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AND HOME MAGAZINE

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VOL. LII.

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LONDON, ONTARIO, MARCH 29, 1917.

No. 1279

## Frost Ornamental Fences

### Present a Good Front

Angle Iron and Woven Wire

NEAT LOOKING

PRICES REASONABLE

### Woven Wire Lawn Fences

(Made in Three Styles—Standard Heights)

Perfectly Woven Fabric—Only Automatic Loom in Canada

The illustration below is Style "S." There is also Style "L," with the shorter bowed stays omitted, and Style "LP," with stays close all the way to the top.

FROST WOVEN WIRE LAWN FENCES can be built on iron posts with pipe top rail or on wooden posts with scantling at top. We use heavily-galvanized material, as the painted fence soon shows cracks and peelings; rust soon follows. The wire in these fences, like all our material, is drawn and galvanized in our own mills, so we know its quality.

Standard heights: 3, 3½ and 4 feet. Bowed tops are even. The uprights of No. 9 are deeply crimped and securely held in place by a reverse twist of the two No. 13 twisted lateral wires. To prevent the bottom of fence from becoming loose or "pulled out" the uprights are alternately crimped one way, then the other.

Gates are made to match any style or height of iron or woven wire lawn fence.

Flower border, heights 16 inches and 22 inches, same construction as Style "L."



### Made From Angles— Strength and Lightness Combined

Being constructed from angles, the fence is light, but stronger than round or square bars of ½-inch or ¾-inch thickness. Quite massive in appearance, but much lower in cost than the ordinary types of iron fences, on account of its lesser weight. FROST ANGLE PICKET FENCE is durable and neat.

MATERIAL IN DETAIL: Horizontal rails, 2-inch angles, ½-inch thick. Pickets, ¾-inch angles, ½-inch thick, fastened to horizontals through a "V" slot and securely rivetted. Fence is practically rigid. Six-inch square posts at ends and gates. These 6-inch posts are made from four of the 2-inch horizontals fastened 2 inches apart by 2-inch steel plates, top and bottom, strongly rivetted. Line posts are made of two horizontals fastened closely, making a 2-inch square post. The made-up panels, 8 feet long, are tightly bolted to line and end posts.

Send in a rough sketch of any property you contemplate fencing, and we shall be glad to give you an estimate of the cost of whatever style you prefer. We have reliable agents in almost every district.

Get a catalogue with detailed information.


**Frost Steel and Wire Co., Ltd.**  
Hamilton, Canada





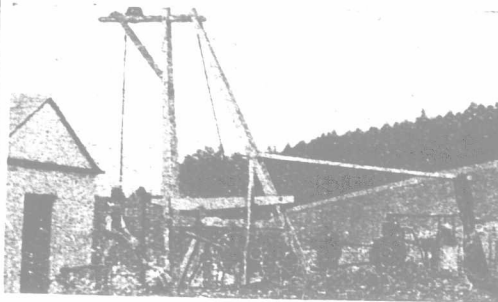
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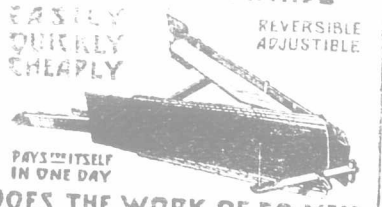
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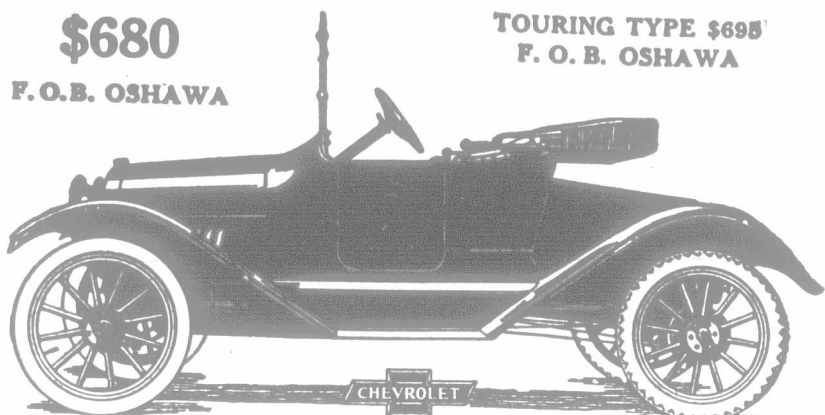
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None Genuine Without it.

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Farmers, who 19 years ago laid Paroid roofs on their barns, have had absolute security ever since—and their roofs are still good. Proof against the weather, the greatest protection against fire, these roofs have given

## 19 Years' Roofing Satisfaction

The name Paroid has come to mean something more than ready roofing. Demand Paroid and look for the name on every roll you buy, because inferior grades have often been offered as being "the same thing as Paroid." This is a warning, for your protection as well as ours!

Paroid is positively fire resisting; burning brands die out without damage on it. Paroid costs no more than the best wooden shingles. It is easiest to lay, lasts longer, and gives you the greatest protection all the time. You waste no time repairing Paroid roofs.

Neponset Paroid is made in three permanent colors, Grey, Red and Green, the last two being surfaced with crushed slate

For your home select Neponset Twin Shingles, Red or Green, with the same high qualities of Paroid.

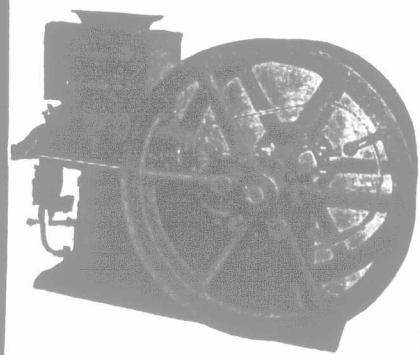
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The Largest Manufacturers of Roofings, Wall Boards, and Roofing Felt in Canada.

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## MONARCH FARM ENGINE

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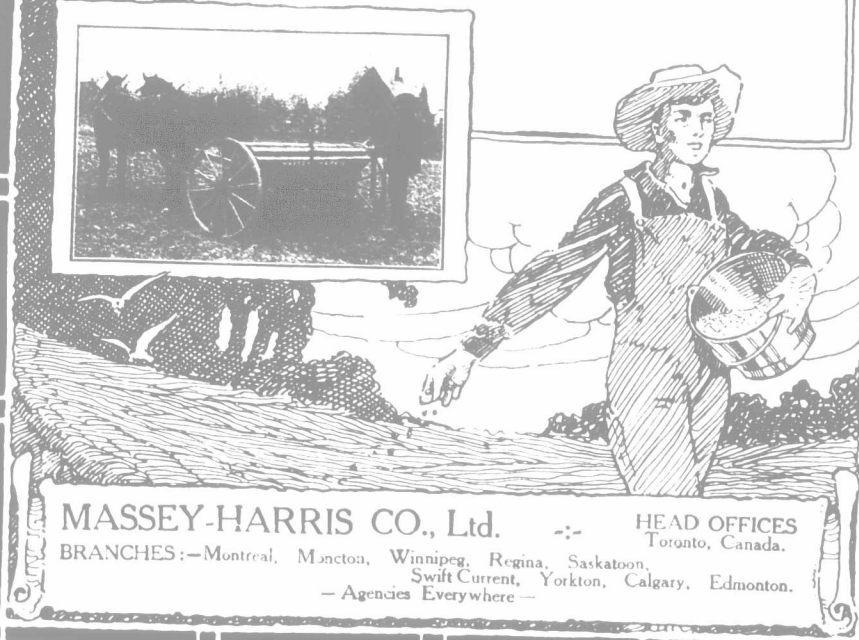
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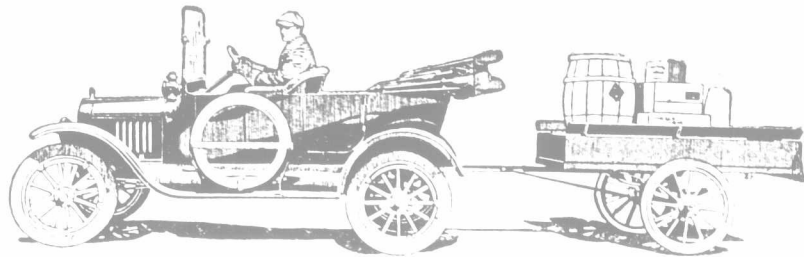
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It is built just like your car, with all-steel chassis, solid rubber cushion tires, guaranteed for 7,000 miles, and regular automobile wheels, interchangeable with Ford wheels.

And it costs less, because the reserve power in your car is sufficient to do the pulling with only a trifling extra cost of gasoline. No feeding or stabling to eat up money.

Model F. 6 as shown above, with 6 ft. box body. PRICE \$85.

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F.O.B. Windsor, Ontario

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## Give Your Crops a Better Start

A Peter Hamilton Spring Tooth Cultivator will work your soil into a perfect seed-bed. It is designed to cut every inch of the ground and cultivate it thoroughly to an even depth.

### Peter Hamilton Cultivators

have specially constructed sections that give the teeth great freedom of action. They are so flexible that a ridge and furrow can be thoroughly cultivated at the same time, and hard, rough soil seldom jerks more than two teeth out of the ground at once. The teeth are made of high-grade steel with reversible points. The frame is strong, well-braced and properly trussed.

Send for our free illustrated booklet and post yourself on the merits of this cultivator.

Dealers wanted in open territory.

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PETERBOROUGH ONTARIO



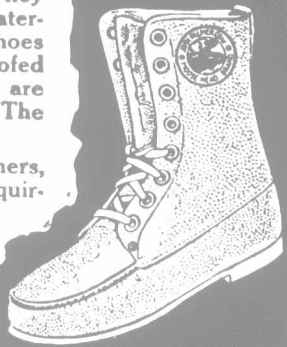
# Palmer's Summer Packs



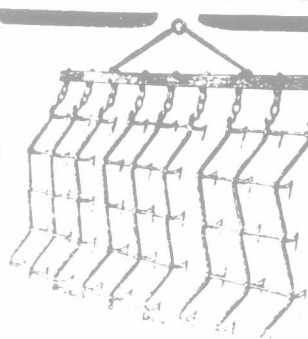
GIVE real foot comfort to tired, aching feet. They are made from oil-tanned Skowhegan waterproof leather. These summer packs or plow shoes are light, strong, durable—made with water-proofed leather sole and heel and solid leather insoles are laced, have large eyelets and bellows tongues. The ideal shoe 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**  
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## The Hilborn Lance Tooth Harrow

Excellent either as a Cultivator or Harrow. Made in three or four sections, covering three feet per section. Weight about 50 lbs. per section.

Enquire direct if your dealer does not handle them.

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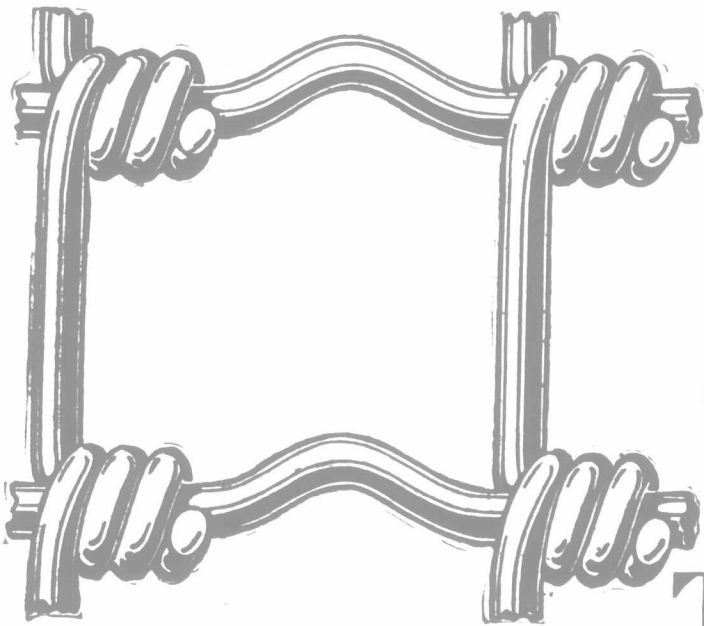


American Fence Original and Genuine—Beware of Imitations

ORIGINAL  
& GENUINE

# American Fence

BEWARE OF IMITATIONS



The Hinge Joint  
That Made American Fence Famous

## Twelve Reasons

### Why You Should Buy American Fence

1. It has stood the test for twenty years.
2. It is the original and genuine hinge joint fence.
3. It is made of wire especially adapted for fence purposes.
4. It is mechanically correct in construction.
5. It is made of full gauge wire throughout.
6. It is put up in full length rolls.
7. It is covered with a heavy coat of high-grade zinc.
8. Its hinge joint gives it strength, durability and flexibility.
9. Its spacing between stay wires and line wires is just as represented.
10. It keeps your live stock where you want it.
11. It is made in many styles and heights suitable for all purposes.
12. It is the AMERICAN FENCE which guarantees you real value.

**The Canadian Steel & Wire Co., Limited**

Hamilton, Ont.

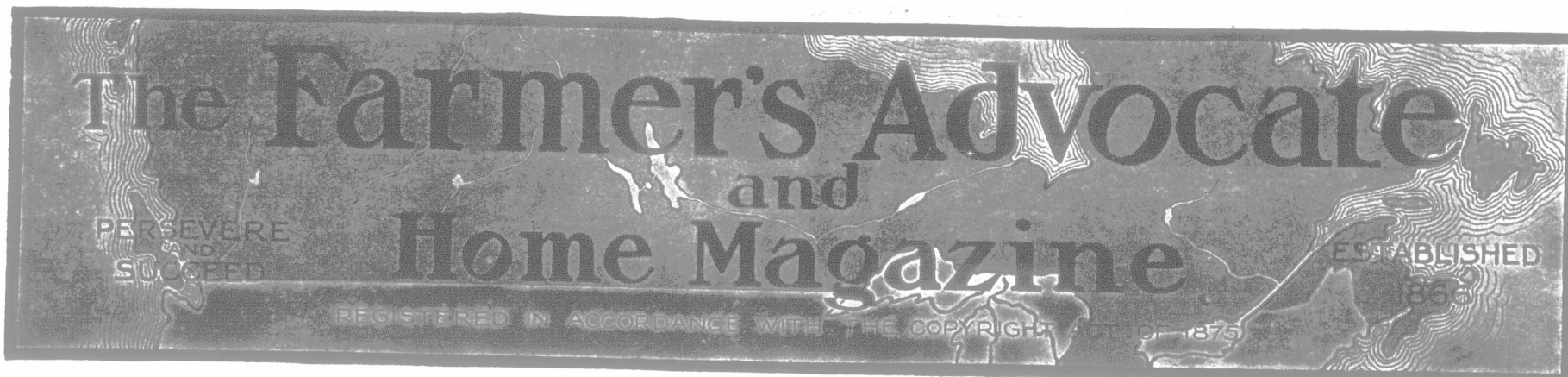
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American Fence Original and Genuine—Beware of Imitations

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LII.

LONDON, ONTARIO, MARCH 29, 1917.

1279

## EDITORIAL.

Six weeks more and the cattle can go to grass.

Bucksaws are back-breakers; buzzsaws are better.

If short of man power double up the horse power per man.

Sow early; sow well; sow the best of seed in plentiful supply.

Treat the seed for smut. Make every effort count toward a bumper crop.

Ontario grows over 170,000 acres of potatoes annually. Keep up the acreage this year.

Try some mixed crop for feed. Mix one bushel of barley and one of oats for each acre.

One stroke with sharp harrow teeth does as much good as two with dull points. Sharpen up now.

Every retreat is a "strategic retirement" when explained by the retreating army's war expert.

Every farmer should put in a few early potatoes this year. Try Irish Cobbler or Extra Early Eureka.

China has broken off diplomatic relations with Germany. This means 400,000,000 more enemies for the Teutons.

There will be very few potatoes planted whole this year, unless they are too small to risk splitting once or twice.

The effort the Dominion Government is putting forth to secure farm labor in the United States is to be commended.

How many of Ontario's 13,000,000 hens lay in winter? More will next winter if the pullets to replace the old stock are hatched early.

The Club member who will not stick to his Club in matters of business is not a source of strength to any co-operative organization.

In seeding down it is poor policy to "skimp" the amount of seed sown. You want a "good catch" and in most cases "good catches" only come from liberal seeding.

This winter has driven home the fact that it is generally safer and more profitable to grow feed than to buy it. Corn and clover are the big feed crops. Sow plenty of clover seed and save at least a fair acreage for corn.

Ontario produces over 3,300,000 lbs. of wool annually. It will pay to grade this carefully. Last year graded wool sold, Canada over, for around 5 cents per pound more than ungraded. At this rate, grading in Ontario should mean about \$165,000 more money in the farmers' pockets and better wool for the buyer.

Running water in the farm home is more necessary than a water supply in the stables, only it has not appealed with such force to the farmer because his wife has done the housework without complaining, while he had the chores to do himself and saw the labor-saving possibilities of running water in his cow barns and hog pens.

### A Sign of the Times.

In the midst of the greatest war the world has known, a revolution passes almost unnoticed and yet that revolution, comparatively bloodless though it was, may in reality be the greatest advance toward peace—yea, world peace, permanent peace, that has been made since the beginning of the fateful struggle early in August, 1914. Great changes come slowly and yet they are sometimes finally precipitated with terrific suddenness. Russia has awakened and thrown off the absolute control exercised by the head of the Romanoffs. Czarism has had its day in that vast country of practically unlimited undeveloped resources, and one hundred and seventy millions of people. No longer will the peasant be kept in darkness and forced to live in ignorance, fear and trembling. No longer will the absolute monarch take unto himself one-third of Russia's financial substance. No longer will pro-German intrigue and mad monks rule the people of the Russian Empire. The Czar ordered the dissolution of his parliament, but that parliament, backed by the thinking people, ordered and enforced the end of the Romanoff Dynasty. It would seem a big stride forward—biggest for Russia, but of vast importance to the world. What will the Hohenzollerns think? They surely will begin to tremble. What a lesson the Russian revolution must be to the people of Germany and of every other nation be-strided with a Colossus in the form of an absolute monarch with his few family relations and their friends comprising an oligarchy. The hope of the world lies with the common people. Progress depends upon them. Everyone has faith in them—vastly more faith than was ever bestowed upon or deserved by Czars. The common people are democratic and democracies are seldom the aggressors in war. Such nations believe in living and letting live. Had Germany and Austria-Hungary been ruled by the people during the past fifty years, instead of by oligarchies, the present world war could scarcely have been started let alone carried on for over two and one-half frightful years. What has happened in Russia (the overthrow of despotism) will take place sooner or later in every country where absolutism holds sway. The Kaiser should take warning, for the time may yet come when war drums shall throb no longer and when national flags will be furled in the parliament of man—the federation of the world. In that day absolute monarchs, secret diplomacy, oligarchy and intrigue will be no more. Progress cannot be denied the common people and the world.

### Are Rural Women Indifferent?

It is said that the women of rural Ontario are indifferent regarding their newly acquired right to exercise the franchise. This, if correct, is rather unfortunate. True, rural women, while hard workers, are for the most part happy women living in happy homes. They have found their time fully occupied with the duties of their homes and families. They have not been agitators who, for want of something to do, took the public platform or monopolized the columns of the press. But they have done some thinking on their own account and while a few may be indifferent, just as many city women will no doubt show little interest in politics and voting, the majority will surely plan to acquaint themselves with public questions, and having familiarized themselves with the problems before them will surely go to the polls and cast their ballots as their honest convictions direct. It is, now that the franchise has been extended to women, the bounden duty of every farm woman to improve her understanding of the big economic and political questions of the day, and having so done to exercise her right of vote and influence. If city women vote and country women remain at home, the city viewpoint will increase in predominance in our legislative halls. City women are not much different from city men.

They have the city viewpoint. They think that what is good for the city is good for the Dominion. But it is not always the case.

Rural women in Ontario have a duty to perform. Study politics; study economics. Keep in touch with the doings of parliaments and people. Go out and vote every time the opportunity offers and vote according to the country viewpoint, which, in a pre-eminently agricultural country like Canada, should be the national viewpoint. Country women, help your husbands and brothers on the land to elect to seats in the halls of parliament men who represent the country and with the country viewpoint. Do not let it be said that you are indifferent, for you are not. Be at home when opportunity knocks. Be independent when the party politician comes around with his banter and blarney. Let him kiss the baby, if he has no microbes on his kisser, but vote for the man who will truly represent your rural constituency. Remember that a farmer may be an amateur baby kisser, a clumsy orator, a plain dresser, but he may have some common sense and good old honest knowledge of affairs tucked away in the back part of his head. Yes, the women of rural districts have a duty to perform,—study, vote.

### Agricultural Progress Depends on the Farmer.

Just as the progress of any nation depends fundamentally upon the people of that nation, so the progress and development of most industries in any country depend upon the people engaged in those industries. Agriculture is no exception. The progress of agriculture in Canada depends upon the conduct of the people on the farms. Governments can help and they may hinder, but no Government can make a man a good farmer if he wills not, nor can it make a nation of farmers if the men on the land are indifferent toward their occupation and the men in the towns will have nothing of farm life and work. The Canadian farmer knows this and is not looking for any "pap." He understands full well that great changes cannot come to his calling rapidly. All farmers know that it is not what the various Departments of Agriculture do or do not do, in the particular sense of the administration of the one department of Government, that matters most to the agricultural calling now and in future. And they also realize that what the Government as a whole does by way of legislation, favorable or unfavorable to agriculture, has a great effect upon the farming industry. A strong agricultural Department of any Government is necessary in an agricultural country. Other industries will see that their interests are well looked after. So should those engaged in agriculture insist upon nothing but the strongest of men to head the Departments of Agriculture, with their various branches. But better still, elect a strong representative for every agricultural constituency and send these men to parliament to back up an aggressive Department of Agriculture and pass legislation more in keeping with the needs of an agricultural country. Leave some of the lawyers at home to settle line-fence disputes and some of the doctors to amputate vermiform appendices. Elect a few real farmers and let them commence to cultivate the fertile fields of legislation until the country will eventually find its productive industries growing as they should, unhampered by parasites. We said in the beginning that the progress of the country depends upon its people. The progress of Canada, and Canadian agriculture in particular, depends on the farmers. Those engaged in some other industries have made progress because they were energetic. They got help from the men whom they elected to represent them in parliament, because they elected men favorable to their industry. Farmers should demand a fair field. Now is the time to start. Farmers, is there not a man among you, yes a Conservative and also a



## The Farmer's Advocate AND HOME MAGAZINE

THE LEADING AGRICULTURAL JOURNAL IN THE  
DOMINION.

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Liberal, who would make your own constituency a good representative and who would make a sensible and sane legislator for your country? Certainly there is. Every rural constituency has its able Liberals and able Conservatives but until they shake off a little of their ultra-partyism the party will see to it that these men are not able to get a nomination, let alone an election. It would be ridiculous for cities and towns to elect farmer representatives; it is just as ridiculous for country constituencies to elect men representing all manner of city enterprise, professions and business. Surely there is something wrong when agriculture, even to the heads of Departments of Agriculture, must look to other professions for leadership. Progress depends upon farmers themselves.

### Two Questions,

We found two enquiries in the mail one day last week, one of a practical nature dealing with the operation of a farm, the other of a different class, probably a little more theoretical, and dealing with the operation of a Department of Agriculture. Here are the questions: "What would you do if you were a farmer on 150 acres of land in Old Ontario, with labor as scarce as it now is?" and, "What would you do if you were Minister or Commissioner of Agriculture in Ontario?" Now wouldn't that almost phase you? We started in to answer them in the order received. Having a liking for sheep and all kinds of live stock we advised the farmer to keep a large flock of sheep if possible. Of course it would be necessary to work into them gradually if his experience in sheep breeding was limited. We advised the keeping of as much good live stock as he could attend to and the farm would carry, and in every case favored well-bred, high-quality animals. For work horses we would have, in so far as possible, heavy draft breed mares to work and raise foals, and would plan wide implements so as to work four-horse teams wherever possible. The class of cattle would depend somewhat on the district and upon the inclinations of the farmer. Beef would be less work than dairy, but the latter might be the more profitable. In any case at least two good blood sows would be kept and their four litters of pigs raised each year. Then the farm

would have at least 100 hens bred to lay, whether they did or not. If they didn't we would change the breed or the strain of the breed. We went on to divide the farm into large fields, practice a short rotation of crops, put in all the handy appliances in the house and barn and to make the place a model farm at a cost of several thousands of dollars.

Then we looked at the other question: "What would you do if you were Minister or Commissioner of Agriculture in Ontario?" We had been telling the farmer to "keep" this and to "keep" that and we found that "keeping", or rather getting so many things to "keep", costs a lot of money so we thought we would try a change. We decided not to "keep" so much, or so many, we just forget which word we used, and started in to cull the flock thereby showing our amateurishness. We got along nicely. Several "heads" had already fallen when we suddenly remembered something. We had decided that the head of the Department of Agriculture in Ontario should have only one deputy or assistant, but we bethought ourselves. This would mean only one advisor. No. It could not be done. We would have to have more help than that to keep busy. And besides, what would be the use of a Commissioner of Agriculture with nobody to "commish?" So we kept the lot. Changes are not impossible. However, we got the questions answered satisfactorily don't you think?

### Matters of History.

BY FETER MCARTHUR.

