm during the next twelve months have every reason to be among the strongest advertised by Glenhurst in years. Good utility cows of the correct type and size are features that can not be overlooked in the herd throughout, and breeders wishing to strengthen their herds with choice material in either bulls or females will always find it to their advantage to consult Mr. Benning before buying elsewhere.

Questions and Answers. Miscellaneous.

Fee to Clergyman.

1. Has the Clergy a legal right to charge for writing a birth certificate from the church register?
Quebec.

Ans.—1. We think so,—at least the charge would not be illegal.

Frozen Turnips.

We have a quantity of turnips which have been frozen. The outsides of them are soft. Would it be advisable to feed these to pigs or cattle? H. L. U.

Ans.—1. We would not care to feed turnips which are decomposing to the stock, although they might not cause any material harm.

Crooked Boundary Line.

1. A and B owned farms adjoining. A woods runs across A's farm and on to B's. A's access to fields behind woods is through an old track which, however, crosses line on to B's farm. This land would be about twelve to fifteen yards at widest end when it jogs to line. The other end merely runs off to line proper. As A has cleared behind woods he now has part of this disputed land into a field and makes use of it. A and B are brothers and nothing is settled. A's son C sells the farm and B makes a noise about the land but nothing is done. A's former property has now been sold three or four times and D owns it. B now sells his to E. who wants line straightened. None of these men have owned A's former property more than two years except C, who had it for some sixteen years. A and B are both living and say land belongs to E. How should E go about getting line straightened? If A and B should die how could E secure land, there being nothing mentioned in either deed about crooked fence?

P. E. I.
Ans.—1. E ought to instruct a solicitor without delay to bring about the desired arrangement of the matter. It is one capable, we think, of being satisfactorily disposed of without legal proceedings. But there ought certainly to be no more delay, especially as evidence might be needed from A and B.



CANADA PAINT

What CP Means to the Farmer

C.P. means Paint of only one quality—the best. It contains only the purest Oils, the best Lead and Zinc, mixed in scientifically correct proportions, and ground to the finest degree.

The Farmer knows, by careful comparison of cost per gallon and length of time on the house, that C. P., CANADA PAINT, is unquestionably the most Economical and the Best Paint for anyone to use.

"HOMESTEAD LIQUID RED" is the paint for Barns and Silos. One gallon covers 300 square feet, two coats. Ask the C.P. agent in your town for any information required.

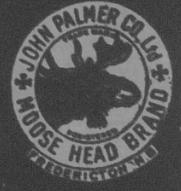
Write us for your copy of our new paint book, "What, When and How To Paint". Sent free upon request.

THE CANADA PAINT CO. LIMITED,

Makers of the famous "ELEPHANT BRAND" White Lead.

572 William Street, Montreal. 112 Sutherland Ave., Winnipeg.

Palmer's Summer Packs

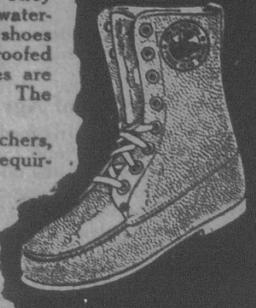


GIVE real foot comfort to tired, aching feet. They are made from oil-tanned Skowhegan waterproof leather. These summer packs or plow shoes are light, strong, durable—made with waterproofed leather sole and heel and solid leather insoles are laced, have large eyelets and bellows tongues. The ideal shoe for working on the land.

They are also specially suitable for ranchers, trackmen, laborers, sportsmen and all others requiring extra strong yet comfortable footwear.

The style shown—No. 109, is nine inches high. Ask your dealer for Palmer's famous "Moose Head Brand" footwear—many styles and sizes to choose from.

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



The price of bricks has gone up very little in three years. You can build an average-size, warm house on your farm of

MILTON BRICK

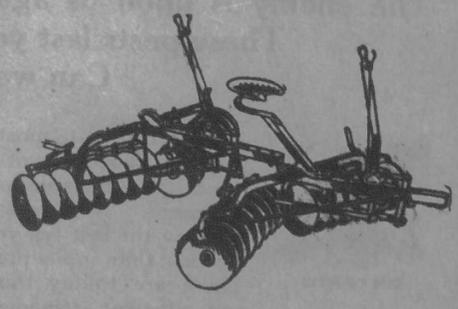
for the proceeds of half as many hogs as in 1914.