And now Russia has wakened up and rolled over. What next? We have become so accustomed to great events that we seem to have lost our capacity for feeling surprised. A few years ago the Russian revolution would have filled us with amazement but now it fails to stir. I even heard people laugh when they spoke of it. We have "supped full of horrors" and have come to expect world-shaking events in every day's news. It has been said that "history repeats itself" and it seems as if all the history there has been were repeating itself in these crowded days. It seems as if the great drama of life were now moving rapidly towards some smashing climax. Great battles, revolutions and the fall of dynasties merely excite our interest. We seem to have developed to a point where we can stand unabashed—

Amidst the wars of elements,  
the wrecks of matter and the crush of worlds.

What is it all leading to? Where will it end? The forces that are at work are beyond human comprehension and no one can predict the result with certainty. Statesmen and leaders are hurled hither and thither by movements which they are vainly striving to control. Perhaps the most significant thing of all is that the plain people are aroused and more conscious of their power than ever before. In the British Empire it is the driving force of the people back of Lloyd-George, a man of the people, that is causing the war to be prosecuted with such admirable vigor. In Russia the people are now in control and in France they have been in control from the beginning. The overthrow of the Romanoffs makes clear the fact that this is a war of the peoples for democratic freedom and it is not impossible that the enemy may soon see that the one door of escape is to brush aside their rulers and let the plain people make peace with the democracies with which they are at war. It is possible that the Russian revolution is the greatest step towards peace that has been made since the outbreak of the war.

In all military organizations great stress is laid on the virtue of obedience. Obedience to orders is certainly necessary to military success, but in this war we seem to be developing a new kind of obedience that augurs well for the future. Our obedience is voluntary rather than compulsory. It is really co-operation, and the fact that we are able to co-operate in the gigantic operations that are in progress shows that the world has moved forward. Where the people co-operate every man is his own ruler and if he obeys orders he is simply supporting a power which he has helped to create and of which he is a part. By co-operating in this war the Dominions have not given up any part of their right of self-government. On the contrary they have shown themselves entirely worthy of enjoying the privilege, and when peace is declared they will go back to self-government on a surer basis than ever before. That they should offer to obey orders in this crisis shows that they understand the need of the hour and it is folly to suppose that they will be willing to take orders from an outside authority when the crisis has passed. They are showing obedience because they are strong, rather than because they are weak, and the work they are doing in the war will increase their self confidence instead of destroying it. Terrible as the time is, the outlook for democracy is better than ever before in the world's history.

Those who undertake to speak for the members of the Round Table have assured me that they have no scheme for the re-organization of the Empire. They merely wish to discuss plans for a re-organization and are willing to consider anything. That is all very well, but I think they are making a mistake in assuming that

the Empire needs to be reorganized. Before asking for plans by which a change is to be effected they should prove that a change is necessary or that a large portion of the people want one. I have failed to discover any crying need of a change or anything like a popular demand for it. But since these public-spirited gentlemen are undertaking to grapple with the problems of a reorganized Empire there is important work that they can do right now. Let them devote their best thought to formulating a practical scheme for the settlement of the Irish question. Whatever is done about the Empire, whether it is reorganized or not, something must be done to solve the Irish question. It will be a part of the Empire in any case. If our friends of the Round Table can show themselves capable of grappling successfully with the Irish question we will be much more willing to listen to what they may have to offer regarding the Empire as a whole. The keynote of the Round Table movement is loyalty, but there is such a thing as being loyal beyond one's capacity. There is much more true loyalty in doing practical things than in dreaming dreams that no man is capable of working out. The people are showing their faculty for co-operating in defence of the Empire, and it strikes me that this is a surer guarantee of the future of the Empire than any all-embracing scheme that can be devised. In the meantime it might be a good idea for the Empire reorganizers to show us how they would deal with one detail of the great work—the pacification of Ireland. Everyone admits the need of such a plan right now.

At a time when history is being made so rapidly we have an opportunity to catch a glimpse of some of the principles that under-lie the development of nations. Although history concerns itself chiefly with what a Swiss statesman once described as "The never-ending folly of ruling persons", the progress of nations depends chiefly on the conduct of citizens. The greatness of a nation depends on the quality of its citizenship and it is worthy of notice that during past wars, and even revolutions, the mass of the people went on with their work and everyday duties, much as usual. Because they did this, when the war was over its scars were quickly healed. As long as the plain people remain true to their ideals, no storms that governments may raise or confront can have a lasting effect. The people of any nation are practically unconquerable no matter what may happen to their governments. Even when conquered, a powerful nationality will in a short time absorb its conquerors and the established type will prevail. Of course the present war has come home to a greater proportion of the people of the various nations engaged, than any previous war, but it is probable that the same law will act. The fact that the people are called upon to produce and carry on their business as usual shows that they are expected to play their usual part and save the nation. Because of this no man, no matter how humbly placed, need despair of playing his part in winning the war and establishing the nation. For him the duty nearest to hand is still the paramount duty, in peace as well as in war. Our soldiers may win victories and protect our liberties but national growth depends on the honest efforts of the people who remain at home. This year both will do their utmost.

### Nature's Diary.

A. B. FLUGH, M. A.

I have received the following letter from W. A. Grant, of Becker, Ont. "There has been a bird in the spruce grove around the house for the past six weeks, and I would like to know its history if you can make it out from this description:

"It is about the shape of a robin but not quite so large. It is crimson in color, the upper part of the wing being somewhat grey. It has a crest on its head, similar to the Blue Jay. It is the first I have seen in this part."

From Mr. Grant's good description it is quite plain that this bird is a Cardinal, a species otherwise known as the Redbird, Warbird and Kentucky Cardinal.

The Cardinal is a common resident in the eastern portion of the United States from Northern Florida and Texas north to Southern New York, Ohio and Iowa. The male is as described by Mr. Grant, the female being olive-brown above, the crest, wings and tail being dull red, edged with olive-brown, the breast buff, tinged with red, and the abdomen paler.

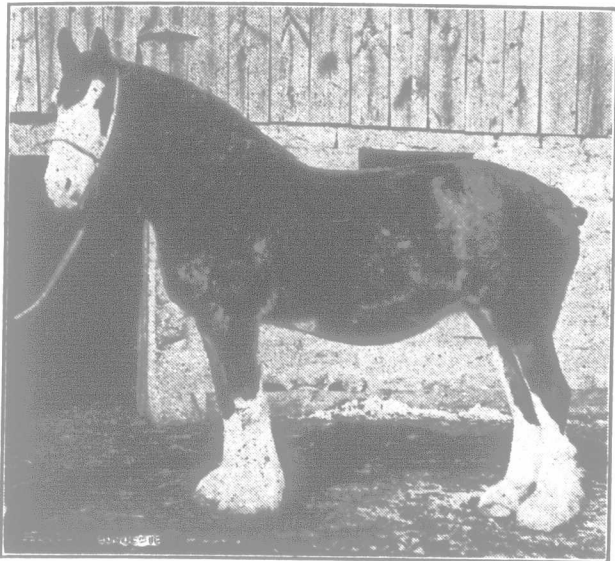
The Cardinal is a bird which is extending its range in Canada. It was first reported in Canada from Pt. Pelee by Dr. Brodie in 1879, then from Dunnville, on the southwestern border of Ontario, by Dr. MacCallum, about 1882, and about the same time Mr. Norval reported one or two at Port Rowan. Since that time it has been recorded from the following localities: St. Thomas by Mr. Foster; London by W. C. Saunders and Mr. Keays; Aylmer by Mr. Scott; Salem, Wellington County, by the writer; Guelph by F. N. Beattie; Kilworth by Mr. Thompson; Weston by Thompson-Seton; Penetanguishene by A. F. Young; Toronto by J. H. Fleming; Chatham and Rondeau by Mr. Keays, and Point Pelee by Mr. Keays and Mr. Taverner.

One notable peculiarity about these records, which are nearly all for single birds, is that they were mostly made in the winter time. This is true of the Kilworth, Guelph, Salem, Penetanguishene, and the two Toronto records. This species is, however, resident throughout its range, and it may possibly be that these birds had been present throughout the year but were not observed until cold weather brought them about the habitations of man.

There is undoubtedly a small colony of Cardinals at London, but the main habitat of this species in Canada is on Point Pelee. In "The Birds of Point Pelee" Taverner



and Swale say: "Point Pelee and its vicinity boasts of being the only locality in the Dominion of Canada where the Cardinal is regular and common. The status of this species has been dwelt upon in the Auk, 1907, by the authors, and the data therein given seems to indicate that half a century ago the species was more or less common in south-eastern Michigan, but since then has retreated from its range and is only now resuming it. The history of the Point Pelee observations point in the same direction. Dr. Brodie says: 'I visited Point Pelee, July 1879. I formed a speaking acquaintance with several people and all had a story to tell about a 'visit-



Mimosa [29096] (29241) Imp.

Bred by the late Robt. Brydon, The Dene, Seaham Harbor. Sire, Silver Cup; dam, Muriel, by Gallant Prince. Noted winner in the Old Country. Owned by B. Rothwell, Ottawa.

ation of war-birds' a few weeks previously. From descriptions given there was no doubt these 'war-birds' were Cardinals. From diligent enquiries it appeared the birds were not rare visitors, but this season they were unusually numerous. Saunders made his first ornithological visit to the Point in late August and early September, 1882, and another in May and June of 1884, and again in September 1900. In none of these did he discover any Cardinals. It was not until the next year in September, when Keays visited the Point that the bird was again brought to notice. In 1907 Saunders and Taverner were on the Point in May and Cardinals whistled from every hand. The evidence certainly points to the conclusion that the Cardinal occupied the Point until at least 1879, and then for a space, until about 1901, deserted the locality to a greater or less extent. They are now pretty well distributed over the Point, from the base to the extreme end. In the fall they are more difficult to find than in the spring. They then frequent the densest tangles in little flocks which seem to be the original broods, for there are usually one or two adults and three or four juvenile birds in the company."

The Cardinal is a species which every lover of birds would rejoice to see extend its range over a larger portion of Canada—a bird of brilliant color, of brilliant vocal powers, and highly beneficial in its food-habits, as it feeds practically exclusively on weed-seeds and injurious insects.

Point Pelee which is mentioned so prominently in connection with the above notes of the Cardinal, is the extreme southern tip of Canada, and is a very interesting locality, as here are found many birds, many plants, and other forms of life which do not occur elsewhere in the Dominion.

## THE HORSE.

### Light Horses in Britain.

#### London's Hunter Show.

For the Hunter Show in London, England, the sum of £882 was offered for prizes, for stock bred on hunter lines, i. e., young stock by Thoroughbred (racing) stallions, out of light-legged mares, even cart mares being used in the evolution of the hunter type in Britain. A better collection of young hunters was probably never brought together before. Perhaps the three-year-old classes were the best, and it was to a horse of this age that the special prize, a £50 cup, for the best animal in the young classes was awarded. The horse in question was Cark Marquis, shown by G. Dickinson, Cark-in-Cartmell, Lancashire, and bred by Sir William Cooke in Lincolnshire. He is by King's Courtship, which won the King's Champion Cup at Islington in 1912 and 1913, and is out of a mare by Tacitus, which was hunted by Sir William Cooke for seven seasons. He was sold when a yearling to Mrs. Scott, Clervaux Castle, in the North Riding, and she passed him on to Dickinson. He is a big, upstanding sort, and was undoubtedly the best looking young horse in the show.

Hunter breeding was the subject of a deputation to the Earl of Derby, as War Minister, and R. E. Prothero as Minister of Agriculture. Lord Derby's reply was the most businesslike. He said: As long as racing, hunting, and polo continued, the demand for high-class riding horses would, he thought, ensure their production in sufficient numbers, and heavy draft horses would always be required for farm work. The number

of Army horses maintained in peace must be comparatively small, and the annual purchase by the Army would be comparatively small, but to ensure rapid and efficient mobilization the general horse stock of the country must be sufficient in quantity and suitable in quality for the immediate military needs. But to ask anybody to have in this country enough horses for the mobilization of a huge Army on the scale we had now would be practically impossible. As a light draft horse, quick enough for field artillery, they really wanted some breed with less bulk, a carthorse that would trot. Lord Derby proceeded to outline a scheme for the distribution of surplus mares on easy terms after the war. It would never pay to breed inferior stock, and it was only the best that they could encourage.

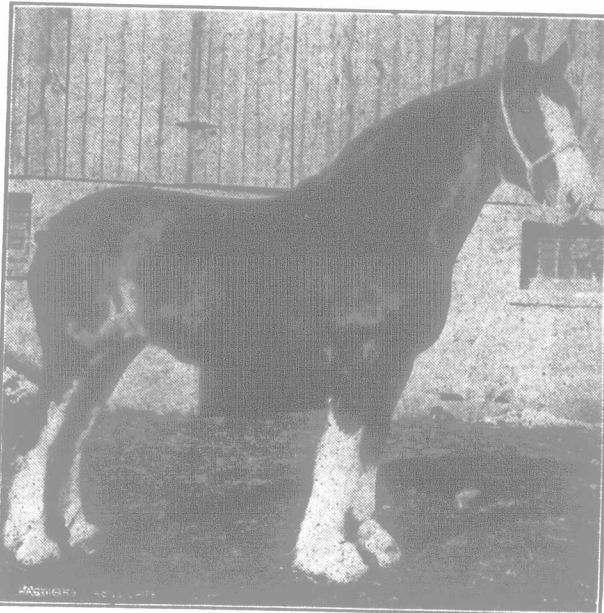
Mr. Prothero said he proposed to protect the farmer from the use of unsound stallions by compulsory annual registration of all stallions that were travelled for a service fee or publicly exhibited for stud purposes. They also proposed to arrange for the inspection by the Board's officers of stallions recommended for the Board's premium, and they would also be prepared, if and when they got the Treasury sanction, to purchase a few stallions every year to supplement those provided by private enterprise.

The Conference was not a very satisfactory one.

#### £21,330 for Light-Horse Breeding.

At the Royal Agricultural Hall, Islington, London, this year the British Board of Agriculture gave £21,330 to assist home breeders of light horses. They offered:

	£	s.	d.
Sixty King's Premiums for England and Wales, of an approximate value of £315.....	18,900	0	0
Twelve Super-Premiums of an additional value of £100 each.....	1,200	0	0
Six King's Premiums for Scotland of an approximate value of £205.....	1,230	0	0
Total.....	£21,330	0	0



Manilla [29097] (31460) Imp.

Bred by the late Robt. Brydon, The Dene, Seaham Harbor. Sire, Bonnie Buchlyvic; dam, Mimosa [29096], by Silver Cup. Winner in Scotland and Canada. Owned by B. Rothwell, Ottawa.

For this they received an entry of 175 Thoroughbred stallions, mostly old racehorses of great repute. This is how the scheme works out:

The average value of a Premium is £315 paid by the Board, as follows:

	£	s.	d.
Premium of £150—half paid at the time of award and the other half after the close of the service season.....	150	0	0
Service fee of £1 a mare (average number, 75), paid after the close of the service season.....	75	0	0
Foal fee of £2 a foal (average number, 45) paid after the close of the foaling season.....	90	0	0
	315	0	0
In addition, a service fee of £1 a mare (average number, 75) is chargeable to the owner.....	75	0	0
Average earnings.....	£390	0	0

Fees are paid by the Board in respect of (but not exceeding) 90 half-bred mares, and the earnings of a stallion serving that number would be approximately £440.

The owner of a stallion competing for a King's Premium is required to sign an undertaking on the Entry Form not to sell the stallion for export within twelve months of the date of award of a premium, without giving the Board the option to purchase. Super-Premiums of the value of £100, paid at the time of award, will, in addition to the ordinary Premium, be given to selected stallions of exceptional merit. Not more than twelve were awarded in 1917.

Every stallion must be registered under the Board's Registration Scheme before it can be accepted for entry at the show, and must not be under four or over twenty years old.

A stallion will not be registered or retained on the

register unless it is certified to be sound for breeding purposes and is free from the following diseases and defects:

Cataract, roaring, whistling, ringbone (high or low), sidebone, bone spavin, navicular disease, shivering, stringhalt, or defective genital organs.

To cut a long story short, the twelve super-premium horses were: Captain Wickham-Boynton's Rathurde, who took the King's Challenge Cup; the Compton Stud's Gilgandra, which was reserve for the Cup for the second year in succession; Captain Wickham-Boynton's Birk Gill; the Compton Stud's Gay Lally; Major Sir Merrick R. Burrell's Cock a Hoop; Major David Davies' Great Surprise; Captain Wickham-Boynton's Bachelor's Lodge; the Compton Stud's Darigal; Major David Davies' Bachelor's Charm; the Compton Stud's John Lambton; R. L. Fenwick's Tidal Wave, and John Drage's Chanteur.

The huge sum of money was well spent, for the quality of the horses merited it.

ALBION.

### Feeding Farm Horses.

EDITOR "THE FARMER'S ADVOCATE":

Comparatively few farmers are so fortunately situated that they can afford to attack the seeding campaign with a gas tractor. To furnish the necessary power in the fields they must fall back on that true and tried standby—the horse. Running the tractor economically and effectively is an important factor if the cost of production is to be kept down to normal. The same problem applies with equal force, if the maximum results are to be obtained with the farm teams. The fact that the horse is more than a mere machine makes him all the more of a problem. He cannot be fed and managed according to a set of fixed rules sent out by some manufacturer. "New conditions make new duties," and the owner finds he must get his thinking cap adjusted.

It is just as injurious, (probably more so,) to feed a horse too much as too little. I believe that no horse requires more than one full feed of hay in twenty-four hours, and by personal experience, have tested the soundness of this doctrine to my own satisfaction. Farm horses that are working every day have no time to eat more than a small quantity of hay at either the morning or the noon meal. This, however, does not mean that a horse should not be fed three times a day, but to emphasize that the evening feed should be the most substantial, for the work being over there is ample time for rest and digestion and for the renewal of exhausted tissue or muscle. The French are reputed to be the most skilful horse feeders in the world, having for hundreds of years tested all kinds of methods of feeding. Among the rules laid down, one of the most important is that there must be an interval of four or five hours between meals to keep a horse in good condition. Oats take about two hours to digest, while hay takes three hours, and for this reason a full feed of the latter is not given until night, when sufficient time may be had for it to digest. No horse is in fit condition for work with a stomach distended with hay, because it being situated right behind the lung space, if full, bulges forward into the chest to such an extent that the lungs have not room to properly expand; and anything that interferes with their function predisposes to heaves. Feeding should be regular, and while a horse should be required to do as little work as possible on a loaded stomach, an interval of half an hour should elapse before food is given to a heated and tired animal.

Timothy hay is the form of roughage most widely used for horses. Its popularity depends more largely on its freedom from dust than on its nutritive qualities. Un-



Margery Daw [36589].

Bred by B. Rothwell, Hillsdale Farm, Ottawa. Sire, Dunnottar, Imp.; dam, Manilla, Imp. First, open foal, Ottawa, 1915. First yearling filly (imported class), Toronto, 1916.

fortunately, however, it is a poorly balanced food and I would greatly prefer good mixed hay when free from dust. Better still is the red clover cured in a semi-green condition; there is no dust, the horses eat it better than any other roughage and the protein content is rich enough to considerably reduce the amount of grain that would otherwise be required.

During the early grazing season and the hot summer



months when the pasture has become fairly well matured, I prefer to turn the horses out nights, if at all possible. From year to year a horse consumes an amount of dry heating food which calls for special regulation to neutralize the excessive proteid consumption that has taken place. Substituting the grass for a certain part of the dry feed might for a time lessen, to some extent his energy and power to endure protracted hard labor. Yet, it is a fact that such a procedure would enable the average horse during his life time to perform much more labor than if kept continuously on dry feed.

It is generally admitted that oats are the most satisfactory grain for horses. Corn may be used in combination with other grains, but it is too heating a food to be fed exclusively to horses. Bran forms a suitable and desirable addition to a ration, being cooling and soothing in its action. Approximately ten pounds of oats, five pounds of corn and three pounds of bran divided into three equal feeds make a days ration that it would be hard to improve upon. The weight fed at each meal should be about the same, although for the sake of variety the corn may be omitted at the morning meal and fed at noon. For the evening meal it is a good plan, when possible, to feed crushed oats along with the bran and a few handfuls of cut hay, the whole being dampened and salted to render it palatable.

It sometimes happens that when horses are being well fed for heavy work and are allowed to stand idle for a day or two the disease known as lymphangitis is apt to get a foothold. More especially is this true of the heavy draft types. In England, it is sometimes called "Monday morning fever," because more cases are reported on Monday morning, after Sunday's rest, than any other day during the week. A horse getting three full grain feeds a day generates in his system a large amount of heat and energy, which is just what he needs to perform a good day's work. When, however, he gets a day off, and the full grain ration is continued, there is no vent for it. Being the function of the lymphatic glands to dispose of this excess of nourishment, if they fail to do so they become inflamed and an attack of lymphangitis results. To counteract this tendency the grain ration should either be reduced or a bran mash substituted, at the same time allowing exercise.

Another matter about which diversity of opinion exists, is how and when to water the horse. Dr. Reed of the Ontario Agricultural College has expressed the very sensible conclusion: "When a horse is thirsty he wants a drink". This is probably the very best guide for the attendant and certainly an acceptable one to the animal himself. There is a great deal of exaggerated fear about watering horses when warm. When a large amount of perspiration has been secreted while working it leaves the system parched. A pail or two of water of moderate temperature is the best thing that can be given, and ordinarily they should have it at once. So long as precautions are taken to have the chill off, it will not hurt him in the least, but rather refresh and prepare him to enjoy his feed.

A variety of factors must unite in keeping horses in good condition. Judgment in working, increasing or diminishing the allowance of heavy feed, regularity in time of feeding, frequency of watering, and care in fitting harness and matching teams—in a word that rare quality called "common sense"—are the secrets in maintaining the teams in presentable condition, and strong, working condition. Some one has said: "It is not so much what you feed as how you feed it", common sense without oats being better than oats without a reasonable accompaniment of brains.

Elgin Co., Ont.

AGRICOLA.

## LIVE STOCK.

### The Stable Boy's Diary.

EDITOR "THE FARMER'S ADVOCATE":

Uncle Bijah is in the neighborhood and gave us a call to-day. As soon as he spied the hogs on cement floor he sounded a note of alarm, "You'll have crippled pigs, boys, mark my words." "Well now, Uncle, this is no experiment but the end of over ten year's trial with bunches of a dozen pigs more or less all the time. You notice the floor has a little slope to the cleaning-out end, but no swell upper berths and not even planks in the corner for the black and red beauties, now valued at a cent an ounce, to snore on—just plenty of dry straw and the pens regularly cleaned every five or six days. Well-ground mixed chop of oats, barley and corn is scattered dry in the feeding troughs at meal time, and the whys or slops poured upon it. The pigs do their own mixing and warming without sods or charcoal. Result: No crippled pigs in a dozen years and good deers of every cross and breed. Feeding or floors? We won't argue over it, Bijah. You pay your money and you take your choice.

One of the roan two year-olds, a voracious feeder, showed signs of bloat this morning, shifting about uneasily, as tight as a drum, and still reaching after moreilage. "Try turp. and oil" said neighbor Scott, who happened along, so the black bottle with a pint of raw linseed oil and about two ounces of turpentine was turned into her and the feed slackend off. By afternoon she was right as a trivet.

It is worth noting that the very first treatment record of the splendid, tabulated series in January and February "Farmer's Advocate" for diseases of farm animals, made good. I have carefully preserved the set for use, as every stable-man should. They are most valuable and equal to a whole veterinary library.

The square plank water trough before the cattle

gave out a while ago. Moisture had soaked in about the tongue-and-grooves and rot followed. We decided on something simpler—a v-shaped rough made of sound, dressed 16-foot pine planks, one set, 10 inches by 2 inches, and the other, 8 inches by 2 inches and the splicing places about two feet past each other. The ends of the planks were bevelled and in putting them together plenty of white lead paint was used and a wire nail about every six inches. The troughs were properly levelled and supported on a strong v-shaped brace spiked in front of the large alley posts every eight feet. It has proven a most satisfactory job, easily kept clean and gives no trouble when frost gets in as it does on zero nights.

Brooming and grooming day—The cows enjoy the currycomb and brush next to good corn silage. It's amazing how much dust filters down into basement stables through the feed chutes and spreads over the backs and into hair and skin of the stock, choking up the pores in a most unhealthy way and making a hot-bed for vermin to start in. And those cobwebs need sweeping down again. Wonder if John H. Comstock's big work on spiders tells the whence and the where of the stable variety and what it feeds on? It deserves our thanks, anyway, for it festoons the place with danger signals of dirt.

The white world goes with the passing of winter, the equal of which we rarely see. The cattle never fed better, if as well. We shall soon forget those bracing "ten below" mornings when the lantern threw its six o'clock flare across the trackless, knee-deep crystalline, which sifted in like fine dust under the stable doors. Through the windows the cattle caught the light and the stanchions clanked as the row rose in welcome, staring at the cloud of steam pouring in behind them. In the adjoining stabling the Clydesdales lunge heavily to their feet and the driver whinnies for hay. The long, double row of cattle are contentedly munching and shifting back and forth in the stalls making a homely sort of music for the stable-man that the Edison phonograph has yet to duplicate.

Middlesex Co., Ont.

STABLE BOY.



Doone Grand Knight.

First and reserve champion, Perth, 1917. Sold for 1,000 guineas.

### Our Scottish Letter.

February has gone. It has been a month of remarkably dry weather, and in this respect a striking contrast to February of 1916. The rainfall for the month this year is represented by a decimal, while the rainfall for February 1916 was fully 4 inches. For nearly three weeks the country generally was frost-bound, and even in the earlier weeks of the month even when frost was not experienced we had a spell of phenomenally dry and cold northeast wind. Were labor conditions normal the general opinion would be in favor of such a month as we have had. The trouble is that ploughing was retarded and with a serious scarcity of labor it is well-nigh impossible to overtake arrears. Still in spite of all adverse conditions we are forging ahead. Labor is being organized on a national basis. The scheme of National Service has caught on. Neville Chamberlain, to whom it has been entrusted, wants an industrial army of half a million men between 18 and 60 years of age, and it is intimated to-night that he has got his first 100,000. Everything is being done to prevent waste of labor, and so far as agriculture is concerned, the one thing on which all energies are now being concentrated is ploughing. In some of the counties it is surprising to find such a liberal response to the call to cultivate more land. Farmers are endeavoring to do their duty, and prices for all kinds of agricultural produce are affording them every inducement to extend the area of cultivated land.

Before it is too late, I may say something now about the Spring bull sales. They are almost over and records have been made for all breeds. The Shorthorn leads and easily surpasses all other breeds, alike for top prices and for averages. At the same time there was a great gulf between the prices realized for the tops, mainly for the export trade, and bulls for crossing purposes. The gulf between the two classes of bulls was not nearly so marked in the case of the other breeds. The top

price of the sales was made at Perth by James McWilliam, Garbity, Lochabers, a popular Morayshire breeder, formerly of Stoneytown, Keith, where his younger son, Ralph S. McWilliam, now farms. James McWilliam got £2,205 for his champion bull calf, Garbity Golden Victor, the buyer being Mr. Shepherd, London, for the Argentine. He had an average of £917 for three young bulls, a figure never before reached at Perth. The reserve champion of the show and sale, the two-year-old Doone Grand Knight from the Earl of Moray's herd at Doone Lodge, Perthshire, made £1,050, and also goes to the Argentine. Warspite of Naemoor, from J. J. Moubray's herd at Naemoor, Dollar, made the same figure, and other two young bulls made 50 guineas apiece more—that is they sold for £1,102 10s. apiece. Mr. Moubray had the second best average—making £425 5s. for four. Mr. Law, Whiterow, Forbes, had £420 apiece for two, and the Earl of Moray, the splendid return of £372 2s. 4d. for five. J. Reynard, Manuel House, Boness, had £357 apiece for two, and remarkable averages for larger numbers were made by two herds in Strathearn (Perthshire). Both owed their high returns to the Duthie-bred bull, Collynie Cupbearer, W. A. Dron, Criefvechter, Crief, a tenant-farmer, had an average of £275 17s. for seven, and Duncan Stewart of Millhills, Crief, £256 4s. for eight. I. Ernest Kerr of Harviestoun, who a week earlier topped the Aberdeen-Angus sales, had £224 18s. 9d. of an average for four Shorthorns, and Ralph S. McWilliam came close up with £223 2s. 6d. for an equal number.

The top price made for an Aberdeen-Angus bull was 950 guineas, or £997 10s., and the top average was £364 for six. Both records were made by Mr. Kerr of Harviestoun, Dollar, and the buyer of the 950-guinea bull was James McWilliam who topped the Shorthorn sales. He bought on commission for an Argentine buyer. So that the two highest-priced bulls of this spring have gone to the Argentine. The second best average for the blacks was made by Captain Reid, Tillyrie, Kinross—a new breeder. He had £201 5s. for three. Messrs. Grant, Glenfaelras, Banffshire, had £189 for two, and both Lord Rosebery, Dalmeny, and I. F. Cumming of Kinermory, had averages of £173 5s. each for four bulls. The famous Ballindalloch herd of Sir George Macpherson Grant, Bart, had £169 4s. 6d. for six, and a comparatively young herd—that of J. M. Marshall of Bleaton, near to Coupar-Angus, had £147 for five. The average price of 295 Aberdeen Angus bulls sold this Spring was £64 3s. 7d., and the average for 297 sold in February, 1916 was £45 5s. The champion 950-guinea bull, Jolly Eric, was got by Prince of the Wassail—a bull bred at Ballindalloch, which did magnificent service for many years in the Harviestoun herd. The dam of Jolly Eric was got by the phenomenal champion bull, Elect of Ballindalloch, and his grandam was by Prince of the Wassail. It will thus be seen that there is something unusual in this breeding of Jolly Eric, Prince of the Wassail being both his sire and his

great grandsire. Another notable thing in connection with the Perth Aberdeen-Angus sale was Captain Reid's good fortune. At the Brucklay dispersion sale in Aberdeenshire last autumn his representative bought the bull calf, Eurotas of Brucklay for £42. At the Perth sale this calf won second prize and sold for £525.

Ayrshire breeders have, during the past winter, gone in strongly for home sales of their bull calves, and the system has proved a great success. It has many recommendations. The growing popularity of milk records has led purchasers of bulls to attach great importance to the records, and the character and type of the dams of their stock bulls. Hence the sales which take place at the farms where good bull calves are reared are well patronized. The top price was realized at the Bagenoch sale in the end of the year. At James Howie's sale at Hillhouse, Kilmarnock, in February, Mr. Cunningham paid £336 for a bull calf, and others made £168 and £159 12s., an average of £87 for 15 was excellent business. Prices into the three figures, as we express it, are quite common now for Ayrshire bull calves, and scarcely a sale has been held this past season at which several high prices over the century were not realized. The Milk Record System has put thousands of pounds into the pockets of breeders of Ayrshires.

Galloways and Highlanders have shared in the advances. At the Castle Douglas sale, a top price of £140 was obtained for Tarbrooch Caesar—the buyer being W. B. Donaldson of Auchincledon, Kilmear, a member of the well-known shipowning firm of Donaldson Bros. The breeder was John Cunningham, Tarbrooch, Dalbeattie, who has one of the best Galloway herds in existence. At Oban two Highland bulls made £95 each, and these were the top prices. All round, cattle breeders have been having a good time, and as farmers do not pay Income Tax on profits, or on excess profits, stockbreeders have generally been laying by them in store.

The Prime Minister, a week ago, delivered a great speech in which he outlined great times for farmers.



The situation as regards the food supply in these islands is critical, and the Right Honorable gentleman made no attempt to minimize the peril. Everything is being done to increase the production of food, and attention is being concentrated on three staple products: wheat, oats and potatoes. To encourage farmers to break up their grass lands and grow increased areas of these crops, the Government is guaranteeing a minimum price for wheat and oats up to and including the crop of 1922, and potatoes for the crop of the current year. The figures guaranteed are well-fitted to attain the object in view. Wheat is guaranteed at 60s. per quarter for crop of 1917, 55s. for crops of 1918 and 1919, and 45s. for crops of 1920, 1921 and 1922. The guarantee thus extends over a full rotation. The result will undoubtedly be to encourage farmers to break up their medium pastures and to greatly increase the wheat area. But there is much land in Great Britain ill-fitted for wheat growing, but well-fitted for oat growing, and the guaranteed prices for oats are also on a liberal scale. For the current year, 1917, the figure is 38s. 6d.; for 1918 and 1919, it is 32s., and for the three years that follow it is 24s. The potato crop of 1917 is a sore problem. The crop of 1916 was a failure. In Scotland this was especially the case. As a rule Scotland grows many more potatoes than she is able to consume, and she exports heavily to England, and in particular to the Newcastle and London markets. There is a belt of red soil in the Dunbar district of East Lothian, which grows the finest quality of potatoes, and these almost wholly go to England. The crop of 1916 was a failure, and we have no potatoes to export. But besides potatoes required for public consumption, Scotland supplies seed potatoes to England in very large quantities. This year almost all the available Scots potatoes are required for this purpose, and at the moment of writing we in Scotland are experiencing a potato famine. The Food Controller is pleading with the public to observe a potato-less day as well as a meat-less day. Trusting these present perils may be surmounted the Govern-

ment is taking no risks for the future, and a minimum price of £6 per ton has been guaranteed for the main crop of 1917. This figure is ample, and if the farmer could only secure labor to enable him to get the crop into the ground his trouble would not break his heart. Meanwhile every thing possible is being done to release men from army service who are able to handle the plough. Appeals are also being made to men now employed in the cities who were formerly engaged in rural employment to enrol themselves as volunteer ploughmen. The National Service Corps is organizing as rapidly as may be for this work. Once the land is ploughed and prepared for seeding, there will be a big push with the sowing and harrowing. Corps of women workers will be organized for cleaning and harvesting, and there is reason to hope that present difficulties may be overcome. The most trying time will undoubtedly be from this time until about the beginning of July. It is not the submarine menace alone which is causing the trouble, apart from it there would have been a shortage. There was a world shortage in 1916 as compared with 1915, and every effort must be made to obviate another shortage in 1917. So far the reports regarding the world's wheat sowing are not too rosy. Weather conditions have retarded the preparation of the soil and the sowing of seed everywhere—and there is great need of improvement in this respect.

The London Horse Shows are taking place at this season. The Shire Horse event occupied last week, the week now closing has been devoted to Thoroughbreds, Hunters and Riding ponies. Next week the Hackneys will have their innings. In Scotland there will be very few shows this year. Next week we have the Glasgow Stallion Show, and in the week following comes the Aberdeen Stallion Show. All other principal fixtures have been cancelled, and it will not greatly surprise us should no cattle shows be held in Great Britain or Ireland this year. We have much more important things to think about.

Do you know the District Representative of the Ontario Department of Agriculture in your county? If not, get acquainted with him; find out first hand what kind of man he is; make use of him; give him a chance to do some good, and then draw your own conclusions. This is fair to all parties concerned. Do not condemn until you have tried. If weighed in the balance and found wanting, say so; if found good measure and sixteen ounces to the pound speak an encouraging word.

**Sleeping Accommodations to Prevent Pigs Crippling.**

EDITOR "THE FARMER'S ADVOCATE":

With reference to the articles which have appeared lately in "The Farmer's Advocate", concerning pigs getting stiff, I might say that if they had an elevated sleeping pen to sleep on they would not cripple. In a pen 8 or 10 feet wide, 12 or 15 feet long, have the feed trough at one end, and a flat right above it, 4 feet high, and a wide plank with slats on it for the pigs to walk up and down on. Have a movable partition in this sleeping pen and give the pigs room enough to sleep comfortably and, as they grow, move the partition over to give them more space. If that method does not keep them right, give them two pens, with a small opening between the two at the opposite end from the feeding trough, and carry out your excellent advice.

Lambton Co., Ontario. J. L. M.

**Treating Abortion in the Herd.**

EDITOR "THE FARMER'S ADVOCATE":

Are the serums and mythelene treatments for abortion reliable? Will flushing with corrosive sublimate cure cows of the disease when 3 or 4 in a herd of 12 abort? Should the cows be flushed before being bred and the stables disinfected after every abortion? Will cows which have aborted be barren or immune from the trouble in the future?

J. L. M.

Ans.—Actual information, either scientific or practical, regarding contagious abortion is meagre in the extreme. Some opinions, however, are entertained by breeders and experimenters and as many of these are erroneous it has opened the way for some of the boldest quackery known for a long time. Serums and mythelene blue have not been a complete success in the cure or prevention of this disease. Flushing the



**Garbity Golden Victor.**

First and champion, Perth. Sold for 2100 guineas.

vagina with some coal-tar disinfectant prior to breeding is recommended by one of the best authorities we know. Lugol's solution, 0.25 to 0.5 per cent., gave very good results used in this way. The vagina should be well filled with the liquid so all the folds will come in contact with the solution. The sheath of the bull should also be flushed. A stall should be set apart for parturition purposes and disinfected prior and subsequent to occupation by the different cows. Good authorities claim that cows will not become immune to abortion as one would enjoy immunity from any contagious disease after contracting it. It is thought that as the cow gets older she is more able to throw off or resist the disease. However, a cow which has aborted may subsequently be either sterile or a consistent breeder.

**THE FARM.**

**As You Sow You Reap.**

As you sow you reap, is an undisputed fact. There is no possibility of making a grain of wheat produce an oat plant, a wild oat grow a cultivated oat, a buckhorn seed turn into red clover, or a cockle plant produce alsike seed. Wrapped up in the germ of each seed is the embryo plant which will produce after its kind. If the kernel is small and the germ weakened by unfavorable conditions it is unreasonable to expect that it will produce a plant capable of giving the maximum yield. Clean, well-graded seed should be secured if possible; sowing inferior seed is time more or less wasted. No

matter how fertile and well cultivated the soil, or how carefully the seeding is done, that will not make up for poor seed. Seed of every crop must be well selected if the best yields are to be expected.

The fanning mill equipped with the proper set of screens and sieves, and adjusted so that a good blast of wind will strike the grain, can be used to good advantage. The light kernels can be blown over and the weed seeds screened out by the judicious use of the mill. Weeds are a serious problem to contend with in any crop. They are persistent plants, growing and reproducing even under unfavorable soil and weather conditions. Ox-eye daisy in the hay field, sow thistle and wild oats in the grain fields, buckhorn in the clover field, and couch grass, bladder campion or bind weed in any crop decreases the yield and interferes with the general farm operations. They increase the cost of producing the crops, and tend to decrease the value of the farm so infested. The man who sows seed which contains even a few of the noxious weed seeds is making trouble and extra work for himself. With the clovers and small seeds there is a little excuse because it is almost impossible to separate some of the weed seeds from clover and timothy. However, too many allow the price to influence them when purchasing their seed supply. Even good seed in which weed seeds abound is dear at any price. If you do not produce your own seed supply aim at buying the best on the market, not only from the standpoint of freedom from weeds but taking into consideration the plumpness and uniformity of sample together with percentage germination.

An extra time through the mill with a large mesh screen in the bottom will generally pay. Small kernels make better feed than seed, and many of the weed seeds screened out should be burned rather than thrown on the barn approach or fed to the stock. A screen with a mesh 2 by 12 may be placed in the lower shoe and a 2 by 5 mesh in the upper shoe for cleaning oats. A 2 by 10 mesh is serviceable for cleaning barley. When it comes to preparing clover or timothy for sowing, a fine mesh must be used. Many of the troublesome noxious weed seeds may be separated from red clover by use of a 4 by 24 or a 4 by 26 mesh screen. Alsike requires a 20 by 20 or a 22 by 22 mesh, a 30 by 30 woven-wire mesh should be used in cleaning timothy. If the seed has not been selected and thoroughly cleaned, do not put off the task until the land is ready for cultivation. Do it now; and then be prepared to treat the seed to destroy smut spores before the grain is planted.

**Why Impassable Roads?**

Good roads are an asset to any country. While the steam, electric and water routes are the main arteries of commerce, they would have small patronage and thus be of comparatively little service were it not for the country roads which serve as feeders. A good deal of money was spent by the country in perfecting the transportation systems, while the rural highways were left under the management of the various municipal councils and little money was forthcoming from the Government for road improvement or maintenance. The great need of better country roads is being realized by those in authority, and recently what is known as the "Good Roads System" of constructing and maintaining roads has been put in operation in many Ontario counties. It requires a large expenditure to construct and keep a road in repair. Under the new system there will be a uniformity of construction from one end of the Province to the other. The main roads are being taken over by the Government and County Councils, thus leaving the townships free to improve the cross roads leading to the main thoroughfares.

It is in the spring of the year when frost is coming out that roads become broken up. Frost is irresistible if it has its partner, water, to work with, and it requires special care in the construction of roads to avoid and prevent the yearly deprecations of this enemy of public highways. About the first of April many roads become impassable. Farmers in some localities are practically prisoners on their farms for several weeks every spring, at least so far as doing any teaming is concerned. In districts where the soil is heavy clay it is about all a team can do to pull the empty wagon, let alone a load. The bottom goes right out of the roads in places; the holes and ruts made by horses and rigs fill with water which keeps the roads in a "quagmire" until late in the spring. These ruts fill with water every time it rains, thus keeping the road soft and in such a state that the surface becomes flattened out by traffic until in some cases the centre is lower than the sides, and sometimes about on the level with the ditch bottom. But why picture conditions which are a detriment and drawback to any community, when there are counties where the roads do not resemble a hog wallow every spring? Nature has favored some districts more than others by providing natural drainage, and road-building material in the form of stone and gravel. It is easier to keep roads in repair when material is at hand. However, the condition of roads in a measure shows more plainly than words the business ability of the men entrusted with the township and county affairs. Some of the counties or communities with the greatest handicap for material with which to build and maintain roads are the first to apply fundamental principles in road construction. It requires hard work, a united pull and the expenditure of large sums of money, but the result is that their roads are passable while others are not. The people can market their produce and trade can be carried on between different points in the district. This is an asset to country and town people alike.

The cash value of good roads the year round is difficult to compute, but it is noticed that land values



in the vicinity of roads that will carry a full load of farm products in the spring and fall as well as during the summer and winter, are considerably higher than in districts not blessed with passable roads in the spring. Of course farmers are able to arrange their work or system of farming so that it is not necessary for them to have teaming or driving to do during the wet seasons of the year. However, a man looking for a place to locate considers transportation problems, and is usually ready to pay more for a farm located on or near a good road than for an equally good farm located miles from a passable thoroughfare.

It is not so much that a road is bad at the opening of spring, but a road rutted and punched full of holes then, is seldom in good condition until well on in the summer or when statute labor is done, and even then the rocks and boulders which some use to fill the holes really make travelling dangerous for the man in wagon, buggy or auto.

While the bulk of Ontario's roads are kept in repair under the system known as "statute labor," why cannot some of the work be done in April as well as in June? A couple of men working a day or two on a beat could often do as much good to the road in the spring by draining water from the centre of it, filling holes, and removing obstacles in ditches, as a dozen men can do in the summer. Why is gravel placed on flat roads where it disappears before the next spring, when if put on a properly graded road it would keep it in shape probably for years? Why do township and county councillors allow men operating graders to cover what little gravel there is, with sods and soil from the shoulder of the road, or to fill the ditches with sods? Why are not more tile used for draining roads when it is known that the first requirement of most roads is thorough drainage? In too many cases the cart has been put before the horse. Road builders have put on the finishing coat before the foundation was laid. Roads are essential to the prosperity and progress of any country. At the present time labor is scarce, which necessitates making every move count, and it may not be prudent to undertake the reconstruction of a road this spring, but most roads may be made passable for the entire season by a little timely repairing. "A stitch in time" is an old saying containing a lot of truth which might aptly be applied to our roads.

Millions of dollars have been spent on roads but the value is partly lost because no systematic method of maintenance has been followed. For his own convenience as well as that of the travelling public, every ratepayer should take a pride in the roads of his community. Indirectly, if not directly it will pay in hard cash.

Open ditches, sufficient underdrainage and the use of the split-log drag to keep a crown on the road, so that water cannot remain on it, will keep many of Ontario's highways passable even during the hardest season on roads. Apply the fundamental principles of road construction and the metal for the surface will be more serviceable and last longer when applied. Don't wait until the road in front of your place becomes impassable before attempting to repair it; prevent it from getting bad.

### Rates of Seeding for the Different Crops.

No definite amount of seed to sow per acre can be given as the amount depends on a number of factors. The rate of seeding which Jones finds satisfactory for

his particular farm, might not do on Smith's farm. The fertility of the soil, condition of the seed bed, stooling quality of the variety, size of seed, method of seeding, and vitality of the seed, are factors which influence the amount of seed which will give the best results. The farmer who prepares a good seed bed on fertile soil can safely sow less per acre than can his neighbor, located on a run-down farm. Observation and a little experimenting from year to year will give an idea of the amount of seed to sow in the different fields on the farm. Stooling qualities and germination are not given as much consideration by the average man as they should be. When all expenses entailed in growing any cereal crop are accounted for, there is little profit with an average crop, much less a poor one. Too thin a seeding, or sowing on land which is not in good tilth, is not conducive to a heavy yield. Take oats for instance; if they are too thin on the ground the tendency is for big, coarse straw to be produced, which, as a rule, matures late and is subject to rust. If sown too thickly for the variety, spindly straw and small heads are the result. No hard and fast rule can be made which would be applicable to all kinds of soil in all parts of the country.

From one and one-half to two bushels of spring wheat per acre is about the extent of the variation in seeding of this crop. Oats vary a good deal both in size of kernel and tillering properties. One and three-quarter bushels of a small kernel variety which stools, will possibly give as good a stand as three bushels of a large kernel but poor stooling variety. From two to two and one-half bushels per acre is a fair average seeding, although we know of farmers who never think of sowing less than three bushels to the acre. A bushel and one-half to two bushels of barley will give a good stand. On strong land and with extra good seed a bushel and a half may be enough, but it is just as well to be on the safe side and sow plenty as it is impossible to tell what the weather conditions following seeding will be. Peas run from two bushels of the small variety to three or three bushels and one peck of the larger varieties. From one-half to one bushel of buckwheat to the acre is considered sufficient seed when growing the crop for seed. With the thicker seeding it tends to smother out weeds more than with the lighter seeding. The amount of beans to plant per acre depends on the size; the variation is from three pecks of the small pea-bean to five pecks of the large beans. The size of sets and distance apart in the rows influence the amount of potatoes required to plant an acre. From twelve to fifteen bushels is an average amount, although some use less and some more. In order to make hoeing easy it is not well to sow turnip seed too thickly. If the ground is well prepared and one is sure that the seed will all grow, a pound and one-half of seed would be sufficient to sow an acre. However, many aim at sowing at least two pounds. From four to six pounds of mangel seed should be sufficient. Two pounds of rape sown in drills, or six pounds sown broadcast, is generally considered ample seed for an acre. It requires from twenty to thirty pounds of millet per acre, depending on the variety and whether it is grown for seed or fodder. There is a wide variation in the amount of corn which different growers advise to plant. It varies from ten to fifteen pounds in hills, to fifty pounds in drills. Corn grown for seed is never planted so thickly as when grown for silage purposes.

Several mixtures of seeds are recommended for hay and pasture. During the last few years there has been considerable complaint about the failure to secure a good stand of clover. This may have been due to poor

seasons, either during the first summer or the following winter. We are inclined to believe that the general practice is to sow too little red clover seed. On some farms a good stand may be secured from about six pounds of seed, but it is not good practice to sow such a small amount. Many do not consider twelve to fifteen pounds of red clover too heavy a seeding. Three to five pounds of timothy mixed with from eight to twelve pounds of red clover, and possibly a pound or two of alsike added is the rate of seeding followed by many progressive farmers. Alsike is a very small seed, and it is not advisable to have too much of it in the hay, especially if it is to be fed to horses, although a little appears to improve the quality. When sowing alsike alone, five or six pounds per acre gives a good stand on suitable soil. Alfalfa and sweet clover seeds are about the same and it is generally considered advisable to sow from eighteen to twenty pounds per acre. Many sow less seed than the amounts mentioned, but no one can tell at seeding time what the weather conditions will be during the growing season and it is always advisable to sow sufficient seed, especially of clover.

On some farms there are certain parts which are not adapted to working into a regular rotation of crops, and it may pay to seed these parts to permanent pasture. A mixture composed of the following clovers and grasses proves very satisfactory for furnishing continual pasture through the entire season and which will remain in the ground over a number of years. Alsike clover, two pounds; white clover, two pounds; meadow fescue, four pounds; orchard grass, four pounds; meadow foxtail, two pounds; tall oat grass, three pounds; timothy, two pounds, and two pounds of red top is sometimes included. While alfalfa does not stand pasturing very well and red clover is short-lived, it is generally advisable to include a few pounds of each in a mixture to be sown on high land. They come on and furnish feed a little earlier than some of the grasses mentioned. A mixture of fifty-one pounds of oats, thirty pounds of sugar cane, and six pounds of red clover is an annual pasture, recommended by Dr. Zavitz, Guelph. On some soils the sugar cane is practically a failure. An annual pasture recommended by A. Leitch, of the Ontario Agricultural College, of sowing three bushels to the acre of a mixture consists of one bushel each of wheat, oats and barley, and six pounds of red clover.

Unless the man driving the drill knows exactly what to set the machine at in order to get the correct amount of seed on the land, he is very likely to have the first two or three acres of the field sown either too thin, or else put on far too much seed to the acre, which will then rob the latter half of the field, as the custom on many farms is to bag up so much grain or seeds for a certain field and that amount must do. If the drill sows too fast at first it must be adjusted to make the grain hang out. Care should be taken to regulate the drill at the start. Put just enough grain into the drill to sow an acre and when that is sown step off the distance to see that an acre has been sown. This is the best way to gain an idea of what the drill is doing, and proper adjustment can be made after one acre is sown, rather than delaying until probably half of the grain has been put in the ground. Every agriculturist should study his farm and plan to grow the crops that will do best on his particular land. Sowing a certain crop or seeding at a certain rate per acre just because someone else does so is folly. Why produce a half yield of one crop when the soil is capable of giving a maximum yield of the crop for which it is adapted?

## Insuring the Crop Against Loss by Smut.

Smut is no respecter of persons. They infest the poor man's field as well as the rich man's, and they are as likely to attack the crop in a year when increased production is essential as when there is a surplus in the world's granary. Practically all cereals are subject to attacks and the crop sown on the carefully prepared seed bed is as subject as one sown on poorly prepared land, unless precaution was taken previous to seeding to apply some treatment that would destroy the tiny smut spores which might be lurking in the creases of the seed or hiding in the corners of bags and drill. It is estimated that millions of dollars have been lost to this country by the ravages of smuts, but there is no excuse for this loss occurring again. It has been proven beyond a doubt that treating seed to control the loose smut of oats and hunt of wheat is effective and practicable. It can hardly be understood why every farmer does not treat his seed before sowing and so ensure the crop against loss by smut. In 1915 the loss to the oat crop where the seed was not treated was enormous and should have been sufficient warning, but thousands of bushels of untreated seed were again sown in 1916. However, owing to weather conditions, the percentage of smutted heads in the crop was but a fraction of that of the previous year. Because smut is bad this year it does not hold that the crop will be seriously affected next year. This fact is largely responsible for neglect to treat the seed. Several crops may be harvested with only a trace of smut, but without warning, at the most inopportune time, the storage falls and as much as fifty per cent. of the crop may be rendered useless. This has happened. That and were caught napping in 1915. The farmers took a heavy toll, but many did not profit by their experience. If the grain is free from spores at sowing time it is reasonable to expect that there will be no smutted heads in the crop. However, it does not

necessarily hold that untreated grain will produce a crop that is infested with smut. The season has a lot to do with the development of the fungus, but as no one can tell at seeding time what weather conditions will prevail before harvest, it is advisable to ensure the crop against loss. The premium on insurance against smut is around fifty cents yearly per twenty acres.