MILTON PRESSED BRICK CO., LIMITED

Head Office: MILTON, ONT. Toronto Office: 50 Adelaide Street West

"Bissell" Disk Harrows

The Bissell Disk Harrows have great capacity for hard work, the disk entering the ground naturally and leaving behind it a finely pulverized soil.



This is the secret of good tillage.

The frame on the Bissell Harrow is directly over the gangs, the draught being well back where the work is being done. The horses do not have to carry the weight of the pole, levers, braces or frame. This feature is important, and herein lies one great advantage of Bissell Disk Harrows.

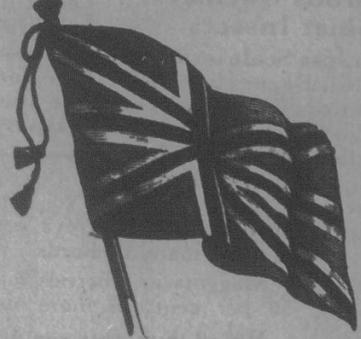
For over a quarter of a century the manufacturers of Bissell Disk Harrows have made a special study of this particular implement and spent years of time and effort in perfecting the present Bissell Disk Harrow. The result is that to-day it is acknowledged to be far in advance of any other similar implement for cultivation.

THE ESSENTIAL FEATURES

The Bissell Disk Harrows combine the important features of great capacity for hard work, thoroughness of cultivation, lightness of draught, ease on the horses, and strong, substantial, durable construction. Built also in sizes suitable for use with Tractors.

T. E. BISSELL CO., LTD., ELORA, ONT.

A UNION JACK



FOR OUR SUBSCRIBERS

We will send you a flag, thirty-nine inches long by twenty-seven inches wide, to decorate your house on holidays and special occasions.

The Twenty-Fourth of May will soon be here.

You can get this flag at once by sending in the name of one new subscriber to The Farmer's Advocate and Home Magazine.

Cut out the coupon and send it in to us with express or money order for the \$1.50, which the new subscriber will give you.

COUPON

THE FARMER'S ADVOCATE AND HOME MAGAZINE
LONDON, ONT.

Gentlemen:—Enclosed is the name of one new subscriber and money order for \$1.50 for his subscription for one year. Please send me the Union Jack you advertised.

NAME OF SENDER _____

ADDRESS _____

NAME OF NEW SUBSCRIBER _____

ADDRESS _____

Stolen from Farmers in 1917-\$100,000,000

The enemy is upon us again—the invasion of fungi and insects commences. These pests last year destroyed crops worth \$100,000,000. Can we save this huge sum in 1918?



ONTARIO

We can save — most of it. Every year the knowledge of how to control insect and fungus pests is being rapidly increased. More advance has been made in the last ten years, in this line of work, than in the previous hundred. There are to-day thoroughly tested and efficient remedies for most of our important pests. The Ontario Department of Agriculture now desires to bring these to the attention of every farmer in the province.

Barrage Against Fungus Invaders

Oat Smut, Bunt or Stinking Smut of Wheat and Covered Smut of Barley destroy these crops and reduce profits. The formalin treatment is not expensive or difficult—and it will control these diseases.

Apple Scab still collects its annual toll of hundreds of thousands of dollars. Intelligent and careful spraying with proper pruning will almost always prevent it, no matter how wet the season.

Potato Blight and Rot destroys thousands of bushels of potatoes every year—but the Bordeaux mixture properly applied will check its ravages.

Peach Leaf Curl, Potato Scab, Black Knob of Plums and Cherries, Brown Rot of Plums and Cherries, Celery Blight and Tomato Blight—all can be prevented from exacting their yearly tribute by efficient methods of control.

A Vigorous Offensive Against Insects

The San Jose Scale is smaller than the head of a pin—but it has ruined hundreds of thousands of fruit trees in Ontario.

The Codling Moth occurs in every apple and pear orchard in the Province.