Possibly the greatest loss is caused by the loose smut of oats. The fungus becomes visible in the field as soon as the oat heads commence to show, and the kernel, the hull and chaff are changed to a dark brown color, which is the work of smut spores. These spores lodge on the kernels of the uninfected heads and remain there until the grain is sown, when, if they are not destroyed, they will germinate and produce fungous threads which penetrate the young seedling when it commences to grow. Scientists claim this is the only time infection can take place. The disease feeds on the oat plant and devours the oat kernels, leaving in their place a mass of worthless sooty-like material. Treating with formalin before the oats are sown will destroy the spores lodged on the grain and so prevent infection of the plant. Bunt or stinking smut of wheat is the most prevalent disease of the wheat crop. It attacks the kernels, causing them to be filled with a black, oily-like powder instead of the nutritious material found in a sound wheat grain. These smut balls, recognized by all who grow wheat, are broken at the time of handling the grain or threshing, and the tiny spores escape. It is only necessary to have a few smut balls in the crop in order that sufficient spores may be produced to infect the seed for a whole field. The smut not only decreases the yield of a crop, but it lessens the value of the grain for milling purposes, and if not destroyed before the grain is planted the young wheat plant is infested in a similar manner to that of the oat plant. This form of smut is also controlled by the formalin treatment.

### The Formalin Treatment.

The success of treating grain to destroy the smut spores depends on having the formalin solution of sufficient strength and having every part of every kernel covered with the material. Numerous experiments have been carried on with both the sprinkling and the immersion methods. It is generally believed that the latter is the more effective method of treating grain, but it has the disadvantage of requiring considerable time to immerse the seed and then dry it sufficiently for sowing. For this reason the sprinkling system, which requires but a small amount of the liquid, is more generally practiced. There is considerable controversy over the proper strength to have the solution for sprinkling the seed. Some have found that a much stronger solution than that generally recommended can be used with safety. However, there is a possibility of having the formalin too strong. Instances are on record where the germination of the seed has been seriously affected by the use of too strong material. Loss has also resulted through not thoroughly drying the seed before bagging it up. A solution of one pint of formalin to forty gallons of water will destroy the spores of oat smut and stinking smut of wheat if brought in contact with them. The immersion method consists in placing the seed grain for twenty minutes in a solution of the strength mentioned. The grain may be put in a coarse sack, which will admit water readily, and then lowered into a barrel or receptacle containing the formalin. It will be necessary to raise and lower the sack several times in order that the liquid may find its way to every part of every kernel. The wet grain must be spread out thinly on a clean floor or canvas and stirred occasionally in order to facilitate drying. As only one sack of grain can be treated at a time, it takes several hours to treat the season's seed supply. This is one of the chief objections against the immersion method. It is also heavy work raising a sack of wet grain out of the liquid. It is possible to lighten the labor



a little by using a pulley and rope for raising and lowering the sack. The grain should be sown as soon after treating as possible. It is not advisable to bag it up even the night previous to sowing, unless it is thoroughly dry. It is rather difficult to dry this grain in the barn, and the fact that it might be bagged up while still damp is no doubt responsible for some loss through a poor stand due to inferior germination.

With the sprinkling method of treating seed the same material is used and the same principle applies as in the immersion method. Every kernel must come in contact with the formalin in order that any spores adhering thereto may be destroyed. The same strength of solution used in the immersion system has proved effective when sprinkled on the grain. However, it is generally recommended that one pint of formalin to thirty gallons of water be used. Place the grain on a clean floor and then continue sprinkling and shovelling it until every kernel is dampened. One man with a watering-can and another with a shovel facilitates the work, although one man can do it quite easily alone. When the kernels are all moistened the grain should be covered with sacking and left for three or four hours to give the formalin fumes an opportunity to destroy any spores which might have escaped the liquid. At the end of this time spread the grain out thinly to dry, and as in the case of immersion, it will be necessary to shovel or rake it over several times. In practice it works out that one gallon of the solution is enough to treat a little over a bushel of oats or two bushels of wheat. As soon as the grain is dry enough to run freely through the drill it should be sown. If the grain is at all damp or swollen it will not run through the drill as freely as untreated grain, and care should be taken when commencing to sow to see that sufficient grain is being put on per acre. If it is found impossible to sow immediately after treating, there will be less danger of the germination being injured if the grain is left spread out on the floor than if put in bags. After treating the seed do not allow it to be reinfected by coming in contact with smutty bags, bins, floors or drills. Mechanical smut killers are on the market and they are so arranged that a fine spray of formalin solution comes in contact with the grain as it passes over a cone. The grain does not take up as much moisture as when treated by the two methods

previously outlined and it can usually be sown at once.

One of our correspondents gives the following preventive which he and a number of others have found to be effective. A solution is made by putting five tablespoonfuls of formalin in two gallons of water. This is in the proportion of about two and one-half ounces of formalin to two gallons, and is sufficient to treat fifteen bushels of seed. He states: "In practice I put about fifteen bushels of seed grain in a heap on the granary floor and sprinkle on it the two gallons of formalin solution already mentioned, shovelling it over during the process. I then shovel it over about twice so as to get the whole thoroughly mixed and bag it up at once. It can be sown in an hour's time or a week's time. The amount of liquid used is so small in proportion to the amount of grain that the latter absorbs it in a few minutes, so that the grain scarcely feels damp and runs freely through the drill." When the grain is bagged it holds the fumes more than if spread in a pile. These fumes may have a germicidal action and thus aid in destroying the smut.

From the foregoing it will be seen that there is a vast difference in the strength and amount of solutions which have given results. From two and one-half ounces of formalin in two gallons, to sixteen ounces in thirty or forty gallons or from two gallons of solution to fifteen bushels of grain to one gallon per bushel is a wide variation. It is generally admitted that the use of the larger amount of solution gives less chance for failure in destroying all the spores adhering to the grain. There appears to be no "best" method regarding the strength and amount of formalin solution to use for treating oats and wheat to control smut, various recipes have given results. Immersing the seed in a solution of one pint of formalin to forty gallons of water or using a solution of the strength one to thirty and sprinkling the grain are the methods most generally practised. The latter is favored, principally on account of it being more easily and quickly applied, but both are effective if the work is thoroughly done.

**Smut not Controlled by Formalin.**

The loose smut of wheat and barley does not yield to the formalin treatment owing to the kernels of grain being infected in a different manner by the disease.

These smuts exact rather a heavy toll each year, and it is regrettable that there is no practical method of controlling them. The spores of the smut are produced as soon as the heads of grain begin to form, and are blown away by the wind. They lodge on the flowers of the plant where they germinate and produce fungous threads which penetrate the developing grain. Thus they are really inside the kernel and no surface method of treatment can attack them. They remain dormant in the seed until it is sown, then they germinate and live as parasites on the growing grain. Care should be taken to secure seed from districts where these smuts are not prevalent. The hot-water system of treatment will destroy the smut spores, but great care must be taken that the temperature of the water is not so high that it will injure the germination of the grain. For a small quantity of seed the following system of treatment might be followed. For treating barley the temperature of the water should be 125 degrees F. and the grain left in it for fifteen minutes. If the temperature is 129 degrees F. five minutes will be the limit of time at which it would be safe to leave the seed in the water. For wheat the temperature is 129 degrees, but it should only be left in the water ten minutes. For either grain 124 degrees F. would be ineffective on the smut organisms and 131 degrees would endanger the germination of the seed. Thus it will be seen that this method of treatment while effective is a delicate one to carry out.

The crop of 1916 was not seriously affected with smut, but there were no doubt sufficient spores scattered around to cause a heavy loss to the oat and wheat crop of 1917 if weather conditions are favorable to the growth of the spores. Why run the risk of having the yield reduced by a disease which can be prevented? The cost of material for treating seed to prevent smut is not high and the method of applying it is simple. Have the formalin on hand so that the oats can be treated just before sowing. Thorough work is necessary. The solution must come in contact with every kernel, and care should be taken not to have damp grain left in bags or heaps for any length of time. Damp grain readily heats and heating weakens the germination which tends to cause a poor stand. The formalin treatment is an effective and practical method of preventing smuts but it is not "fool proof".

## Automobiles, Farm Machinery and Farm Motors.

### Getting Ready For Spring.

The weatherman has always told us that spring should be dated from the 21st of March, and so, in at least some sections of the country, there must be weather ideally suited to automobile driving, but whether the dust is flying or not, it is certainly time for you to carefully consider steps that must be taken in the preparation of your car for summer use.

If the tires have been taken off, see to it that some talcum is placed around the tubes before they are put in the casing prior to their attachment to the rims. Now you can begin at the engine by oiling the rocker arm ball joints. It is in these that odd sounds may originate because of a drying up process that naturally occurs during the long months of winter. If there are any grease cups on the rocker arm shafts, give every one a half turn to the right, and perhaps it would be well to remove them in every instance and make sure that the supply of grease is replenished. It may never have occurred to you to check over the fan spindle, which if you never do oftener, at least look to this very vital adjunct once before you start your summer operations. Grease and oil may be found to be imperatively necessary. If there is a starter on your car, the grease cup on the sliding gear housing should be twisted over at least a half turn. Also give the grease cups on all the spring shackles, sufficient tightening to force the the lubricant. The king bolts of the steering knuckles must also be greased, as well as the tie rod bearings. It will now be advisable to raise the floor boards and satisfy yourself that the brake pedals are properly lubricated. While

you are at this, do not neglect the clutch release shaft. Moving back towards the end of the car, you will find that the rear springs will be all the better for greasing. It may never have occurred to you as being at all necessary, but at the same time, we can say confidentially, that a drop or two of oil, on the small joints of the spark and throttle, control rods and levers, will never do any harm and may do a tremendous amount of good, if in no other way than by contributing to easy operation and the prevention of rust. This constitutes that number of little things that are essential where a machine has been given maximum care and attention, but if your automobile has been permitted to look after itself, there are additional precautions well worth taking. Might we suggest that you jack up the front axle and unscrew the hub caps. In most cars, your next operation will be the removal of cotter pins and the unscrewing of the spindle nuts. You are now ready to slip off the wheels, when you can easily smear the spindles and ball races with soft cup grease. In replacing the wheels, make certain that you tighten the nuts sufficiently to remove the slightest shake on the spindles. At the same time, there must be enough looseness to allow free spinning.

Cars equipped with a motor generator do not require much lubrication and cleaning, but the oil they do demand must be provided at regular intervals. There is one point that we have mentioned on a number of occasions, but as the spring cleaning is at hand, we are going to impress it upon you once again. Drain all the oil out of the crank case of the motor, the transmission and rear axle, and wash the exposed parts with gasoline or kerosene until they are as clean as new

pins. You can now put in a re-fill of clean oil, feeling positive that the lubricant will give the best possible service. You may not be surprised to hear that oil wears just like any other mineralized substance, and worn out oil is not as good as the lubricant that is full of life and "pep". Furthermore, this dead oil works into the gears and bearings and prevents any new supply from getting to the spots where it can do the most good.

There are four kinds of lubricants that are good for most cars,—motor oil, steam cylinder oil, hard cup grease and soft cup grease or vaseline. We would say that your motor oil should have a flash point of not less than 400 degrees Fahrenheit, and a viscosity from 80 to 90 Tagliabue, or 62 to 72 Saybolt. Perhaps you will not understand this expression, but in any event, the man from whom you purchase the lubricant will know instantly what you require. This motor oil is intended for use in the motor lubricating system, and for such parts as are not otherwise provided with lubrication. Steam cylinder oil serves its best purpose on the motor timing gears, transmission gears, differential, and steering gears. Your hard cup grease should have a melting point of not less than 250 degrees Fahrenheit. It does its best work in the grease cups on the valve rocker arms, as they are subjected to intense heat. A soft grease does not give good results under such circumstances, but can be used around such parts of your mechanism as the fan spindle, spring shackles, king bolts, tie rod bearings, clutch spindle, brake shaft, connecting rod sockets, universal joints, wheel hubs etc. Never use vegetable or animal oils in the motor oiling system, as they contain acids which decompose under great heat and work injuriously upon metal. AUTO.

## Canada's Young Farmers and Future Leaders.

### Favors a Four-Year Rotation.

EDITOR "THE FARMER'S ADVOCATE":

"A change is as good as a rest", so says the old proverb. This may also be applied to farming in the form of rotation, which should be systematic and I believe a four-year rotation is best for our soil. The class of farming we follow is raising stock and finishing them on the place. Nothing but good grade Shorthorn cows are kept. The soil on our farm is a heavy clay loam, with a close sub-soil and a tendency to sour a little unless well underdrained. The rotation followed is corn and roots on sod, followed by oats and barley, then wheat with clover sown the succeeding spring.

The advantage is that the hoed crop cleans the sod of any weeds, leaving it in clean state for the crop of oats and barley. It is disked as soon as the grain is off, which helps to kill any weeds that may have survived. Then it is plowed shallow and well worked for wheat. The following spring the clover and timothy seed is sown on top and harrowed in, which has a tendency to break up the crust and prevent the moisture escaping.

Another advantage of short rotation is the plowing under of the clover. Then there is the couch grass to contend with. We all know that the longer this is left undisturbed the harder it is to get rid of, especially in the heavier soils.

Lambton Co.

A. D. L.

### Would Combine Dairying and Beef Raising.

EDITOR "THE FARMER'S ADVOCATE":

To make farming interesting and profitable the farm should be large enough to use labor-saving machinery to advantage, but not too large to attend to properly. You would thus reduce manual labor to a minimum and make the farm attractive. A loamy soil would be more easily worked and would produce more corn for silo than a heavy soil, providing the land was drained either naturally or artificially. On such a farm of 150 acres, two men could be employed profitably, because there are many things a farmer cannot do alone

to advantage. You could keep from twelve to fourteen cows, one to freshen every month. This number would make it profitable to employ a milking machine and a summer silo. If you did not have a good milking strain of cows, you could buy some good dairy heifer calves at a reasonable price from some successful dairyman. You could then feed them to grow large, heavy milk-producing cows. In order to raise good stockers from these cows you should use a quick-maturing bull of the beef type. A Polled-Angus would be quite suitable. The stockers would be equal to the average dual-purpose class, but their mothers would leave you a larger cream cheque than the average dual-purpose cow. All the calves could be fed well on skim-milk for five or six months. If they were kept until two or two and one-half years of age, you would have plenty of cattle without buying. They could be disposed of at the most profit in June or early July. From twenty to twenty-five hogs could be fed on the remainder of skim-milk, with chop and roots.

You could have eighteen acres of the following crops; the rotation being, first year, corn; second year,



oats with grass seeding; third year, hay; fourth year, wheat with grass seeding; fifth year, pasture for cows. For this line of farming it would be better to be near a good industrious village from where you could ship your cream. If you were located near a city, dairying or fruit growing would be more profitable.

Middlesex Co., Ont. "FARMER TO BE."

### Managing a 100-Acre Farm.

EDITOR "THE FARMER'S ADVOCATE":

The farm that I would desire to manage would be one containing one hundred acres of high, rolling land, not more than one mile from town and railway. The buildings should be situated back from the road about one-third the length of the farm. I would want a spring creek flowing across one corner, and a bush covering ten acres at the back. The soil of clay loam with a sub-soil composed of as much gravel as possible, would be my opinion of an ideal farm.

I would choose a one-hundred-acre farm because if it becomes necessary one man can successfully operate it. Some will doubt this, but, with a boy during harvest, a diligent and industrious man will be able to keep his farm a model for neatness. This farm would be fenced off into six fields containing fifteen acres each, leaving ten acres for the bush which would be used for growing timber only. The field which the creek flows through would be left for a permanent pasture, the remainder would be under cultivation and cropped by a three-year rotation.

I would follow mixed farming to a certain degree, but specialize in breeding Holsteins. My plan would be to purchase seven female calves from registered stock. These would not be bred until they were almost two years old. I think the small cattle I have seen in this part of the country is due to the breeding of immature stock. I have known farmers to use bulls under a year old for breeding purposes. How could they expect thrifty stock? Yet, the bulls which have been tried and proved reliable are sold for canners as soon as the owner needs to change them, to prevent in-breeding. If farmers who raise their cattle would buy these, they would soon see the advantage over the use of young bulls. Some of the farmers here breed their heifers when they are very little over a year old. This is a great mistake, for it not only stunts the animal's growth but weakens her constitution. A cow to be profitable must have good digestive organs, so as to make the best use of feed.

I would have the heifers come in between two and three years of age, and milk for at least one year. Never milk for a shorter period, for after the second time they come in they will be inclined to dry at about the same time they did during the first milking period. If I had sufficient help on one hundred acres, I would go in for dairying, but when working it alone I would milk only four of the seven cows and let the calves milk the rest. The males would be sold for veal at one month of age, and pure-bred female calves purchased to take their place. These would be taken off the cows at six months and fed good succulent feed, until the frame is developed. They would then be bred as I have already described, and sold just before they freshened.

I would also raise between ten and fifteen pigs every year. After the pigs are weaned they would be fed a certain quantity of skim-milk, in order to keep them growing, besides other feeds which at first would be largely composed of middlings. When about three months old, I would add to this pulped roots, in winter and green clover in summer, with beans also used during the winter, besides a little ground grain which would be gradually increased with the age of the pigs. To finish the hogs they would be fed largely chopped grain morning and evening, and sugar beets or mangels at noon. I think no animal on the farm will give quicker returns than the hog, nor larger profits if fed the by-products of a dairy.

Poultry would also be kept. About one hundred hens would be all I could properly care for. These would be kept in a hen house instead of the stable, where a great many farmers have kept and are still keeping the poultry. But, there has been a great improvement along these lines during the past two years, and we are beginning to realize more and more the importance of poultry on the farm. When the chicks are first hatched, I would feed them bread crumbs or rolled oats, then small wheat with a mash of corn and oats mixed with skim-milk, also ground bone and buttermilk, with roots or green vegetables. When it came to fattening the cockerels, I would put them in a small pen, and give them all the feed they would eat. There is a great difference of opinion existing regarding the proper ration to feed hens when laying. I think different breeds require different methods of feeding and feeds. Therefore, no definite ration can be used with success under all conditions. The Barred Plymouth Rock is my choice for general purpose farm fowl.

Wellington Co., Ont. SAM PAGE.

## THE DAIRY.

### A B. C. Dairy Record.

EDITOR "THE FARMER'S ADVOCATE":

In a recent issue of your journal an account is given of the most creditable year's performance of the junior two-year old Jersey heifer, Brampton Central Princess. It must surely be a gratifying event to every Jersey enthusiast in Canada to find this heifer establishing such a good standard of production for her class, and the Dominion Experimental Farm at Ottawa, is to be

congratulated for its possession of such combined type and production as is represented in this individual. It appears, however, as though someone has been over-zealous in attempting to claim for this heifer the Canadian butter-fat record for her class and breed.

Only a few days ago it was my good fortune to pay a brief visit to the farm of a very modest and unassuming but hardworking farmer, Wm. MacIntyre, at Chilliwack, B. C. Mr. MacIntyre has not a great many pure-bred Jerseys, but he has a few very good ones indeed, in his herd, and he is using as a herd sire a bull that is just about as well bred, from a production standpoint, as one could easily obtain anywhere in Canada.

Mr. MacIntyre invited me to look over not only his cattle but also their records of performance, and amongst these I found a certificate from the Live Stock Commissioners' Department at Ottawa, issued last Fall, for the yearly record of performance of the cow, Lady Pauline, and this certificate gives the following information:

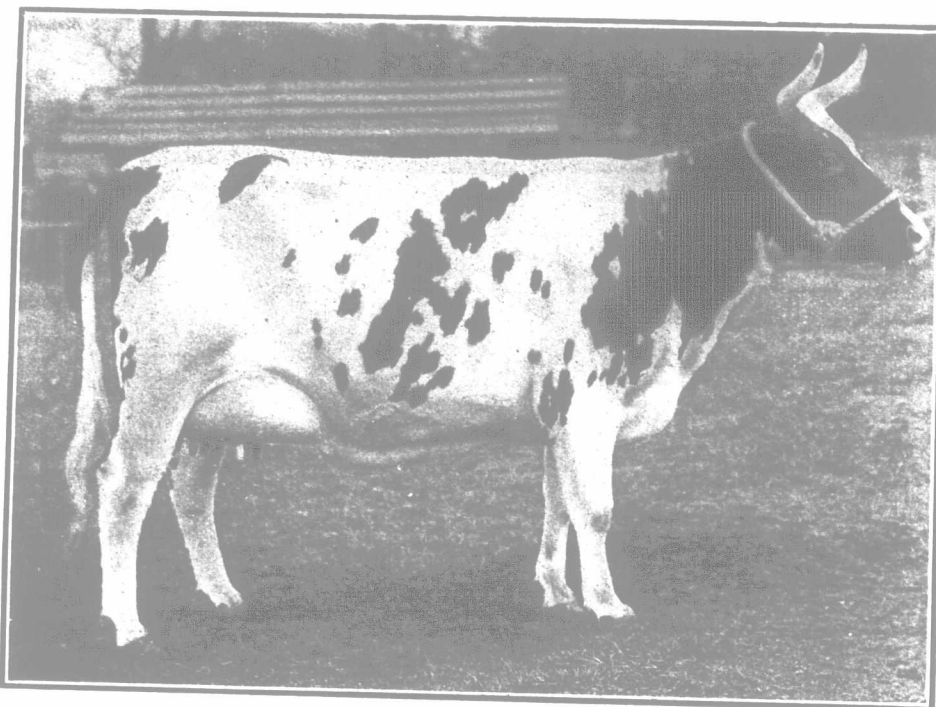
"This heifer began her work at two years and sixteen days of age, beginning about March 7, 1915. She worked for 365 days and calved on May 12, 1916. During the 365 days she produced 10,023 pounds of milk and 491 pounds of butter-fat, with an average test of 4.89%."

This would give Lady Pauline an advantage over Brampton Central Princess of .815 pounds of butter-fat, and an advantage of 781.5 pounds of milk if Brampton Central Princess' record is correctly stated in your issue at 9,241.5 pounds of milk and 490.185 pounds of butter-fat. It is also interesting to note that Lady Pauline began her record at 121 days earlier age, which would indicate a still greater superiority in her.

Lady Pauline was bred in British Columbia, her sire being Tyee George, No. 1849, and her dam, Pansy of Pender, No. 1845, but a study of her pedigree reveals a distinguished ancestry from the standpoint of ability to produce. She did not receive particular care. She was handled in the same way, fed in the same way and milked at the same milking periods throughout the year as the rest of the cows in Mr. MacIntyre's small herd. It is a matter of congratulation not to British Columbia, but to Jersey breeders in Canada and to dairy cattle breeders generally throughout Canada, to find that such excellent performance is indigenous to our dairy cattle herds.

B. C.

J. A. McLEAN.



A Model of Ayrshire Type.

Champion Ayrshire cow of the Ayr Show, Scotland, 1916.

### The Herd is Built up by Retaining the Best Cows.

EDITOR "THE FARMER'S ADVOCATE":

Many years of mercantile business developed in me rather highly the commercial spirit. In my years of monetary prosperity I purchased what seemed to me the finest farm in the district. Through the course of another eight years or so I had, one way and another, disposed of my various business enterprises and found myself a plain, common farmer, knowing only too little of the most difficult of all businesses to really learn. I am trying to build up a dairy herd and I write this letter in order that some of my fellow-farmers endowed like myself with too much commercialism may not fall into the same trap which I have several times done, but henceforth, I hope, no more. In this rather isolated section there is no regular market for anything in the way of live stock. It is just as you can happen to sell or buy. Having always had a certain amount of money at my command, people in the neighborhood with cattle to sell and no one especially wanting them, came to me and offered them at a price that always enticed me to buy whether the animal was good, bad or indifferent. The same when buyers would come; I would set a price on my best animals. The consequence is I have at present a barnyard full of nondescripts, neither tempting for buyers nor satisfactory for the owner. I always sold at a profit, but under this system how long would I be developing a dairy herd that would give me that inward feeling

of satisfaction which comes from something of which one is justly proud.

Last fall I purchased for \$60 a two-year-old heifer, whose sire and dam I had previously owned, and this calf was dropped some months after disposing of the dam. It developed well and had every appearance of making a fine dairy animal. Its breeding was good. After purchasing it I didn't bring it home, as it was running on vacant land with other cattle. A month later a townsman asked me what I would take for the heifer. I said \$75 and her calf. I got her calf—a heifer—when a few days old, and valuing it at \$10, I figured that I had made \$25; instead, I lost maybe an untold amount. The heifer is only getting dry prairie grass and a little bran, no succulent feed of any kind and yet she gives from 35 to 40 pounds of milk per day. On a good ration of roots, silage, alfalfa and mixed grains, I believe she would double the flow. What then would her value be as a breeder, as well as a milk producer? I knew her chances for being a good cow were ninety-five per cent. but I was making \$25 in a few weeks, without even taking her home, and I could not turn down the chance. Fellow-dairymen beware! You can hardly set a price on the extra good cows. When a buyer comes, grit your teeth no matter how much you need the money. You can't be a dairyman and a dealer. Sell the poor cows. British Columbia. SUBSCRIBER.

### Do Pure-Bred Dairy Cattle Pay?

EDITOR "THE FARMER'S ADVOCATE":

The value of pure-breds was impressed on me more forcibly than ever the other day when a young farmer, to whom I had sold a sire some two years ago, came to me and made this remark: "I have a beautiful heifer calf at home and as I was looking at it this morning, I concluded it was worth about ten dollars, but the thought also occurred that if it had been pure-bred I would not take \$100 for it."

In considering the matter of the relative values of pure-breds and grades I have since wondered if this young man's ten to one comparison was correct and I thought of how the pure-bred business had worked out with me. I therefore commenced to figure and found the following result: On March 3, 1906, I made my first investment in pure-bred Holsteins, which consisted of two calves one week old, a male and female. Since that time I have invested \$1,955. Now, what have I received? After carefully estimating the herd on hand and what I have sold during that time it amounts to \$11,700. This amount does not include the milk from the herd—and they have been heavy producers—during that time, nor does it include the services of the sires on our own herd or outside services, although I have charged up the amount paid for sires. Now the knocker, if he believes this statement at all, will say "look at the feed and care they get." However, they have had no better care nor feed than any herd should get, be they grade or pure-bred, to make them a paying proposition. I may also add this herd had been in the care of hired help at least three quarters of the time.

I have neighbors who have been in the same business and I believe they can make an equally good showing, and there are numbers throughout Ontario who can do the same. I am therefore convinced that there is no better paying investment for any farmer than the reliable pure-bred Holstein cow.

A PRINCE EDWARD COUNTY FARMER.

### Milk Records and Sale Prices.

The average yield of milk and butter-fat of the Ayrshire cows, qualifying for entry in the Advanced Registry shows a gradual increase. For the quarter ending March 15, 1917, there were 102 entries of cows and heifers with an average yield of 10,587 lbs. of milk and 420.87 lbs. of fat. Thirty-nine of these were in the mature class where the average yield was 12,429 lbs. of milk and 484.85 lbs. of fat. The average per cent. fat for the 102 entries was 3.98.

From February 15 to March 15 there were 29 Canadian Ayrshire cows and heifers which finished their test and qualified in the Record of Performance. Some of the three-year-old heifers which qualified had a considerably higher record than the mature cows. The highest record for milk in the mature class was made by Rose of Verschoyle. Her milk yield was 10,823 lbs. Lady Betty 2nd headed the class in production of fat with a record of 472 lbs. The four-year-old class was



POULTRY.

Keeping Hens for Profit.

EDITOR "THE FARMER'S ADVOCATE":

We started into the winter with all varieties of feed, so scarce and dear, that whether to keep the usual number of hens or to kill them off to a dozen or so, became quite a question with a good many farmers in this section. As for my own flock, I sized the situation up in this way—every winter for some years now, the "lay-members" of the flock have paid the feed bill for the entire flock and made a small profit of five or ten cents a day. I couldn't see why this winter should be any exception to the rule, since I had not changed the breed, so I decided to keep my usual number of hens as long as I could, but if feed ran too short, I would market them. Having settled the question so far, I separated the hens and pullets as well as I could, which wasn't very easy as some of the early pullets had gone to the hen-house of their own accord early in the season, and were as large as some of the yearling hens. However, I put all the small birds in one pen, and when hard weather came I housed the entire flock and dusted them with insect powder. I picked out the light weight hens and put them in the pen with the small pullets, so that they could have plenty of feed, and I could tell what they were doing. By severe culling I had left in the other three pens, about two hundred good, healthy looking pullets and young hens, so I began feeding for results. December showed a gain in eggs and in January I got 78 dozen and 16 eggs, and in February, 108 dozen and 2 eggs, which goes a good way towards paying for the winter's feed including cabbages and mangels used. Now, in March, I am getting from seventy to eighty eggs a day and have a good flock ready for the summer's work when eggs are largely all profit, as the hens feed themselves pretty well on the range. I might

every hour of work he gives them, and he gives them far more care than I give mine. I find I can always learn something from him about improving my flock. Neighbor D has a lot of hens that puzzle me. He buys clover, beef meal, and oyster-shell, and everything else hens should have, but gets what he and I both consider too small returns. Taking everything into consideration, I think it will pay me to keep two hundred or more hens every winter even if feed is dear. Middlesex Co., Ont. C. B.

Keep Eggs Out of Windows.

EDITOR "THE FARMER'S ADVOCATE":

At the present time when our every energy and effort is being put forward to increase the production of food products and make Canada more than ever before a large factor in the winning of the war, one's attention naturally turns to the food stocks available, and the waste evidenced in their handling. With no commodity is waste so apparent as it is in the handling of eggs. During the past few years special endeavor has been made to bring this matter to the attention of producers and the wholesale trade. This appeal, however, is addressed more particularly to retailers, many of whom do not seem to realize the extreme perishability of eggs. It is a common practice at this season of the year for many retailers to advertise the increasing egg supply and the rapidly falling prices, displaying piles of eggs in their store windows. The eggs thus exposed in many cases come under the direct rays of the sun, and are subjected to a temperature behind the plate glass window of about 100 degrees. The excessive heat resulting causes serious deterioration through evaporation accompanied by loss of flavor. Further at this time of the year a large percentage of the eggs marketed are fertile, and as it is common knowledge that a temperature of 70 degrees is sufficient to start incubation, the possibility of serious deterioration will be readily seen.

It is good business to advertise, but window displays of eggs defeat the aim of the advertiser, in that the resulting deterioration of the eggs causes dissatisfaction among consumers, and so retards consumption. Eggs should be kept in the cleanest, coolest, driest place in the store, removed from mustiness, foul odors, or other sources of contamination. The food value of eggs, their freedom from waste, the saving in time, labor, and fuel in their preparation, and the favorable way they compare in price with other articles of food places them in an important place in the diet of our people. Now, as never before in the history of the Dominion, the conservation of food supplies must be one of our chief considerations, and the waste now apparent in the handling of eggs, that can be eliminated by careful and more up-to-date methods, is a consideration that will appeal to every citizen who has at heart the best interests of his fellow citizens, his country, and the Empire as a whole.

JOHN BRIGHT,  
Live Stock Commissioner.

HORTICULTURE.

If there is San José scale in the orchard, prune and spray relentlessly. This scourge is a difficult one to combat.

Study the Spray Calendar thoroughly, and nail it up in a convenient place for reference. It is an excellent guide.

Be prepared to do things at the proper time. That is when work is most effective.

Some garden seeds should be planted before seeding on the farm is commenced at all. Peas, radish, lettuce, onions, etc., should be in early.

If planting a new strawberry patch this spring select a piece of land which is quite free from weeds and fertilize it well with barnyard manure. Some wood ashes and bone meal are also good.

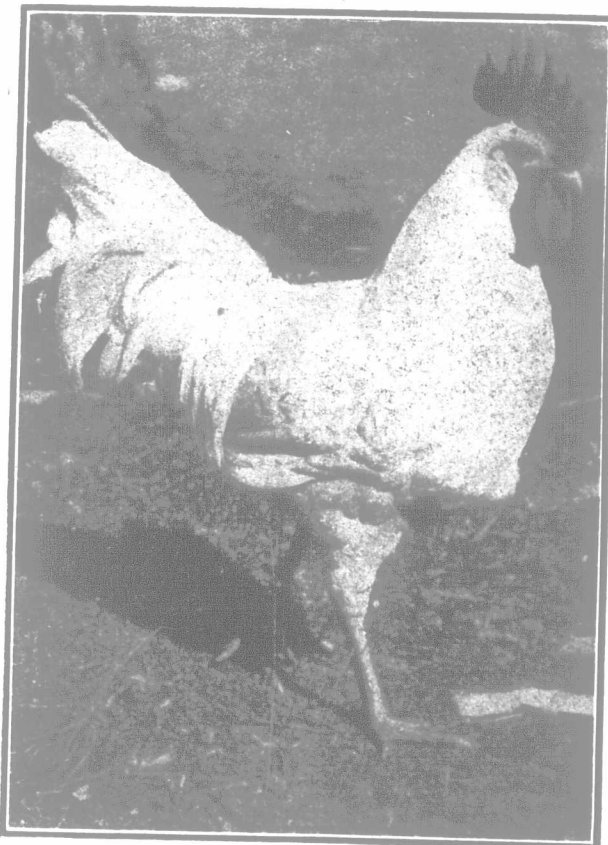
The Season For Spraying is Near.

Spraying is the most important factor in the production of clean, marketable fruit. We can grow apples in sod, but they may be small; we can produce fruit on trees that go unpruned from year to year, and our product will be inferior of course, but some of it will be sizable; many of our soils will nourish bearing trees without the addition of commercial fertilizers or barnyard manure, yet the crop is better when we follow some system of fertilization; all these things we can do with a limited measure of success if we spray thoroughly, but on the whole the previous methods are altogether wrong and inadequate. However, if we omit spraying, even under the best cultural methods, we only invite a crop of scabby, wormy fruit, unfit for almost any kind of a market, and which is usually handled at a loss. Spraying, we repeat, is the most important factor in the production of fruit.

In this issue we reproduce the Spray Calendar again for the benefit of our readers. It requires no comment, but in connection with the Spray Calendar we advise those who have anything to do with apples to read what Prof. Caesar has to say about spraying in our issue of March 1, under the heading, "The Control of Apple Scab."

The Use of Pepsin in the Manufacture of Cheese.

A year ago this spring there was considerable anxiety among cheese-makers and patrons of cheese factories regarding the scarcity of rennet. This material was generally used as a coagulant and little work had been done on securing other material to take its place. Realizing that unless a substitute for rennet was secured many cheese factories would be forced to close their doors, J. A. Ruddick, Dairy Commissioner, and George H. Barr, Chief of the Dairy Division, together with their staff, commenced extensive experimental work in order to determine the value of pepsin and other coagulating material which might be used in place of rennet. Pepsin is a material which is fairly plentiful and it has been found that cheese made with good quality pepsin will keep their flavor fully as well as cheese made with rennet. Mr. Ruddick claims that for the season of 1917 it is quite evident that there will be no shortage of coagulants to meet all requirements. While the supply of standard rennet extract is limited, the quantity of pepsin in different forms is ample. Cheese-makers are warned against using any preparation as a substitute for rennet which has not been thoroughly tried and found to be reliable. The Dairy Branch is keeping a close watch on all the coagulants put on the market, and propose to give them a fair trial as soon as possible. In circular No. 21 on "The use of pepsin and other substitutes for rennet in the manufacture of cheese", attention is drawn to the following points: "There is a great variation in the strength of the different brands of pepsin and care must be taken in testing the strength. The tea cup test will not give a true indication of the curdling strength of pepsin solution if compared with rennet extract. For instance, one cubic centimeter of rennet extract in six ounces of milk curdled it in forty seconds, while the same quantities of milk and pepsin solution curdled in sixteen seconds, but when two vats of milk were set with the same quantity of each solution the curds were ready to cut in the same time. The tea cup test is however a safe guide as to the relative strength of different pepsin solutions. Preparing the pepsin for use is somewhat inconvenient. The practice followed at the Finch Dairy Station was to prepare the solution the previous evening, by dissolving the quantity of pepsin required for the following day at the rate of two drams of pepsin to three ounces of water. This is a safe practice during the summer months. Some cheese makers have adopted the plan of dissolving one pound of pepsin in ten pounds of water and adding salt as a preservative. If this is done distilled water should be used and the solution kept in a cool place." Mr. Ruddick believes it is safer to make up the solution daily. It is also claimed that curds made with pepsin should be salted about one-eighth of a pound less than if rennet extract were used. Sufficient pepsin should be used to coagulate the curd ready to cut in about twenty-five minutes, as the longer the time between setting and cutting the greater the loss of fat. Last year there were about four hundred and two factories which used pepsin as a coagulant for the greater part of the season and four hundred and forty other factories used a mixture of pepsin and rennet. Proof that pepsin, as a substitute for rennet, does not injure the quality of the cheese is evidenced by the fact that authorities claim that the 1916 output of cheese was of the finest in quality.



A Typey Leghorn Cockerel.

mention here, that I lost five hens through the winter. The pen of small pullets and light hens did better than I expected they would, as I got eggs from them early in January and still get from ten to fourteen a day so I have decided, in view of the results, that I made no mistake in keeping my usual flock.

I was interested in how my neighbors looked at the poultry business, for I knew that some of them, at least, were just as undecided as I was in the fall, so whenever I went on business or pleasure, I managed, sooner or later, to introduce poultry into the conversation, and I've been entertained, amused and puzzled by the attitudes of the various people I talked with. Neighbor A kept about the usual number of hens and had them in good order, seemingly, but was getting no eggs, and was afraid to increase the feed, though I believe a small increase might have transformed the star-boarders into fowl that would pay their way. Even now, March 6th, he is getting only a few eggs. Neighbor B and I were talking, in his barn, and I remarked as I saw the heaps of clover leaves and heads lying all along the edge of the mow, where he pulls hay across, that he had a splendid lot of hen feed there and I supposed he got lots of eggs. I was told that the hens never laid in the winter, and when I saw how they were fed I didn't wonder—they got grain alone, no gravel except what they could pick out of the cement work around the buildings; no green food of any kind, and for drink, depended partly on snow and ice. I felt like saying things but refrained. I suppose he is still wondering why hens don't pay him very well. Neighbor C has such a well-kept, whitewashed hen-house, that I am half ashamed to speak of mine. His hens lay the year round and he thinks they pay for



# 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.
<b>APPLE.</b> Scab or black spot, canker, leaf spot, codling moth and other biting insects, scale insects, blister mite and aphids. (Consult bulletins 187, 194, 198 and 219.)	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.	Just before the blossoms open. Use A2 or D, with 2 or 3 lbs. arsenate of lead to each 40 gals. of the liquid.	Immediately after the blossoms have all, or nearly all, fallen, and before the calvces close. Use A3 or D, with 2 lbs. arsenate of lead to each 40 gals. This is the application for codling moth.	For scab, a 4th application about 10 days after the 3rd is necessary if June is wet, also an intermediate one between the 2nd and 3rd with A3, without any poison, if the interval, owing to cool, damp weather, threatens to be long. Spraying with the weaker A3 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% 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).
<b>PEAR.</b> Scab or cracking, blight, codling moth, other biting insects, scale insects, blister mite, psylla and slug. (Consult bulletins 176, 187 and 219.)	Shortly before or just after the buds burst. Use A1 or B. For San José scale see above under Apple.	Just before the blossoms open. Use A2 or D, with 2 or 3 lbs. arsenate of lead to 40 gals. of liquid.	Just after blossoms have fallen. Use A3 or D, with 2 lbs. arsenate of lead 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 a foot or more 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% to codling moth spray if necessary. Arsenate of lead will kill slugs (3 lbs. to 40 gals.).
<b>PLUM AND CHERRY.</b> Black knot, brown rot, leaf blight or shot-hole fungus, curculio, slug, aphids and cherry fruit-flies. (Consult bulletins 219, 226, 227 and 230.)	Just before or as the buds are bursting. Use A1 or B. For San José scale see above under Apple.	Just after fruit is set. Use A2 or D, with 3 lbs. arsenate of lead to 40 gals.	About two weeks later. Use A3 or D, with 3 lbs. arsenate of lead to 40 gals.	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. For leaf-spot give a 4th application with same mixture as 3rd just after cherries are picked. 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% or Black Leaf 40. Good pruning with resulting increase of sunlight and air circulation help against brown rot.
<b>PEACH.</b> Leaf-curl, scab or black spot, yellows, little peach, curculio, borer, San José scale, shot-hole borer. (Consult bulletin 241.)	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. Use C if troubled by brown rot, or dust with sulphur. Good pruning and thinning the fruit help to control the 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.
<b>GRAPES.</b> 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 before, 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.
<b>CURRENT AND GOOSEBERRY.</b> 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.
<b>RASPBERRY AND BLACKBERRY.</b> 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 gal. 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 a gall or root on crown.
<b>STRAWBERRY.</b> 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.			
<b>BEAN.</b> 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 as a rule. Some strains seem to be nearly immune to anthracnose.			
<b>CABBAGE AND TURNIP.</b> 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 medium thick tarred felt-paper discs, 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.			
<b>POTATO.</b> Fip 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 the 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.			
<b>TOMATO.</b> 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.			
<b>ASPARAGUS.</b> 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 = Concentrated lime-sulphur strength 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. D = Bordeaux mixture, 4.4.40 formula.



**Formulae for Insecticides.**

- 1.—POISONS (for biting insects only).**
  - 1.—ARSENATE OF LEAD (paste).**—2 or 3 lbs. to 40 gallons liquid spray; 3½ lbs. for potato beetles. Dry arsenate of lead requires only half these strengths.
  - 2.—PARIS GREEN.**—(a) 1½ to 1½ lb. to 40 gals.; 1 lb. for potato beetles. If used with water alone, add 1 or 2 lbs. fresh lime, (b) 1 lb. mixed with 50 lbs. land plaster, air-slaked lime or some similar substance, for dusting on plants.  
N.B.—With Bordeaux, 1 or 2 above may be used; with lime-sulphur only 1; the other causes burning.
- 3.—POISON BRAN MIXTURE FOR GRASSHOPPERS:**
  - Bran.....20 lbs.
  - Paris Green.....1 lb.
  - Molasses.....½ gallon
  - Water.....about 2 gallons.
  - Lemons.....2 or 3 fruits.

Mix thoroughly the bran and Paris green in any large receptacle the night before using. In morning squeeze the juice of the lemons into the water, run pulp and rind through a meat chopper, add this and also molasses to the water, stir well, then pour the liquid upon the poisoned bran, and mix so thoroughly that every part is moist and will fall like sawdust through the fingers. Apply in the morning between 5 and 7 o'clock by scattering so thinly over the infested field, fence corners and roadsides, that the above amount will cover 4 or 5 acres. Sometimes a second application about 3 days later is necessary. Use as soon as the pest is abundant. Do not look for results for 2 or 3 days. This mixture applied in the evening will also kill cutworms and armyworms.

- 4.—WHITE HELLEBORE.**—One oz. to 1 gal. water, or dust undiluted over the plants. Hellebore left exposed to air is useless.
- II.—CONTACT POISONS (chiefly for sucking insects).**
- 1.—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.

- 2.—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.
  - 3.—TOBACCO WATER.**—Steep 1 lb. refuse tobacco in 1 gal. of water for 1 hour, make up for water that evaporates, or soak 1 lb. in 1 gal. water for 24 hours with occasional stirring.
  - 4.—BLACK LEAF 40.**—Directions on the cans. A little soap with it helps, but soap cannot be added if used with lime-sulphur.
  - 5.—PYRETHRUM (or insect powder):**
    - Pyrethrum Powder.....1 oz.
    - Water.....1 to 2 gals.
- Dry mixture. Mix thoroughly 1 part by weight of pyrethrum with 4 of cheap flour, and keep in airtight vessel for 24 hours before dusting over plants. Note.—Pyrethrum is useless if left exposed to the air.
  - 6.—LIME-SULPHUR WASH.**  
(See under fungicides.)

**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. 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.

- 11.—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.—HOME-MADE CONCENTRATED LIME-SULPHUR.**—This may be used as a substitute for commercial lime-sulphur, but is only about ¾ as strong as a rule.

- Sulphur (a fine grade).....100 lbs.
- Fresh stone lime, high in percentage of calcium.....5 lbs.
- 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 ¼ inch for same purpose.

To determine how much to dilute for different applications use an 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 1:030 or stronger. To determine how much to dilute a strength of 1:240 to get 1:030, 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 1:030, 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 home-made concentrated form.

- 3.—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.

**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.**

- STICKER.**
- Resin.....2 lbs.
  - Sal Soda (crystals).....1 lb.
  - Water.....1 gal.

Boil together till a clear brown color, which takes from 1 to 1½ hours. Cook in an iron kettle in an open place. Add the above to 40 gallons Bordeaux for use on smooth foliage like onions, cabbages or asparagus. If used with arsenate of lead or Paris green, add 1 or 2 lbs. of fresh lime to every 40 gallons of spray.

**FARM BULLETIN.**

**Crescent Ridge Holsteins Sell Well.**

The dispersal of the entire Crescent Ridge Holstein herd at the farm near Bright, Ontario, on Wednesday, March 21, was the fifth of a series of successful sales held in the County of Oxford during the past four or five weeks. The herd, owned by Jacob Leuszler & Son, was one of the oldest in the Province. The 48 head catalogued included 13 mature cows, 24 heifers under two years, 11 bull calves, and the herd sire. The cows made an average of \$248.40, the heifers, \$184.90, and the bulls \$137. The herd sire, Correct Change, by Changeling Butter Boy, topped the sale at \$500. He went to the bid of L. H. Lipsitt, of Forest Ridge Farm, Straffordville. Johanna Fairmont Hengerveld was purchased by T. Wilcox, of Smithville, for \$450. Her two-weeks-old bull calf brought \$90. The stock was sold by auctioneer T. Merritt Moore. Following is a list of the animals which sold for \$100 and over, together with the names and addresses of their purchasers:

Correct Change, L. H. Lipsitt, Straffordville.....	\$500
Anniebelle Colantha, M. Lafret, Maidstone.....	215
Aaltje Lyons, W. W. George, Putnam.....	125
Anza Lyons, E. W. Nesbitt, Woodstock.....	245
Lyons Lady Zwellie, S. Brubachir, Kitchener.....	200
Lady Zwellie Lyons, J. McNee, Owen Sound.....	145
Lady Zwellie Colantha, D. Ulch, South Woodslee.....	125
Lydia Korndyke De Kol 2nd, E. W. Nesbitt.....	300
Correct Change Korndyke, J. J. Waechter, Mildmay.....	155
Lyons Ruth Abbekerk, D. Ulch.....	145
Ruth Lyons, Jas. Liddle, Dundas.....	105
Hengerveld Gretqui, G. F. Saul, London Jct.....	205
Ruby Gretqui Changling, Wm. Stock, Tavistock.....	125
Pussie Hengerveld Changling, Wm. Stock.....	150
Flossie Hengerveld 2nd, Jas. McNee.....	190
Flossie Hengerveld Korndyke, E. Snyder, Burgessville.....	220
Samantha Hengerveld, J. McNee.....	215
Samantha Hengerveld Changeling, Wm. Stock.....	155
Colantha Tehee, D. Ulch.....	275
Colantha Changeling Tehee, C. Bollert, Tavistock.....	105
Johanna Korndyke Tehee, F. J. Firth, Maidstone.....	105
Inka Mercedes Tehee, A. E. Betzner, West Flamboro.....	240
Lyons Bena Tehee, J. McNee.....	190
Changeling Sir Inka, G. Kiest, New Dundee.....	115
Sir Changeling Colantha, J. Liddle.....	120
Inka Posch Hengerveld 3rd, T. Wilcox Smithville.....	385
Gretchin Favorit, D. Ulch.....	235
Gretchin Favorit Changeling, J. Liddle.....	165
Canary Bess Vale De Kol, R. J. Lambkin Paris.....	275
Vale Lyons, Norman Currah, Bright.....	220
Canary Lyons, Norman Currah.....	175
Bessie Changeling Vale De Kol, Norman Currah.....	145
Johanna Fairmount Hengerveld, T. Wilcox, Smithville.....	450
Ruby Lyons Johanna, F. J. Frith.....	105
Pontiac Atlas Mary Lyons, J. Liddle.....	165
Hesseltje Alice De Kol, S. Brubachir.....	100
Hesseltje Alice Lyons, Wm. Stock.....	205
Hesseltje Alice De Kol Lyons, J. Liddle.....	115
Alice Segis Lyons, H. Bollert.....	175
Alice Prilly Changeling, Wm. Stock.....	200
Belle Korndyke Crescent Ridge, J. McNee.....	160
Correct Change Ormsby, R. Bond, Richwood.....	105
Betsy Pauline Artis, R. J. Lambkin.....	275
Betsy Pauline Korndyke, J. McNee.....	160
Correct Change Johanna, N. Currah.....	170

**The Big Tractor Demonstration.**

We understand that arrangements have been made to hold a monster Tractor Farming Demonstration on a large farm near Toronto, September 18, 19, 20 and 21. The success of the last demonstration held on Robt. Fleming's farm last November and the increased interest in tractor farming warrants a continuance of these demonstrations. Last year, it is claimed, the demonstration was held too late in the year. Farmers want to see the tractors work before they do their fall plowing. This year the demonstration will, as the dates show, be held much earlier. Entries are pouring in already. There will also be a large exhibit of accessories.

**Daniel Drummond Passes.**

Daniel Drummond, for many years a leading breeder of Ayrshire cattle and later in charge of the Record of Performance work under the Live-Stock Commissioner, passed away in Ottawa, March 22, at the age of 60 years. He became an officer of the Department of Agriculture in 1900 and continued in charge of the R. O. P. work until the time of his death.



**P. E. Island Notes.**

EDITOR "THE FARMER'S ADVOCATE":

The winter is getting away—there has not been a heavy snowfall so far. The fields have been covered nearly all winter with a very heavy coating of ice and we fear that it will be very hard on the meadows. Just now farm produce is beginning to move quite freely. The demand for oats is brisk at about 70 cents for feed, with five cents more for good seed oats. There was a good crop of this grain here last year which was well saved and much of it will be sold for seed to go to the other provinces.