The Plum Curculio often destroys nearly every plum in many orchards.

Maggots in Cherries may destroy 50 per cent. or more of the crop.

Yet all these pests can be controlled.

It is not difficult nor costly to destroy Grasshoppers, Cut-worms, Army Worms, or Cabbage Worms.

The Hessian Fly, Wheat Midge, White Grub and Wireworm, weaken our war-time strength—but much may be done, too, to check their ravages.

Horn and Stable Flies and Cattle, Hog and Poultry Lice yield to proper treatment.

Ants, Cockroaches, Bed Bugs, Buffalo Carpet Beetles, Clothes Moths, House Flies—all the household insect pests, in short—may be partially or completely controlled.

A Few Timely Suggestions

Treatment for Smut.—Mix one pint of formalin with thirty gallons of water. Place grain on clean floor and sprinkle with formalin solution. Stir grain and repeat until every kernel is moistened by solution. Cover pile with sacking and leave for couple of hours. Then spread grain out thinly to dry.

Late Blight and Rot of Potatoes.—Commence spraying with Bordeaux mixture when plants are six inches high. Spray thoroughly so every leaf is drenched. Add arsenate of lead or Paris green when necessary for beetles. Spray regularly throughout season—from three to seven applications are necessary, according to wetness of weather.

Grasshoppers, no matter how abundant, can readily be controlled. Mix 20 lbs. bran with 1 lb. Paris green. Squeeze juice of three lemons into 2 gallons of water, chop pulp and rinds of lemons and add to water; then add a gallon of molasses to water and stir well. Mix poisoned bran and molasses mixture until every part is moist and will run through fingers like sawdust. Scatter this mixture between 5 and 7 o'clock in the morning thinly over infested field, so that quantity given will be sufficient for 4 or 5 acres.

Maggots in Cherries.—This curse to the cherry grower can be absolutely controlled at a cost of about 5 cents per tree. Spray with 2 lbs. arsenate of lead paste in 40 gallons water; first, when the early varieties begin to turn red; second, two weeks later.

Blister Mite can be annihilated by a single spraying of trees with lime-sulphur wash, 1 gallon to 9 gallons water.

These are a few methods of control. There are as efficacious remedies for most of pests. Methods sometimes need to vary, according to local conditions, but the result is the same. To assist the farmer in this regard the

Ontario Department of Agriculture

has the following up-to-date bulletins ready for distribution: Nos. 219, 227, 229, 240, 250, 251, 257 and 258. These treat the subject from every angle, and in them the farmer may find, with very little trouble, just the information regarding this question he requires. A Spray Calendar will also be sent upon request, which gives, very briefly, complete directions for treating all ordinary fungi and insects. All bulletins are free.

Personal Attention

will also be given to any Ontario farmer or fruit grower requesting information. All are invited to write regarding their peculiar problems of this nature. Experts of the Department will give requests prompt attention. Each case will be considered and as exact information as possible will be forwarded. In writing, give complete details of your particular case and address all correspondence to the Office of the Commissioner, Ontario Department of Agriculture, Parliament Buildings, Toronto.

TRACTORS

The Canada Food Board, Ottawa, has purchased 1,000 Fordson tractors for distribution among farmers of Canada at cost price. They have asked the Provincial Department of Agriculture to co-operate with them in the distribution in the respective Provinces. In accordance with this arrangement, this Department is now prepared to accept orders for these tractors for delivery in this Province. The price is \$750, f. o. b., Detroit, Mich., duty free. Deliveries begin under the contract on the 1st of April, and will continue thereafter as rapidly as possible in the order in which orders are received. Cheque must be forwarded with order, and be made payable to the Ontario Department of Agriculture.



Late Blight of Potato



Potato Scab
Disfigures Crops for Market Purposes



Black Knob
It is destroyed thousands of Plums and Cherry trees



Army Worm
Caused great damage in 1915



Cut Worm
Destructive to vegetables



San Jose Scale



Codling Worm



Oyster Shell Scale



Apple Scab



Loose Smut—Barley



White Grub



Plum Curculio



Peach Leaf Curl
Lowers vitality of tree