Potatoes are not keeping well in some cellars, while in others there is no complaint. They are selling at present for \$1.00 a bushel with a good prospect of a rise by shipping time. Carcass pork has been selling as high as 20 cents a pound but has fallen off to 18½ cents lately. Beef cattle are very scarce. Many feeders who in other years held them till June are all sold out already. At present as high as \$10.00 a hundred is being offered for June delivery—a record price here. The "Egg Circles" of which we have a large number doing business here—have been holding their annual meetings and all report that business has been good during the past year. The farmers are satisfied that the co-operative plan is the right one by which to dispose of their eggs at profitable prices. The quality of the eggs handled by the Circles through these candling stations is A 1 and find a ready, profitable market. Many farmers here who went out of sheep-keeping some years ago are preparing to start again with the "Golden fleeced" since wool and lambs have got to be in such demand. Lambs that sold here 20 years ago for \$2.00 a head brought \$8 to \$10 a head last fall. Another thing that is making the sheep popular again is the labor problem. Sheep farming costs so little in wages compared with other stock.

The P. E. Island Dairyman's Association met a few days ago in annual meeting. The meeting was a large one and the dairymen were enthusiastic about the future of dairying and well satisfied over the returns from last year's business. The quality of our cheese and butter is on the upward trend. Very many of the men that learned cheese-making when dairying was started here about 25 years ago are still in charge of the factories and have kept right abreast of the demand for quality. Our factories at the beginning of co-operative dairying here were about all started on the same plan of dividing the proceeds on the fat basis plus 2. This plan has worked satisfactorily and patrons would not think of pooling the milk. I think that if the Ontario dairymen once adopted this plan that the strong opposition to it would soon be a thing of the past.

Horses are still a drug in the market here. Very many farmers have wintered one to two more than they need for working their farms this season. A few have been picked up lately at small prices for Nova Scotia.

W. R. Reek, B. S. A., who has been Director of Agricultural instruction here has resigned and accepted a position in Ontario. He will be much missed as he was very active in promoting improvements, especially in the matter of underdraining which is so much needed in large areas of the Island. His place is taken by W. J. Reid, B. S. A., who has been agricultural representative for Prince County, and who has been doing excellent work in the interest of the farmers along all lines, but especially in the co-operative marketing of wool. The outlook for agriculture here is bright and farmers are studying their business as never before.

P. E. I. W. S.  
[Note.—Owing to lack of space these notes were held for two weeks.—EDITOR.]

**An Interesting Letter From France.**

We recently received the following interesting letter from Major E. F. Oler, well known to Holstein breeders in Canada, and who has been in France for over two years:

After something over two years' absence from Canada and the farm, I find myself for the first time in hospital, and with time on my hands. I have written many letters to my family and to my friends and my mind has been drifting across the water towards Ontario farms and Holstein cattle, and to the many good things that were taken for granted, and perhaps not quite appreciated in the happy days before the war. Some six weeks ago I was fortunate enough to get ten days leave, and saw my youngsters in England, after two years. While in London I had occasion to visit the Canadian offices, and while waiting in the reading room my eye caught the familiar brown cover of "The Farmer's Advocate"—it is unnecessary to say I read through as many copies as time allowed, and it was like a day with old friends.

We are in France to fight the Bosch, and no one complains that we don't get enough of it, but one has time during "rest" to notice what goes on behind the lines from an agricultural point of view, and I may say that there is always something of interest. I regret that my French is not all that it might be, as I have difficulty in talking to the farmers, or I should say "farmeresses", for to-day the women are doing most of the work; still one can see the methods used to produce

and save every possible item that may be of use to feed man or beast. The machinery used looks primitive. I have seen an old man threshing with a flail, and the job he had before him looked like six months' work, and many times have I seen threshing done in a separator no bigger than a fanning mill, and like a fanning mill powered by hand. The ordinary threshing, however, is done by a bigger machine, the power being a horse on a tread mill. The straw I notice is often put through the separator twice, and is always tied by hand and put away in bundles. There is little in it to remind one of an Ontario threshing, no blower, suffocating one with dust, no panic to keep the water supply ahead of the boiler and no suggestion of "get through to-day or die". The whole family turn out quietly—except the men whose age and health are such that they have given up the farm, *pro tem*, for the war—old men and old women and boys and girls, and they plug solidly away until something more important turns up, or the job is finished. The horses, as one would expect, are of Percheron blood, few over twelve hundred weight, mostly less, and are all broken for the tread mill, as are also the dogs. On the outside wall of every village house a large wheel may be noticed, boxed in on the lower half. The tyers, as we may call them, of these wheels are some eighteen inches wide, and into the wheel goes the family dog and chases an imaginary cat some six feet in front of him. The axle of the wheel passes through the wall of the house and gives the power for churning, etc., in the kitchen. Something of this sort might help solve the dog and sheep difficulties in certain parts of Ontario, as an hour or so of this exercise uses up most of the surplus energy of the average dog. When we come out of the line, as you doubtless know, for so called rest, we are billeted in the villages, and to me it is most interesting to watch all these things. The land is all unfenced and the stock one sees outside is tethered, there are no isolated farm homes, the peasants all live together in the villages, which sometimes straggle a great distance along a single road. I notice that in each yard there is a goodly flock of poultry of no particular breed, or perhaps I should say of every known breed and combination of breeds, and these birds which seem to be left entirely to their own devices, produce a surprising lot of eggs which their owner sells to us, their victims, at sometimes eight cents apiece. It is surprising how these French peasants stick to their land. It is common to see them working in their fields close up to the line and well within range of the German guns; on one occasion a farmer, having obtained special permission, came right into my sector of the trenches to see for himself how things were looking on the shell-torn land he had once worked and evidently intended to work again. May he soon be able to.

**Toronto, Montreal, Buffalo, and Other Leading Markets**

**Toronto.**

Receipts of live stock at the Union Stock Yards, West Toronto, Monday were 180 cars, 3,445 cattle, 608 calves, 1,272 hogs, 43 sheep and lambs. Slow market. Butchers' fifteen to 25 cents lower. Bulls 10 cents to 15 cents lower; cows steady; fancy Easter cattle sold at twelve cents to 15 cents per pound. Sheep and lambs steady. Calves 25 cents to 50 cents lower. Few good on sale. Hogs, \$16.00 fed.

The total receipts of live stock at the City and Union Stock Yards for the past week were:

	City	Union	Total
Cars.....	42	341	383
Cattle.....	640	3,718	4,358
Calves.....	50	908	958
Hogs.....	277	8,423	8,700
Sheep.....	132	153	285
Horses.....	75	782	857

The total receipts of live stock at the two markets for the corresponding week of 1916 were:

	City	Union	Total
Cars.....	58	506	564
Cattle.....	869	5,323	6,192
Calves.....	115	904	1,019
Hogs.....	1,440	11,579	13,019
Sheep.....	51	206	257
Horses.....	42	2,217	2,259

The combined receipts of live stock at the two markets for the past week show a decrease of 181 cars, 1,834 cattle, 4,319 hogs, 1,402 horses and an increase of 28 sheep and lambs, compared with the corresponding week of 1916.

Of the two thousand cattle on sale at the Union Stock Yards, Monday, there were more loads of good to choice cattle than have been on the market for months past. Butchers' steers and heifers were strong and from 10c. to 25c. higher. Three steers, average weight 1,500 lbs., each, sold at \$12.50 per cwt.; one heifer, 1,200 lbs. sold at \$12.50; one heifer, 1,510 lbs. at \$13.00. Throughout the week choice butchers' sold at from \$11.00 to \$11.50, and good at \$10.00 to \$10.50, a number of extra choice selling at \$11.75, \$12.00 to \$13.00 per cwt. Cows

also advanced on Monday, being 10c. to 15c. higher than the previous week's close. Choice sold at from \$9.50 to \$10.00; a few real choice selling at \$11.50 to \$13.00 per cwt. Bulls were firm all week at prices as quoted. A few fancy animals selling at \$11.00 to \$12.00. Milkers and springers were quite slow all week. Prices, however, remained steady at \$9.00 to \$11.00 for best cows; a few odd choice animals selling for \$115 to \$125.

Stockers and feeders were in very strong demand all week selling as follows: Choice feeder steers, 900 to 1,000 lbs. at \$9.25 to \$10.25; choice stock steers, 800 to 900 lbs. at \$9.25 to \$9.50; 650 to 775 lbs., at \$8.75 to \$9.00; good yearlings, 650 to 750 lbs., at \$8.50 to \$9.00; common and medium steers and heifers, 600 to 700 lbs., at \$6.75 to \$8.00; grass cows sold at \$6.00 to \$7.50. Sheep and lambs were without change. The demand for grain-fed animals was strong at prices as quoted. Choice calves were strong and common to medium steady, choice veal selling at 13½c. to 14½c. per lb.; a few selling at 15c. to 16c. per lb.

Hogs were the feature of the week's market.—on Monday packers declared they would not pay more than \$14.90, fed and watered, and that they did not even want them at this price. Instead of getting them at the above mentioned price the week closed with fed and watered selling at \$15.85 to \$16.00; and weighed off cars at \$16.15 to \$16.25, the bulk at the higher price.

Live Stock Quotations.—Heavy steers, choice, \$11.50 to \$11.75; good, \$10.75 to \$11.25. Butcher steers and heifers—Choice, \$11 to \$11.50; good, \$10 to \$10.50; medium, \$9.50 to \$9.85; common, \$8.50 to \$9.25. Cows—Choice, \$9.50 to \$10; good, \$8.75 to \$9; medium, \$7.50 to \$8; common, \$6.25 to \$7. Canners and cutters—\$5.50 to \$6. Bulls—Choice, \$9.75 to \$10.50; good, \$9 to \$9.50; medium, \$8.25 to \$8.75; common, \$7 to \$8. Stockers and feeders—Choice, \$9.50 to \$10; medium, \$8.50 to \$9; common, \$7 to \$8. Grass cows—\$6.00 to \$7.50. Milkers and springers—Best, \$90 to \$110; medium, \$65 to \$85; common, \$50 to \$60. Lambs—Choice, 14c to 15¼c. per lb.; culls, 9c. to 12c. per lb.

Sheep—Light, 10c. to 11c. per lb.; heavy, 8½c. to 9½c. per lb. Calves—Choice, 13½c. to 14½c. per lb.; medium, 9½c. to 11c. per lb.; common, 6c. to 8½c. per lb.; heavy, fat, 7c. to 9½c. per lb. Hogs—Fed and watered, \$15.85 to \$16.00; weighed off cars, \$16.15 to \$16.25; f. o. b., \$15.00.

**Breadstuffs.**

Wheat.—Ontario, No. 2, winter, new, per car lot, \$1.83 to \$1.85; No. 3, winter, per car lot, \$1.81 to \$1.83, (according to freights outside). Manitoba, track, bay ports—No. 1 northern, \$2.03½; No. 2 northern, \$2.09¼; No. 3 northern, \$1.94¼. No. 4 wheat, \$1.83¾.

Oats.—Ontario, No. 2 white, 65c. to 67c., nominal; No. 3 white, 64c. to 66c., nominal. Manitoba oats, (all rail delivered).—No. 2 C. W., 73¼c.; No. 3 C. W., 71¼c.; Extra No. 1 feed, 71¼c.; No. 1 feed, 70¾c.

Barley.—Malting barley, according to freights outside, \$1.21 to \$1.23.

Peas.—According to freights outside; No. 2, \$2.65.

Buckwheat.—According to freights outside, \$1.32.

Corn.—American (track, Toronto), No. 3 yellow, \$1.23, subject to embargo.

Rye.—No. 2, \$1.48 to \$1.50.

Flour.—Manitoba first patents, in jute bags, \$9.70; second patents, in jute bags, \$9.20; strong bakers' in jute bags, \$8.80. Ontario, winter, according to sample, in bags, \$7.55, track, Toronto; \$7.15 bulk, seaboard, export.

**Hay and Millfeed.**

Hay.—Track, Toronto, extra No. 2, per ton, \$11.50 to \$12; mixed, per ton, \$8.50 to \$11.

Straw.—Car lots, per ton, \$8, track, Toronto.

Bran.—Per ton, \$38.

Shorts.—Per ton, \$40.

Good feed flour, per bag, \$2.70 to \$2.80.

**Hides and Skins.**

City hides, flat, 20c.; country hides, cured, 20c.; country hides, part cured, 18c.; country hides, green, 17½c.; calf skins, per lb., 25c.; kip skins, per lb., 20c.; sheep skins, city, \$2.50 to \$3.50; sheep skins, country, \$1.50 to \$3; lamb skins and pelts, \$1.50 to \$2; horse hair, per lb.,

42c.; horse hides, No. 1, \$6 to \$7; No. 2, \$5 to \$6; wool, washed, 44c. to 47c. per lb. Wool, rejections, 35c. to 38c. per lb.; wool, unwashed, 34c. to 37c. per lb. Tallow, No. 1 cake, 9c. to 10c. per lb.; tallow, solids, 8c. to 9c. per lb.

**Country Produce.**

Butter.—Butter of all classes remained stationary in price on the wholesales during the past week, selling as follows: Creamery, fresh-made pound squares, 44c. to 45c. per lb.; creamery solids, 42c. to 43c. per lb.; dairy, 32c. to 35c. per lb.; separator dairy, 38c. to 40c. per lb.

Eggs.—New-laid eggs firmed slightly, selling at 36c. to 37c. per dozen wholesale.

Cheese.—The cheese market is very firm—the prices having advanced: June cheese, 27c. to 28c. per lb.; new cheese at 27c. to 28c. per lb.; twins, 28½c. to 29c. per lb.

Honey remained stationary—with the supply gradually decreasing. Sixty-lb. tins, extracted, 12c. to 13½c. per lb.; the glass jars at \$1 to \$2 per dozen, and one-pound sections of comb honey bringing \$2 to \$3 per dozen.

Poultry.—There has been an increased demand for heavy weight fat hens for the Jewish trade causing the price to advance for this class. The following are the live-weight prices for the past week. Chickens, 25c. per lb.; ducks, 22c. per lb.; fowl under 4 lbs., 18c. per lb.; fowl 4 to 5 lbs., 22c. per lb.; fowl, 6 lbs. and over, 25c. per lb.

**Wholesale Fruits and Vegetables.**

Potatoes again declined and have dropped from the almost prohibitive price of \$5 per bag down to \$3.25 per bag for the New Brunswick Delawares; Ontarios and Western now selling at \$3 per bag.

Turnips have also gone downward as the demand eased off considerably; they now sell at 90c. to \$1 per bag.

Parsnips and beets remained stationary at \$2.25 per bag. Carrots selling at \$2 per bag.

New cabbage keeps quite firm; the Florida selling at \$3.75 per hamper, and California at \$8 per case containing 100 lbs.

Celery also kept high priced; Florida selling at \$4.50, \$5 and \$5.50 per case of three, six and four dozen, respectively;



**THE ROYAL BANK OF CANADA**

Capital Authorized - - - \$ 25,000,000  
 Capital Paid Up - - - 12,900,000  
 Reserve Funds - - - 14,300,000  
 Total Assets - - - 270,000,000

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Branches throughout every Province of the Dominion of Canada

Accounts of Farmers Invited  
 Sale Notes Collected

Savings Department at all Branches

the California bunched, selling at \$1.75 per dozen.

Leaf lettuce came in more freely, selling at 25c. to 40c. per dozen.

Hot-house radishes continued to come in in small quantities selling at 40c. to 50c. per dozen bunches.

Apples are becoming scarce. Spys selling at \$5.50 to \$8 per bbl.; Baldwins at \$5 to \$7 per bbl.; Wine Saps at \$2.50 per box; Ben Davis at \$2.75 per box, and Rome Beauty at \$3 per box.

Oranges have been firm—Navels selling at \$3.50, \$3.75 and \$4 per case; while Floridas brought \$4 to \$4.25 per case.

Grapefruit also continued to bring high prices. The Florida variety selling at \$4.50 to \$5 per case; Cuban at \$3.75 per case, and Porto Rico at \$3.50 per case.

Lemons, like the other fruits remained firm at \$3.25 to \$3.50 per case for the Californians.

Pineapples were not very plentiful; the Porto Ricos selling at \$5 per case.

Hot-house rhubarb was unchanged at \$1 to \$1.25 per dozen bunches.

**Montreal.**

The live-stock market was again dull during last week, and offerings were neither plentiful nor of a choice quality. A few choice steers were on the market and prices held at about previous levels, being from 11c. to 11½c. per lb. Good steers brought 10½c., and from this the price ranged down to about 8½c. per lb. for common stock. Butchers' cows changed hands at 7½c. to 9c. per lb., and bulls at about 1c. better than cows. The market was firm throughout, supplies being hardly sufficient to satisfy even the limited demand. There was a good demand for calves and the offerings are increasing every week. Some choice, milk-fed calves brought as much as 18c. to 20c. per lb., but good to choice stock was available at 12c. to 15c. per lb., while the inferior animals sold as low as 5c. per lb. There was a moderate trade in sheep and lambs and prices were about steady at 9½c. to 10c. per lb. for sheep, and 13½c. to 14½c. per lb. for lambs. The market for hogs was firm and all the stock offering was freely taken at 16½c. to 16¾c. per lb., weighed off cars.

Horses.—Quite a number of horses have been purchased lately by local carters for their business. The requirements on account of the roads are larger than usual, and extra horses are being called constantly to help the regular teams to pull their loads over the hard spots. A good many accidents have also been happening owing to the icy conditions of the roads. Prices hold steady as follows: Heavy draft, weighing 1,500 to 1,700 lbs., \$200 to \$250 each; light draft, weighing 1,400 to 1,500 lbs., \$150 to \$200 each; small horses, \$100 to \$125 each; culls, \$50 to \$75 each; choice saddle and carriage horses, \$200 to \$275 each.

Poultry.—The market was neglected. Turkeys were quoted at 26c. to 30c. per lb.; chickens, 22c. to 27c. and down to 20c. per lb.; geese, 17c. to 20c. per lb.; geese, 17c. to 21c. per lb., and ducks, 19c. to 24c. per lb.

Dressed Hogs.—There was an active demand for all the dressed hogs available, and prices continued firm at 22c. per lb. to 22½c. for selects, abattoir-dressed, fresh-killed.

Potatoes.—Deliveries of potatoes seem to have been increased slightly, and, while the market could not be called weak, prices were about 25c. a bag lower. Green Mountains sold at \$3.25 per bag of 80 lbs., ex-store; Quebec whites were \$3.00, and reds, \$2.75.

Honey and Maple Syrup.—The price of maple syrup continued steady, and the market was quite firm because of the fear that the crop may be imperilled this year because of the heavy snow in the woods and the difficulty of operating under these circumstances. Prices were 95c. for 8-lb. tins; \$1.10 for 10-lb. tins; \$1.25 to \$1.50 for 13-lb. tins. Maple sugar was 15c. per lb. Honey was steady, at 15c. per lb. for white clover comb; 12c. for white extracted and brown clover comb; 11c. for brown extracted, and 10c. for buckwheat honey.

Eggs.—There was an active demand for fresh-laid eggs, and the recent storms and lower temperatures affected deliveries. As a consequence, the market continued firm at 38c. to 39c. per dozen for Canadian fresh-gathered stock, and at around 37c. for American fresh.

Butter.—The demand for butter continued quite active, but it is only a couple of weeks now till the end of Lent, and shortly deliveries will increase. Mean-time finest fall creamery was 43c.; good to fine 42c. to 42½c.; finest fresh makes, 41c. to 41½c. Undergrade creamery was obtainable at 40c. per lb. to a fraction more. Dairy butters ranged from 36c. to 38c.

Grain.—The market for oats was fairly steady during the week and quotations were probably a fraction easier. No. 2 Canadian Western oats were quoted at 77c. to 77½c.; No. 3, 75c. to 75½c.; extra No. 1 feed, 75c. to 75½c.; No. 1 feed, 74½c.; No. 2 feed, 73c. to 73½c. per bushel, ex-store. Beans were very scarce and car lots of hand-picked Canadian beans were quoted at \$7 to \$7.25; 3-lb. pickers were \$6.50 to \$6.75; 5-lb. pickers \$6.25 to \$6.50, and 6 to 7-lb. pickers, \$6.

Flour.—Flour held fairly steady during the week and was quoted at \$9.80 for Manitoba First Patent, \$9.30 for seconds, and \$9.10 for strong bakers' per barrel, in bags. Ontario winter wheat flour was steady at \$8.50 to \$8.80 per barrel in wood, for 90% patents, and \$4.10 to \$4.25 per bag.

Millfeed.—Supplies were light, but the price showed little change, being firm at \$36 to \$38 per ton for bran, in mixed car lots; shorts were \$39 to \$40; middlings, \$41 to \$42; pure grain mouille, \$48 to \$50 and mixed \$45 per ton, including bags.

Hay.—Bad roads interfered with delivery, but the market was steady, being \$13.50 to \$14 for No. 2 hay, ex-track; \$12 to \$12.50 for No. 3; and \$11 to \$11.50 for clover mixed.

Seeds.—There was no change in the market for seeds. Demand was very good and prices were \$7 to \$12 per 100 lbs. for timothy, on track, Montreal, for Govt. standards 3, 2 and 1. Red clover \$20 to \$25; alsike \$15 to \$25.

Hides.—The market was unchanged. Calf skins, 42c. to 44c. per lb.; beef hides, 26c., 25c. and 24c.; lambs, \$3.90 each; horse hides, \$7.50 each; tallow, 3c. to 5c. for rough, and 8c. to 9c. rendered.

**Gossip.**

**D. M. Watt's Ayrshires.**  
 D. M. Watt, well known to our readers as a breeder and importer of Ayrshire cattle, at St. Louis De Gonzague, Que., writes "The Farmer's Advocate" that his herd now numbers 47 head, and they are a fine dairy bunch. All Mr. Watt's last year's importation which he selected himself with the assistance of Adam Montgomerie, of Lessnessock, Ayrshire, Scotland, one of the most popular breeders in the home of the Ayrshire, are all sold. In this lot was a young bull imported for use on the Watt herd. This young sire is Killoch Gold Flake by Netherhall Scotland Yet, one of the famous bulls of Scotland, owned by T. Barr, of Hobsland. His dam was Whitehill Blue Bell 5th, which has a very good record. The sire of his dam was Howie's Ring Sun, well known to all Ayrshire breeders in America. "Gold Flake" shows his breeding and should be a profitable investment to Mr. Watt, although he was bought at a long price. At present no females are for sale, but a few young bulls can be spared. They were all imported in dam. Many of these young bulls are show animals and all have excellent breeding behind them.

**Buffalo.**

Cattle.—Another extremely high cattle market at Buffalo last week, shipping steers, of which there were around fifteen to twenty loads, showing a full fifty to seventy-five cents advance, while the general trade on decent butchering cattle was a full quarter to half a dollar above the preceding week, with the medium and common kinds ruling at about steady prices. Shipping steers broke the record, three and a half loads selling up to \$12.75, with the best handy butchering steers running from \$10.75 to \$11.00. Heavy fat cows sold up to \$9 to \$9.50, with fancy fat heifers better than eleven cents. Very few stockers and feeders are moving to market these days and the prices are high, \$8.00 to \$8.50 taking the best coming here. On bulls the trade remains firm, best heavies ranging up to \$9.25 to \$9.50, the little, common kinds ranging around \$6.25 to \$6.50. Milk cow and springer trade was strong. There were not enough of any class of cattle to meet the demands, offerings being light, as the result of a threatened strike among railway employees. Supply for the week totaled 3,375 head, as against 4,250 for the previous week and 4,600 head for the corresponding week last year. Quotations:

Shipping Steers.—Choice to prime natives, \$12.00 to \$12.75; fair to good, \$11.50 to \$11.75; plain, \$10.00 to \$10.25; very coarse and common, \$9.75 to \$10.00; best heavy Canadians, \$11.50 to \$12.00; fair to good, \$10.50 to \$11.00; common and plain, \$10.00 to \$10.25.

Butchering Steers.—Choice heavy, \$11.50 to \$12.25; fair to good, \$10.25 to \$11.25; best handy, \$10.50 to \$11.00; fair to good, \$10.00 to \$10.25; light and common, \$9.00 to \$9.50; yearlings, prime, \$11.50 to \$12.00 fair to good, \$10.50 to \$11.25.

Cows and Heifers.—Best heavy heifers, \$9.50 to \$10.00; best butchering heifers, \$8.75 to \$9.25; fair butchering heifers, \$8.00 to \$8.50; light and common, \$6.50 to \$7.50; best heavy fat cows, \$9.00 to \$9.50; good butchering cows, \$7.75 to \$8.50; medium to fair, \$6.50 to \$7.50; cutters, \$5.75 to \$6.00; canners, \$4.50 to \$5.50.

Bulls.—Best heavy, \$8.50 to \$9.50; good butchering, \$7.75 to \$8.25.

Stockers and Feeders.—Best feeders, \$7.50 to \$8.50; common to fair, \$6.25 to \$7.00; best stockers, \$7.00 to \$7.50; Common to good, \$6.00 to \$7.00.

Milchers and Springers.—Good to best, in small lots, \$90.00 to \$110.00; in car loads, \$75.00 to \$85.00.

Hogs.—Receipts last week, as a result of railroads placing an embargo on live stock shipments, on account of the threatened strike, were exceedingly light and the result was a considerably improved trade. The week opened with a \$15.90 top, with bulk selling from \$15.75 to \$15.85 and the next three days what few good hogs arrived sold up to \$16.00. Friday the supply was 25 cars and prices were declined a dime, bulk going at \$15.90 Pig market last week was very uneven. Monday these weights sold at \$14.00 and \$14.25 and while on the next few days some sold up to \$14.50, Friday they were hard to place even at \$13.50 and light pigs ranged on down to \$11.50. Roughs around \$14.25 and stags \$12.50 down. Receipts for last week were 8,500 head, being against 17,204 head for the week before and 23,500 head for the same week a year ago.

Sheep and lambs.—Last week opened with light receipts and record prices were paid for the few here. Monday's supply was only five loads and top lambs reached as high as \$16.25. Tuesday with increased receipts the market was lower, bulk going at \$15.75, Wednesday a few made \$15.75, though majority went at \$15.50 and \$15.60, Thursday sales were made at \$15.60 to \$15.65 and Friday's range on best desirable lambs was from \$15.60 to \$15.75. Culls sold well, bringing up to \$15.00, and heavy lambs, weighing over 100 pounds, when sold on their merits, were not within a quarter to fifty cents of the best culls. Yearlings were quoted around \$14.00 and \$14.25, wether sheep would have brought up to \$12.75, if not more and ewes sold from \$12.00 down. Receipts for the week were 13,500 head, as against 16,279 head for the week previous and 15,800 head for the same week a year ago.

Calves.—Last week started with top veals selling at \$15.50. Tuesday's market was steady, Wednesday and Thursday tops reached up to \$16.00 and Friday

the bulk landed at \$15.50. Culls sold up to \$12.50 and \$13.00 for the best desirable ones and inferior kinds went from \$12.00 down. For the week the run aggregated 2,100 head, as compared with 3,422 head for the week before and 2,725 head for the corresponding week a year ago.

**Chicago.**

Cattle.—Beeves, \$9.20 to \$12.65; stockers and feeders, \$7 to \$10; cows and heifers, \$5.60 to \$10.70; calves, \$10.50 to \$15.

Hogs.—Light, \$14.15 to \$15; mixed, \$14.50 to \$15.15; heavy, \$14.45 to \$15.15; rough, \$14.45 to \$14.60; pigs, \$10.00 to \$14.

Sheep.—Lambs, native, \$12.75 to \$15.25.

**Get Free Seed For Experiment.**

Dr. C. A. Zavitz, O. A. C., Guelph, Ontario, has sent out the following list of experiments to be carried out this year under the Ontario Agricultural and Experimental Union. There is a lack of good seed in Ontario. This should stimulate interest in the production of better seed for next year. Read this list:

**Grain Crops.**

1, testing two varieties of oats; 2a, testing O. A. C. No. 21 Barley and Emmer; 2b, testing two varieties of Two-rowed Barley; 3, testing two varieties of Hulless Barley; 4, testing two varieties of spring wheat; 5, testing two varieties of buckwheat; 6, testing three varieties of field peas; 7, testing two varieties of spring rye; 8, testing three varieties of Soy, Soja or Japanese Beans; 9, testing seven varieties of husking corn.

**Root Crops.**

10, testing three varieties of mangels; 11, testing two varieties of sugar beets for feeding purposes; 12, testing three varieties of Swedish turnips; 13, testing two varieties of fall turnips; 14, testing two varieties of carrots.

**Forage, Fodder, Silage and Hay Crops.**

15, testing the planting of corn at six distances in the row; 16, testing three varieties of millet; 17, testing two varieties of sorghum; 18, testing grass peas and two varieties of vetches; 19, testing rape, kale and field cabbage; 20, testing three varieties of clover; 21, testing two varieties of alfalfa; 22, testing four varieties of grasses.

**Culinary Crops.**

23, testing three varieties of field beans, 24, testing two varieties of sweet corn.

**Fertilizer Experiments.**

25, testing barley on potato plots fertilized in 1916; 27, testing fertilizers with rape.

**Miscellaneous Experiments.**

29, testing three grain mixtures for grain production; 30, testing three grain mixtures for fodder production.

Any person in Ontario may choose any one of the experiments for 1917 and apply for the same. The material will be furnished in the order in which the applicants are received, while the supply lasts. Each applicant should make a second choice, as the material for the experiment selected as first choice might be exhausted before his application is received. All material will be furnished free of charge to each applicant, and the produce will, of course, become the property of the person who conducts the experiment. Each person applying for an experiment should write his name and address very carefully, and should give the name of the county in which he lives.

**Sale Dates.**

April 4.—Belleville District Holstein Breeders' Club, Belleville; Holsteins.

April 5.—Southern Counties Ayrshire Breeders' Club, Woodstock, Ont.; Ayrshires.

April 10.—A. A. Colwill, Newcastle, Ont.; Swine and Shorthorns.

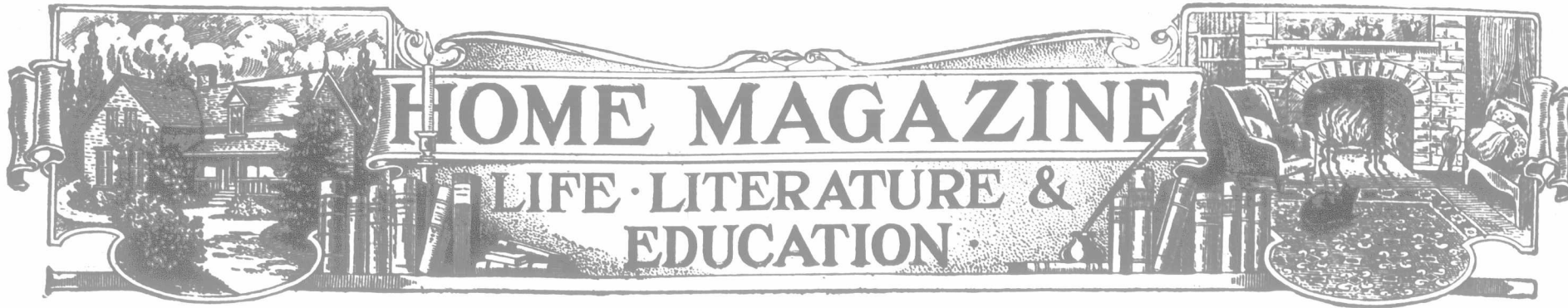
April 10.—A. D. McGugan, Rodney, Ont.; Holsteins.

April 26.—J. E. Arnold, Grenville, Que.; Holsteins and horses.

May 9.—The York County Holstein Friesian Breeders' Club, at Richmond Hill; Holsteins.

Residents of Ontario, purchasing cattle at the Ayrshire sale at Woodstock on April 5, will have the railway freight from Woodstock to destination refunded by the Club.





A Spring Poem.

BY RABINDRANATH TAGORE.

The odor cries in the bud, "Ah me! the day departs, the happy day of spring, and I am shut up in my petaled prison!"  
Lose not heart, timid thing! Your bonds will burst, the bud will open into flower, and when you die away in a fulness of time, even then the spring will last.

The odor pants and beats itself within the bud, crying, "Ah me! the hours pass by, yet I know not where I am going, what it is I seek!"

Lose not heart, timid thing! The spring breeze has overheard your desire, the day will not end before you have fulfilled your being.

Dark seems the future and the odor cries in despair, "Ah me! through whose fault is my life so unmeaning? Who can tell me, why I am at all?"

Lose not heart, timid thing! The perfect dawn is near when you will mingle your life with all life, and at last know all your purpose.

Among the Books

"Happy Hollow Farm".

BY WILLIAM R. LIGHTON.

[Published by the George H. Doran Publishing Co., New York, Price \$1.25 net.]

To take hold of an almost abandoned farm, and make of it a "paying proposition" and a delightful home—that was what William R. Lighton did with a run-down place near Fayetteville, Arkansas, and that is what he tells about, very delightfully, in the book which he calls "Happy Hollow Farm."

True he might have written the whole account in a business-like way and made it very convincing. He might even have condensed it into the space and given it the authority of a government bulletin, but he did not. He chose to interweave his narrative with little homely talk about Laura and the children—and the hired help, the birds that carried on their household management in the trees at the edge of the lawn, and the neighbors who dropped in to have a chat on a winter's evening. And so he has made a book that is fascinating as well as technical, literature as well as, to some extent, a scientific treatise.

Mr. Lighton was, to begin with, a city man who made his living by writing for the magazines. But he had a craving for the land. So had his wife, for, as he tells us, from the first their ideals of home "hadn't a hair's breadth of difference." They wanted the freedom of air and sky; they wanted to grow things; they wanted a big roomy old house whose center should be a fireplace big enough to hold a back-log; and so it was that they set out in search of a farm that should be within their modest means.

The gods, Mr. Lighton thinks, must have given them a "hunch" when they were directed to their "dream-farm", and yet, at first sight, it was not, perhaps, very prepossessing. "What we saw," he says, "was a rough, untidy expanse, a half mile across, stretching from point to point of a deep crescent of low wooded hills that opened toward the south. Here and there, at broken intervals, lay a tiny irregular patch of ground under plow; and in between these were deep, tangled thickets of wild growths, ferns as a jungle. In the depths of this wilderness, somewhere near us, we only heard a brook making sport in a stony bed. Along the banks toward great sycamores and tall, slender hickories and stately walnuts, Countess the ca-

heads of dogwood bloom were thrust out of the greenery, and we caught the odor of hawthorn and honey locust."

Any farmer knows that that picture spells "work", and yet there was the lure of the untamed about it,—and there were endless possibilities. It is a great thing to have imagination enough to see possibilities.

So we are not surprised when we read "I looked at Laura, and Laura looked at me; a smile passed between us—and it was all over."

All over,—nor did even the first glimpse of the house change the decision: "The agents circular had spoken solemn truth in saying that the place had no improvements," we are told. "Nobody would have thought of giving that name to the weather-beaten, old log house standing on the hill-slope, sheltering the tenant farmer and his family. The walls were mud-chinked, the doors hung awry, the broken windows were patched with paper and stuffed with faded rags. The house-yard was an ugly litter of refuse of unnumbered years of shiftless living. Near by was a tumble-down stable of thatched poles. Down below, by the big spring, stood a log-walled granary—without any grain in it."

—Nor did the first words of the tenant change the decision: "You-uns thinkin' of buyin' thish-yere farm? It ain't worth nothin'. It's a terrible sorry farm. You-all could starve plum to death on thish-yere farm."

For the eyes of the observant magazine-writer could see what those of the tenant could not,—possibilities.

Yes the place was run-down. The soil had been impoverished by continuous cropping without corresponding building up. It was stony. Large tracts

From the very first, too, it was determined that the farm should yield almost the entire living of the family so far as the table went, and perhaps only town-folk, who have been accustomed to paying for every onion and blade of lettuce, can appreciate what this must mean. Hence it was that the kitchen garden was placed, during the very first season on the plane of importance which it should hold on every farm:

We began our gardening early and kept at it through the summer. We were on familiar ground there. For years before we came to the farm we had done successful gardening for our own needs. We were just as successful on the farm. There was nothing unique in our methods or our results; but we were doing something that none of our neighbors was attempting. The gardens around us, on the farms that had any at all, held nothing more than a few poor potatoes and maybe a weed-grown path of turnips. Most of these folks got their "greens" from the fields and waste places—"poke" sprouts, sour dock, lamb's quarters and dandelions. That's not bad eating, if you want to know it; but to depend upon that supply isn't exactly thrifty farming. Our garden gave us a great variety—with the choicest of everything. We weren't trying to do market gardening; we were aiming only at supplying our own needs. We've stuck to that, and we shall keep it up. It pays. No equal acreage on the farm pays nearly so well, judged by its effect upon our household economy."

—Of course all this was in an almost abandoned district of the "Ozark"

spare-ribs—no butcher shop ribs, with a thin shred of meat discovered now and then between the bones, if you're lucky; but ribs with real meat on them, coming to the table crisped and odorless, so that for all one's town-learned manners he couldn't, to save his life, keep from oiling his face from ear to ear. And home-made sausage, seasoned with sweet herbs gathered fresh from the garden! Honestly I'm sorry for the man who hasn't experienced real farm sausage."

Very culinary, all that?—Then lest you think that our author has no eyes for the finer things in life, read this:—He has been wondering whether Laura is wholly satisfied with the new life, and one morning the chance to find out came.—

It was a gorgeous morning in December; the sort of winter morning that comes to us here in the Ozarks. Often and often, crisp and tonic but without a trace of the raw cold of the North. Sunrise acted itself out for us in crimson and gold finery as we stood together at our kitchen door, looking off across the hills. A broad, curling ribbon of white fog lay over the river, shrouding the valley, with great tree-tops stabbing through here and there. The sun touched the fog warmly; it lifted and drifted softly up the long hill-slopes to the southward, hung for a little time from the peaks in rosy-tinted plumes, then soared into the high air. Far as we could see the valley opened out and out in the crystal-clear light, brimming with peace and beauty.

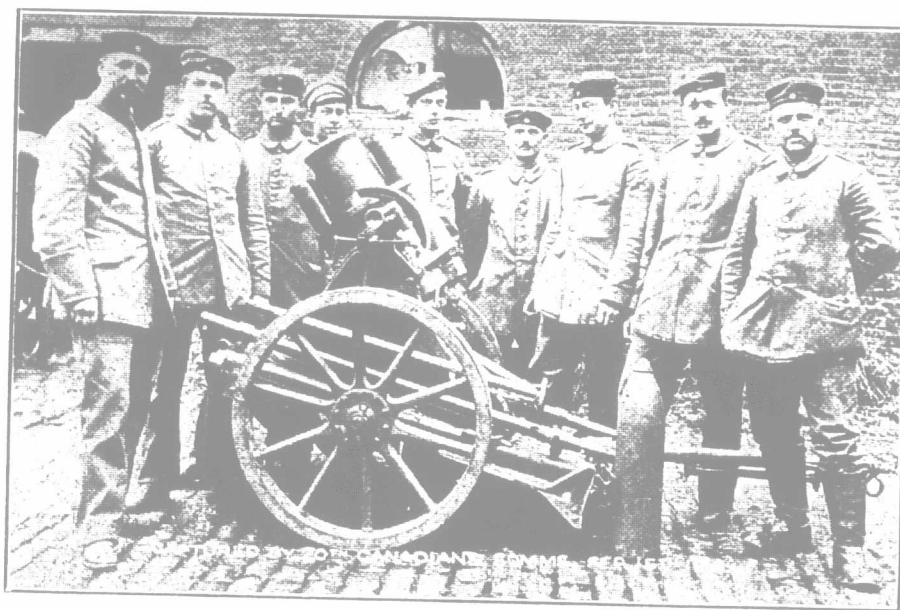
"Aren't those hills wonderful!" Laura said by and by. "They're never done with surprising me. I think this is the most beautiful spot in the world."

"Is it good enough to pay you for being a farmer's wife?" I asked. Laura didn't accept the challenge to an argument. Her eyes were fixed on the distances. "There isn't a thing there," she said, "that doesn't seem worth while."

Initiative, love of the soil, a habit of "keeping things up," industry, and heaps of commonsense,—these were some of the essentials to good farming, as the author saw it,—but he let no opportunity slip of finding out the dicta afforded by research at the experiment stations.

Difficulties there were a-plenty at Happy Hollow Farm,—mistakes a-plenty. He tells them all. Yet mistakes taught lessons and were not repeated, and as the years went on the result of brain plus hard work began to appear. Like the European farmers, he pinned his faith to fertilizers, cow-peas being sown regularly, and good manure and decayed rubbish constantly used to enrich the land. "Feeding it chemicals", he says, "won't do it." He saw to it, too, that a green crop was kept growing to feed to the cattle in mid-summer when pasture should run short everywhere and all the cows in the neighborhood were falling off in milk. "The soil isn't stubborn", he declares, "it isn't the least bit inclined to hold back on you and to yield its secrets and its fruits grudgingly." The clay is not more plastic to the hand of the potter than the soil is plastic to the mind of the thinking farmer. He may do just what he wills with it."

One would like to quote much from this interesting book. One would like in particular to quote many of the bits of philosophy with which it is interspersed, and which are not touched upon here. But perhaps it must suffice to close with an extract which shows, perhaps as well as any, the degree to



A Trench Mortar.

A "jam jar" machine, as the boys call it, captured from the Germans by the 23rd Batt., German prisoners in the background. This picture was sent us by Mrs. C. H. MacNish, Lyn, Ont. whose son was in the Battalion which captured the Mortar.

of it were grown up with scrub, where the trees had been removed out of face and the land left idle. But not a single difficulty was insurmountable. In "Happy Hollow Farm" we are told exactly how each was taken in hand and exorcised: the stiff underlay broken up and rendered porous by deep plowing; the poor topsoil enriched by manure and by sowing cow-peas; the southern equivalent of clover for putting nitrogen into the soil; the stones cleared away and put into good use; the scrubby soil turned into a profitable account by sowing in plants good for fodder; the whole plan, indeed, consisting in the sowing of stock instead of continuous "hog of grain and consequent ruinous going away of the best of the land.

country. It is to be hoped that not many among Canadian farmers have failed to sound the uses of a garden,—and yet,—yes, it must be confessed that there are a few just as careless in regard to the matter as were these unenlightened Ozark neighbors.

Nor was the garden the only menage resource of the farm. "Home-grown" eggs and broilers were a novelty much appreciated by these transplanted town-folk. Also "when cold weather came on, we put up our next year's supply of sugar-cured hams and bacon. That was new work, but we did every lick of it ourselves, according to directions given us at the university experiment station. . . . For a while, at butchering time, we lived, let me tell you! Rich



which the almost abandoned farm was coaxed to respond to its caretakers:

We have sixty acres of the farm well cleaned up and in a fine state of cultivation, besides twenty acres in a partly timbered pasture—a pasture with a brook on either side, and the fields between. Ten acres of the sixty is in park, lawn, garden, orchard, house grounds, barnyard and feeding lots. That leaves fifty acres actually devoted to field crops.

From that fifty acres we shall get this year, after deducting enough to pay labor cost, about three hundred bushels of wheat, four hundred of oats, eight hundred of corn, sixty to seventy-five tons of cowpeas and sorghum hay, ten or twelve of straw, and perhaps twenty tons of corn fodder that will be cut and stored for feeding. About as much more fodder will be pastured in the fields; and we shall have no end of second-growth peavines for pasturage.

In 1908, the year we bought the farm, the tenant's crop summed up sixty bushels of wheat, thirty bushels of oats, a few small loads of fodder, and no hay. If he had owned the entire crop and had sold on the average prices of December 1, his gross income would have been about \$165, with nothing counted out for labor. . . . We shan't sell our crops in the raw; but if we were to sell we'd realize about \$2,000.

So much for what one man has made of a run-down farm. Incidentally it is interesting to note that after the publication of Mr. Lighton's first article about Happy Hollow Farm, which appeared in a magazine, he received letters from all over the world—3,500 of them in all! And yet some people think there is no real general interest in farming.

Noted Women.

The Czarina and Her Sister.

"Uneasy lies the head that wears a crown", is a saying whose truth has been demonstrated many times in the history of this old earth,—once more in the story of Alix, yesterday Empress of all the Russians, to-day the wife of a man who is no longer Monarch. Perhaps the mere passing of a throne need not call for great commiseration—the one-time Czarina and the Czar too, may find in the days to come a peace which they have never heretofore known,—and yet during the weeks that have just passed not a little sympathy has gone out to the pathetic little Empress, shut up in her beautiful palace, with a suffering little son on her hands. For times of revolution are not too safe for royalty. There was no knowing, from hour to hour, what might happen to her nearest and dearest, and, at the first burst of revolution, the Czar was not with her. Since then both have been arrested and confined in the palace of Tsarskoe Seloe. It is believed that the influence of the Czarina was pro-German, and so, like the Queen of Greece, she has been looked upon of late as treasonous to her own country.

The Czarina—who has passed as "Czarina"—is, on the father's side, a German Princess, her mother, Princess Alice, daughter of Queen Victoria, having married the head of the House of Hesse Darmstadt. She has always been considered one of the most beautiful women in Europe, and her daughters share her beauty.

Since her marriage to the Czar, she has lived for the greater part of the time in the seclusion of the Czar's palaces, whose beautiful gardens could not, perhaps, afford the glad spirit of liberty which is owned even by a peasant who can roam where he chooses on the earth. Since the war began, however, she has helped to nurse the wounded in the military hospitals in Petrograd.

Her sister, Grand Duchess Elizabeth Feodorovna, has had a more colorful, and even more tragic life. She too, as may be seen by her name, married a Russian, the Grand Duke Serge, but he was murdered by revolutionists in February 1905, and since his death the Grand Duchess has devoted herself so unselfishly to others that she has become known throughout Russia as the "Angel of Mercy."

One of her first tasks was to care for soldiers wounded in the Japanese

War, and she herself founded a home for them near the city of Moscow.

The rest of the story is told by a biographer as follows:

After the marriage of her niece, the young Grand Duchess Maria Pavlovna, to whom she had been a mother, she left her palace in the Kremlin and went to live in a house in a quiet street of Moscow, where she gathered a number of ladies round her to form the nucleus of a community, which she called the Sisterhood of Martha and Mary. The name she chose for the community explains the object with which she founded it. The sisters were to pray and to be troubled about many things.

Nobody in Russia had ever heard of a member of the Orthodox Church joining any other order but the Basilian, and many people said that the community of Martha and Mary was the whim of a royal lady, and that doubtless she would soon be weary of it and resume her ordinary life in the world. What precisely she was aiming at nobody seemed to know.

"I was told," writes Rothay Reynolds, "that she spent much time in nursing disabled soldiers, that the beautiful young Princess Obolensky scrubbed the convent floors, that Princess Galitzin, another member of the community, had visited her parents dressed in the costume of a Catholic sister of charity, and this was all that the general public knew. Wanting to find out the truth, I visited the chaplain of the community, the Arch-priest, Metrophan Srebryansky, and questioned him. He was at first very reluctant to talk.



The Former Empress of Russia.

"The Grand Duchess shrinks from anything like publicity," he said, "and desires nothing better than to be allowed to work quietly and without attracting attention."

"I pointed out to him that English people were naturally interested in the life of a daughter of Princess Alice.

"Perhaps I may be allowed to tell you," he said, "that the Grand Duchess has left her palace for good. She lives here severely, and keeps the rule of the community exactly like the other

sisters. They rise at seven and at half-past seven office is said in church. After this they are engaged in various kinds of work until half-past twelve, when dinner is served. During the meal passages from the lives of the saints are read aloud. After dinner there is work interrupted at five and seven by prayer. Supper is at half-past seven. The sisters manage a home for disabled soldiers, a hospital for poor women, and a home for consumptives; they also have a dispensary at which medicines are given free, and they conduct a free library.

"I asked him if the sisters had taken monastic vows.

"The Grand Duchess and the Assistant Superior have taken the vows of poverty, celibacy, and obedience for life," he said very gravely; "the others have only been permitted to take vows for one year. If at the end of the year they desire to remain in the community, they can renew their vows for three years, then for six, and, finally, for life."

"In a word, she has founded a new religious order in Russia on the lines of the sisters of charity who work among the poor in this country.


"On the day that the Grand Duchess made the irrevocable vows, she went into the Church of the Kremlin, where her husband is buried, and remained long in prayer at his tomb. Devotion to his memory is the inspiration of the stern life she has adopted. In the bustle of the twentieth century she reveres her husband's memory in the same way as did Saint Anna Of Kashin five hundred years ago. The lament of that Princess of mediaeval Russia for her husband is



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Improved Early Ohio Seed Potatoes..... Peck \$1.00, bus. \$3.50  
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bus. \$3.25.  
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Select Yellow Dutch Onion Setts..... Lb. 35c., 5 lbs. \$1.70  
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Rennie's Mammoth Squash, specimens 403-lb. weight.. Pkg. 25c.  
XXX Scarlet Round White Tip Radish..... Pkg. 10c., oz. 20c.,  
4 ozs. 50c.  
XXX Melting Marrow Table Peas (dwarf)..... 4 ozs. 15c.,  
lb. 40c., 5 lbs. \$1.90.  
Round Pod Kidney Bush Butter Beans..... 4 ozs. 15c., lb. 55c.,  
5 lbs. \$2.40.  
Cool and Crisp Table Cucumber... Pkg. 5c., oz. 15c., 4 ozs. 40c.  
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5 lbs. \$1.90.  
Rennie's Fireball Round Table Beet..... Pkg. 10c., oz. 20c.,  
4 ozs. 50c.  
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oz. 30c.  
Rennie's Market Garden Table Carrot..... Pkg. 10c., oz. 25c.,  
4 ozs. 75c.  
Early Yellow Danver Onions, black seed..... Pkg. 5c., oz. 20c.,  
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King and Market Sts., TORONTO  
Also at MONTREAL WINNIPEG VANCOUVER

one of the most poignant passages of Russian literature, and the story of the widow who became a nun, one of the most beautiful and touching in Russian history. Perhaps it was the example of Anna that inspired the Grand Duchess Elizabeth to consecrate herself to the poor and the suffering."

**Hope's Quiet Hour.**

**Mighty to Save.**

The question—Who is this that cometh from Edom, with dyed garments from Bozrah? this that is glorious in his apparel, marching in the greatness of his strength? The answer—I that speak in righteousness, mighty to save.—Isa. 63: 1 (R. V.). The Royal Road of Salvation—The chief priests mocking Him, with the scribes and elders, said, He saved others; Himself He cannot save.—St. Matt. 27: 42.

"Sing, my tongue, the glorious battle,  
Sing the last, the dread affray;  
O'er the Cross, the Victor's trophy,  
Sound the high triumphal lay,  
How the pains of death enduring,  
Earth's Redeemer won the day."

The prophet Isaiah saw from afar the Great Victor, marching in the greatness of His strength, mighty to save. His glorious apparel was dyed with crimson stains, for He had trodden the wine-press alone. There was none to help, therefore his own arm brought salvation. St. John, gazing into the divine mysteries, also had a vision of One going forth conquering and to conquer. "He was clothed with a vesture dipped in blood; and His Name is called The Word of God."

We are so accustomed to think of the Saviour's garments as crimsoned with His own blood, that we scarcely notice Isaiah's declaration that the dyed garments were stained with the blood of enemies trampled in fury (verse 3). The world-idea of a great conqueror, who delivers his own people by mercilessly crushing other nations, used to be accepted as reasonable. Now—in the light of Christ's Life and Death—we brand such lawless empire-building as "piracy."

The prophet Hosea proclaimed this message from God: "O Israel, thou hast destroyed thyself; but in Me is thine help. I will be thy King; where is any other that may save thee?"

Where is any other with power to save from sin? We think of the great leaders who have arisen from time to time, and we see that they are only men. They are weak and faulty, we cannot put our whole trust in them. They can help their fellows a little, but they are not "mighty to save."

We have not to choose between many who offer salvation. St. Peter threw down the gauntlet for his Master with the bold challenge: "Neither is there salvation in any other; for there is none other name under heaven given among men, whereby we must be saved." St. Paul declared that the name of JESUS is "above every name." St. John saw that name written high in heaven; "KING OF KINGS, AND LORD OF LORDS."

The challenge still rings out. After nearly two thousand years no other man has been found able to save men from their sins. Study the records of Christianity and you will see that Christ has made good His claim to save the lost. No other man has claimed and won the first place in the hearts and lives of a "great multitude, which no man could number, of all nations, and kindreds, and peoples and tongues," who are ready to echo St. Paul's words: "To me to live is Christ."

No other man can stand as an equal beside JESUS of Nazareth. If He be not Mighty to Save, then no other man can be "an hiding place from the wind, and a covert from the tempest; as rivers of water in a dry place, as the shadow of a great rock in a weary land."

What is the Royal Road of a true Victory? Look at Napoleon, unconcernedly crushing millions in the attempt to establish his own glory. Was his life a victorious one, or was it a disastrous failure?

Who—who have caught something of Christ's point of view—can see nothing to admire in such self-seeking ambition. One who is really mighty to save must "save others," not himself.

So we are drawn, as often before, to the Cross of Christ and wonder at the blindness of the men who—trying to heap shame on the Crucified—are really proclaiming Him "Mighty to Save."

They cry in scorn: "He saved others!" Surely that was a glorious thing to do. "Himself He cannot save!" In the search-light of this war we can see that taunt to be (like the crown of thorns) a glory round His head.

"He saved others by the sacrifice of Himself." Do we despise or honor men who make the supreme sacrifice for the sake of others? Yesterday I read of the gallant death of a young balloon-commander. His balloon was in flames and he waited until his air mechanic had escaped, sacrificing his own life in consequence. He saved another, therefore, he could not save himself. Those words, once said in mocking scorn, might be written in golden letters on many a marble cross.

In the clear light which flows from the Victor, on Calvary, we see selfish ambition stripped of its tinsel finery. If we are determined to secure our own safety we may escape muck danger and pain—but we shall fail to live victoriously. No one is proud of being a "slacker," even though he may have a very easy and comfortable time.

If our Lord had chosen to follow up the triumph of Palm Sunday He might have gained great earthly power; but He voluntarily laid down His life. It was not the nails in hands or feet, but the mighty power of Love that held Him on the Cross, when challenged to prove Himself the Son of God by coming down. He could have saved Himself—but He chose to save the world, instead.

Listen to the Royal offer of One mighty to save: "Look unto Me, and be ye saved, all the ends of the earth."

Are you accepting that offer, or are you concentrating all your attention on the winning of earthly prosperity?

"Christ is not valued at all unless He be valued above all," said S. Augustine. Has He any place in your life? Has He the first place? Many are like the soldier who said:

"We only thought of You on Sunday—  
Sometimes perhaps not even on a Sunday,

Because there's lots to fill one's life."  
Christ died—but He is not dead. He is still Mighty to Save—to save you, if you will come to Him and accept the Life He offers.

DORA FARNCOMB.

**A Country Woman.**  
"A Country Woman," who—several years ago—started the "Advocate purse," has again sent \$5.00 for the needy. Her "zeal hath provoked very many," and I know she rejoices over the harvest which has sprung from her first anonymous gift. Many sick and needy people have reason to join with me in thanking her. HOPE.

**The Dollar Chain**

A fund maintained for the soldiers and all who are suffering because of the war.

Contributions from March 16 to March 23: J. E. Jackson, Elia, Ont., \$2.50; Mrs. John Bahen, Aspdin, Ont., \$1.00; M. J. P., \$3.00; J. R. O., Brown's Corners, Ont., \$2.00; David Patterson, Caledonia, Ont., \$10.00; Maggie Patterson, Caledonia, \$5.00; Geo. T. Ham, Bath, Ont., 50 cents; Arthur Wilson, St. Mary's, Ont., \$1.00; Margaret Hobkirk, Hensall, Ont., \$1.00; "Patient," Stratford, 25 cents; Annie L. Sturdy, Auburn, Ont., \$10.00; Mrs. M. McNaughton, Ilderton, Ont., \$1.00; F. C. Wagg, Mindemoya, Ont., \$3.00.

For Byron Military Hospital: Jas. E. Jackson, Elia, Ont., \$1.00; Eli Neff, Port Colborne, Ont., \$10.00; Ezra Neff, Port Colborne, \$1.00; Maggie Neff, Port Colborne, \$5.00; Donald Campbell, Glanworth, Ont., \$1.00; Jas. Cloakey, Belgrave, Ont., \$5.00; M. E. McLaurin, Dalkeith, Ont., \$1.00.

The total for the Byron Military Hospital to March 23, was \$186.50 leaving \$313.50 still to be gathered for the equipment of the Farmer's Advocate Readers' Ward.

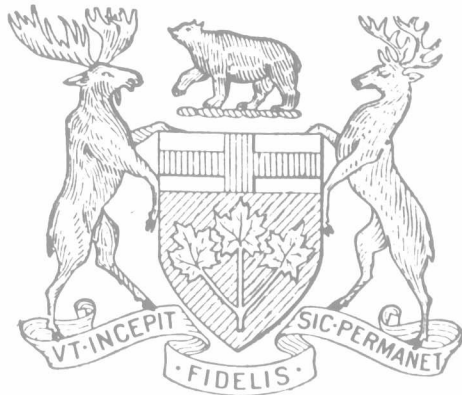
Total amount previously acknowledged..... \$4,075.75

Total to March 23..... \$4,140.00

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



Department of Agriculture



Province of Ontario

ONTARIO

# Will you want labor this Summer?

Cut out this form — fill it in and Mail it to-day to Trades & Labor Branch, 15 Queen's Park, Toronto.

TRADES AND LABOUR BRANCH  
**Ontario Government Public Employment Bureaux**  
 15 QUEEN'S PARK, TORONTO

No. \_\_\_\_\_ Date \_\_\_\_\_

**APPLICATION FOR FARM HELP**

SIGNATURE OF FARMER	POST OFFICE	COUNTY
What is your nearest Railway Station?	Acres in farm	What kind of farming practised? Mixed..... Fruit..... Dairy.....
Mark (X) after help required		
SINGLE MEN Experienced (Plough, Milk, etc.)..... Partly experienced (handle Horses)..... Inexperienced..... Business Men (3 weeks)..... High School Boys.....	MARRIED MAN AND WIFE Experienced..... Partly experienced..... Inexperienced..... WAGES—If Wife works in your house, \$..... If separate cottage is provided, \$.....	
WAGES—Including Board, Lodging and Washing, \$.....		
Length of time help is required..... months, from.....		
Age Limit.....		
All engagements subject to two weeks' trial with wages, and railway fare—if advanced. High School Boys will all be 14 and over, and will be available for from 2 to 5 months after April 20th.		

3FA1

The Ontario Government will make every possible effort to supply you.

## High School Boys Are Being Enlisted in Large Numbers—

of the right kind of farm service. Last year hundreds of bright young men from town and city schools did splendid work on Ontario's farms. This year, the Department of Agriculture is lining up this class of help very strongly, and thousands of enthusiastic young men, with more or less farm experience, will be available for Ontario farmers.

## Here is What the Department of Agriculture is Doing to Get You This Help.

We are carrying on a vigorous campaign through the Ontario Government Employment Bureaux, through the High Schools, through the newspapers, and through many voluntary organizations in the cities and towns, both inside and outside the Province. Great care is being taken to secure workers who mean business, such as retired farmers, etc., etc. Remember, however, that the supply of first-class, experienced men, will be limited, so if you can use partly experienced, or inexperienced men, or business men (three weeks), or High School boys, please ask for them. Be sure to get your application in early. Fill out the above Form very carefully and as fully as possible. Any further information you wish to give us, kindly write on a separate sheet of paper. We await your answer.

# ONTARIO DEPARTMENT OF AGRICULTURE

SIR WILLIAM H. HEARST,  
Minister of Agriculture

Parliament Buildings, Toronto



# Forward to Victory

## Mobilize Farm Forces for Production!

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- Save the choice calves
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- Keep an extra sow
- Rear another brood of chicks

Save time and labour by planning the year's work

Every extra effort helps.

**REMEMBER** it always pays to

- Test seed for vitality
- Sow clean, plump seed
- Treat wheat, barley and oats for smut
- Sow only on properly prepared land
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**NO** matter what difficulties may face us, food production is a supreme duty.

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A grand opportunity.

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### The Ingle Nook.

[Rules for correspondence in this and other departments: (1) Kindly write on one side of paper only. (2) Always send name and address with communications. If pen name is also given, the real name will not be published. (3) When enclosing a letter to be forwarded to anyone, place it in stamped envelope ready to be sent on. (4) Allow one month in this department for answers to questions to appear.]

During the past week I have noticed, when in conversation with several women—at different times, too—that the talk seemed to turn, of itself, to gardening. And these were not country women, but city women. Perhaps the endeavors made of late to stir up "backyard gardening" on city lots had something to do with it, and yet, if I remember rightly, I have heard city women talk in a similar fashion in past years, when there was no war and no agitation to make every foot of land count. Perhaps, as spring comes on, there is a primal urge everywhere. As the sap rises in the tree trunks, creeping upwards silently to the swelling buds, as the soft sounds of thawing are heard everywhere and a new gurgle comes into the rivulets and a new light in all the air, there seems to come also into the human heart an impulse to be up and doing, an impulse to create and set new forces moving which evidences itself most naturally, at least in the majority of folk, in the wish to make a garden. Indeed, I have come to the conclusion that the longing to cooperate with the warm, brown earth in growing things is one of the primal characteristics of wholly normal folk, and that there is a trace of abnormality in those who take no interest whatever in gardening, and who think more of soiling their hands than of seeing vegetables and flowers grow fence-high in the little, back, home plot. Perhaps, however, that does not always stand. The lack of interest in some people may be wholly due to the simple fact that they never "got started at it." Two of the most enthusiastic gardeners I ever knew were a man and his wife who for years insisted that it wasn't worth while to drudge in a garden when one could buy things so easily on the market. You see it took a trial to make them realize that there is more in gardening than just producing things to eat; splendid though that may be.

Two of the women who talked about gardening this week live in a big apartment house, without even one square foot of land on which to plant a morning glory. One of them expressed the wish that she could buy a half-acre lot somewhere in the suburbs where she could muddle with plants, even more than enough to supply the table for herself and her husband. "I know I should love it," she said, "and I feel that I could make it pay." I believe she could, too, for she is very capable. She makes a success of everything she touches—cookery, sewing, teaching a mission class, and keeping the books for the biggest Red Cross branch in Western Ontario. Capability in any one thing is very likely to spell capability in others. I hope that she may be able to gratify her wish some day.

And now to a chat about the more practical sides of the subject.

Whenever you see a poor garden, with sparse, half-starved looking plants, you may wager your last dollar that two faults are at the back of the failure: (1) the ground is not rich enough; (2) there has not been enough surface cultivation.

It is absolutely necessary that the soil be fairly rich if things are to grow. After all, plants are very much like animals; starve them and they become thin and puny. They need drink, too, and sometimes, in periods of drouth, this becomes a problem. It is of no use to water them unless one can put on enough to sink right down to the roots;—but here is where the scientific touch comes in: Stir the hard, dry surface of the soil and the moisture (which is always beneath) is held about the roots of the plants instead of evaporating into the air as it would if there were no such dust mulch. In dry weather the surface of the soil should be stirred once a week at least, with a hoe or little rake. Where large leaved plants, such as cabbage, are planted, even more frequent cultivation may be needed, as the big leaves evaporate moisture very rapidly. After every rain the top of the soil should be well stirred, and after every watering with a watering-can some dust should be strewn over the top of the moist "patch" about each plant. If,



however, surface cultivation is carried on persistently, very little watering will be needed. Weeding will also be reduced to almost nothing for the simple reason that the weeds will never be permitted to show their faces. It is a great mistake to permit them to grow inches high, then pull them out, for as long as they grow they are drawing to themselves moisture and nutrient that should be going to the roots of the "garden stuff."

Just one point more before leaving this: When enriching the soil of a garden don't use chemical fertilizers. Use old manure, leaf mould, and the rich, rotted material of a compost heap. I think this has been told one million and five times in Farmer's Advocate pages, but perhaps it will bear telling again:—raw, fresh manure burns and destroys nearly all garden plants. Manure must be old and well mellowed. . . . Leaves of all kinds raked up and dug into the garden every fall will make a splendid garden soil in time; so will repeated applications from the compost heap.—How to make a compost heap?—It's the easiest thing in the world, if you keep at it. Don't waste a weed or a bit of refuse. Pile it all in some out of the way corner—weeds cut out from the borders (if any), lawn-clippings (unless they are used for poultry) garbage from the house, etc., keeping all moist by repeated applications of water, dish-water, etc. When rotted to a rich, black mould, put it on the garden. A good idea is to have a large box-like enclosure, with a close lid, for the compost heap. This will keep the moisture in and will prevent flies from gathering. Harwood ashes, too, should never be wasted, but should be applied to the garden and about fruit trees.

Another frequent cause of failure in gardens is bad planting. In the first place the seed-bed must be prepared properly, with a fine, soft, friable surface. Seedlings are delicate little things; they are the babies of the plant world and require tender care until they are strong enough to stand upon their own legs. They simply can't force through hard, coarse rubbings of earth. The seed-bed, in short, must be worked well to a good depth, and the top must be well pulverized with a fine rake.

Another mistake often made is in the planting of the seed. Fine seeds are covered too deeply with earth and never come up at all—poor things, poor things! while large seeds are put too near the surface and grow up spindling and weak. Small seeds, such as carrots, cauliflower, lettuce, onions, radish, Brussels sprouts, cabbage and celery need from a quarter to half an inch of soil above; larger ones, such as beans, peas and corn need a depth of from one to two inches, while the vines—melons, cucumbers, squash, pumpkins and citron—are planted from one-half to one inch in depth.

A point worth noting is that the surface of the freshly raked soil should dry several hours before planting is attempted. Otherwise it is likely to dry out into hard, little lumps which are rather unmanageable if the seeds have been put in.

When planning your garden do not think of having it in raised beds; which evaporate the moisture. Have it on the flat and plant in rows running from north to south. If space is a great consideration cucumbers, tomatoes, etc., may be planted along the fence and trained up to it. A little extra fertilizer should be worked in wherever gross feeders, such as vines, are to be planted, and in the bottom of the celery trench.

Planting time will, of course, depend upon the latitude in which you live. Usually the directions on seed-packets are quite explicit enough to be worth following closely. Cabbage, cauliflower, early beets, tomatoes, peppers, and egg-plant may be started in the house, but many prefer to buy the plants direct from a professional grower at setting-out time. In any case it is always wise to buy one's seeds early, then one can plan the garden to advantage.

**Discolored Ceiling.**

The ceiling of a room that had been plastered and then papered became damp from brine that had leaked through from a floor above. When the paper was removed the ceiling was washed and re-papered. However, the new paper becomes damp in moist weather. Would you kindly suggest any method whereby

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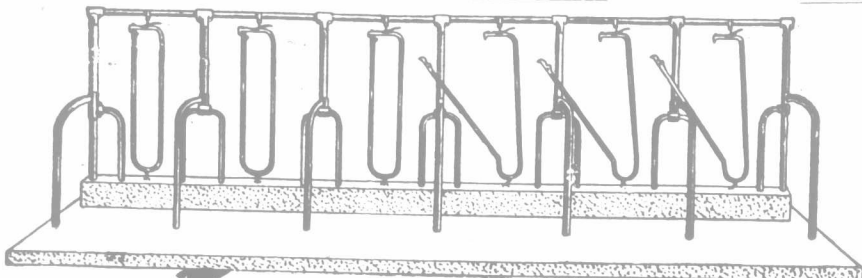
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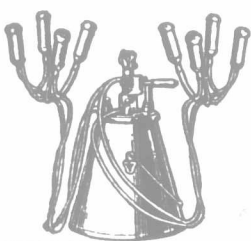
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 Mechanical Milker**

is taking the place of the farm help they can no longer get, and enabling them to keep their herds together and take advantage of the prevailing high prices.

Gentlemen:—

R. R. No. 3, INGERSOLL, ONT.

I have used one of your "Empire Milkers" since early last April, on from 30 to 45 cows continually, and can find no injurious effects on the cows. They seemed to like it from the first time, and I think gave rather more milk than with the best hand milking. Easy cows seemed less inclined to leak, and hard ones gradually became easier. I have sent the milk a number of years to the Borden Condenser Company, and have had no complaints. I have just followed the instructions for keeping it clean. I could not have done without it this summer, as help is so scarce. I may say further that I have been milking cows for over 50 years, and have been in the milk business nearly that length of time. I have had no previous experience with milking machines, but have had very little trouble or expense for repairs. I have used it on heifers never milked before, with perfect satisfaction, no matter how small their teats were.

The Milker has been of more practical value to me than I ever expected.  
 WILLIAM COLYER.

We will be glad to send you Booklets showing exactly how the Empire Mechanical Milker works, and telling the experience which dozens of prominent dairy farmers have had with it. Address Dept. C

The Empire Cream Separator Co. of Canada, Limited,  
 50 MONTREAL. TORONTO WINNIPEG.

the tendency to dampness could be remedied?

York Co., Ont.

NORMA.

Upon enquiring I can find out about nothing that will do away with the trouble except to have the spot re-plastered. Has any reader had a similar problem to deal with?

#### Cooking Suckers.

Dear Junia.—I should like "A Country Lass" to try the following method of cooking suckers, which is a favorite way in our family either for immediate use or for canning. The bones will be soft as in canned salmon. Use  $\frac{1}{2}$  gallon jar, place layer of fish on bottom, sprinkle with salt, pepper and dry mustard, and dot with bits of butter. Repeat until jar is full. Pour over a half cup of good strong vinegar. Bake four hours if fish are small and longer for larger fish.

Muskoka, Ont.

L. M. LEE.

#### Stiffening a Hat.

Dear Junia.—Could you please tell me how to re-stiffen a black straw hat that has gone limp? Hat enamel has been tried, but is not successful. Thanking you in advance.

Simcoe Co., Ont.

REDWING.

Scientific American gives the following method: After pressing the hat into the required shape stiffen with a size made from the best glue and dry thoroughly. If a water-proof stiffening is required use a mixture of shellac 10 parts, resin 2 parts, Venice turpentine 2 parts, castor oil one-third part, alcohol 34 parts. After the hat is stiffened with the glue apply hat enamel or gilt-edge liquid shoe polish.

#### Easter Letter from Lankshire Lass.

Dear Junia.—Easter greetings to each one of the many readers of the good old Farmer's Advocate. How far it goes with its help and cheer. So glad I am to renew our subscription. How many kind friends it has brought to the Lass; may it bring many more, for how the kind letters and many favors have helped me. Yes, how thankful I am for it all, and each day look to see if mail comes from any of you. Dear friends, I wish to write each of you but have done less writing of late. All through this cold winter your kindness cheered me so, hoping you who can will not cease to write to me. So many friends are going away west from here, I shall miss them so, but one friend never leaves. At all times He carries, and what comfort to hear the still, small voice say: "Lo, I am with you always," it seems like a little bit of heaven below to feel His blessing on us, and helps us press on. Every one seems so busy now and in a rush to accomplish great things in the world, and there is much to be done. Oh, to be well and able to help on too! The Red Cross is doing wonders in helping the brave soldiers, and how they need the comforts sent them by willing helpers. What good dear Hope is doing through her writings; there is help for many needy ones; and faithful Junia too is doing so much to help. I hope this will be in before Easter so each one gets my greetings in time.

Dear Junia, you suggest getting the record at a music store, but our dealer said he could not get it, but to try others for one. It's a blue-amberol cylinder record called "Bonnie Leezy Lindsay." Would be glad if any one could tell me where it could be got, as I had a dear girl chum of that name, so am more anxious for one of it for her sake. Now she is gone I miss her so, and besides it is a pretty record of Harry Lauder. Well, my flowers are here yet, of course Jack Frost nipped some of them, but those left are so cheery. Kind Quebec friend, thank you for the seeds, hoping they grow, and so glad for Australian letter and Rodney friend. Thank you dears, each one. Hoping this Easter-time will find each one able to enjoy God's blessing, and that each one can trust and not be afraid, for His grace is sufficient for all. He is altogether lovely; none can with Him compare, and oh the help He gives us, when we go to Him in prayer.

Your shut-in friend,

LANKSHIRE LASS.

Wellington Co., Ont.

#### Seasonable Cookery.

Prune Brown Betty.—Grease a baking dish and sprinkle it thickly with bread-

crumbs. Add a layer of prunes which have been soaked, simmered until tender and stoned. Next add a little sugar, then bits of butter and spices. Proceed in the same way until enough layers have been put in to fill the dish, keeping buttered crumbs for the top layer. Pour in milk to reach the top layer. Let stand half an hour, then bake until the top is brown. Serve hot with cream as a pudding. Entire wheat breadcrumbs are nicest for this. Nutmeg and cinnamon are the best spices.

Prune Jelly.—Take  $\frac{1}{2}$  lb. prunes, 1 cup water, rind of half a lemon, 1 inch cinnamon stick,  $\frac{1}{4}$  cup sugar,  $\frac{1}{2}$  table-spoons gelatin, 1 cup fruit juice, some chopped nut meats. Soak and stew the prunes, adding the grated lemon rind, cinnamon and sugar. Cook until tender, strain off the liquid, and rub the prunes through a sieve. Crack a few of the stones and add to the pulp. Put the liquid from the prunes in a pan, let heat, add the fruit juice, and dissolve the gelatin in the hot liquid. Pour at once into the pulp and stir occasionally until nearly cold. Rinse out a jelly mould with cold water and decorate with almonds. Fill up with the jelly and leave in a cold place until firm. Serve with whipped cream.

Caramelized Apples.—Six apples, 1 cup brown sugar, 2 tablespoons butter, 1-3 cup water. Core and halve the apples. Lay them cut side down in a stewpan, sprinkle the sugar over, then add the butter and water. Cover and cook over a slow fire until the apples are tender and the sugar and butter have formed a caramel sauce. Serve hot or cold, with or without boiled rice.

Potted Liver.—Wash and cut up 2 lbs. beef liver, cover with cold water, let come to a boil and simmer until tender. Press through a potato ricer; add  $\frac{1}{2}$  cup butter,  $\frac{1}{2}$  teaspoon salt and a dash of pepper. Beat all to a smooth paste. Mince a good-sized onion and a few sprigs of parsley and stir in. It will keep several days in jars in a cold place. Nice for warming up to serve on hot, buttered toast.

Delicious Waffles.—Three cups flour,  $\frac{1}{2}$  teaspoon soda (level), 1 teaspoon salt, 1 tablespoon sugar, 2 egg yolks, 2 cups sour milk, 2 tablespoons melted shortening, stiffly beaten whites of the 2 eggs. Sift, then measure the flour, level. Add to it the soda, salt and sugar. Add the well-beaten egg-yolks, then the milk, then the melted shortening. Beat thoroughly and fold in the stiffly beaten egg whites. Cook on well-greased waffle irons until brown and crisp, and serve with maple syrup or honey.

To Make Tough Round Steak Tender.

—To make a thick, round steak tender, wash it quickly in cold water; cut it into medium-sized pieces, after taking out the round bit of bone, and preserve the marrow in it, to put into your frying fat for flavor. Lay the pieces in a shallow pan with just enough cold water to cover well; let them lie twenty minutes. Meanwhile, prepare a covered vessel of hot fat—one-half lard and one-half beef-tallow. Sift flour into a dish. After twenty minutes, take the meat out of the cold water, and lightly press each piece between a dry cloth; sprinkle with salt and pepper, flour well on both sides, then drop into the hot fat, piece by piece, and fry until thoroughly browned.

Corned Beef Hash.—To each cupful of chopped meat add an equal quantity of cooked potatoes minced very fine, but not put through the chopper. The meat should be nearly all lean, but a small amount of the corned beef fat gives a fine flavor. Add to the above quantity a level tablespoonful of melted butter and about two tablespoonfuls of milk. When the frying-pan has been well greased by melting in it a generous tablespoonful of butter, lard or other fat, turn in the hash, and pack it down flat. Allow it to brown well on one side, and turn in sections with the cake-turner to brown on the other. Ham may be used in the same way.

#### The Scrap Bag.

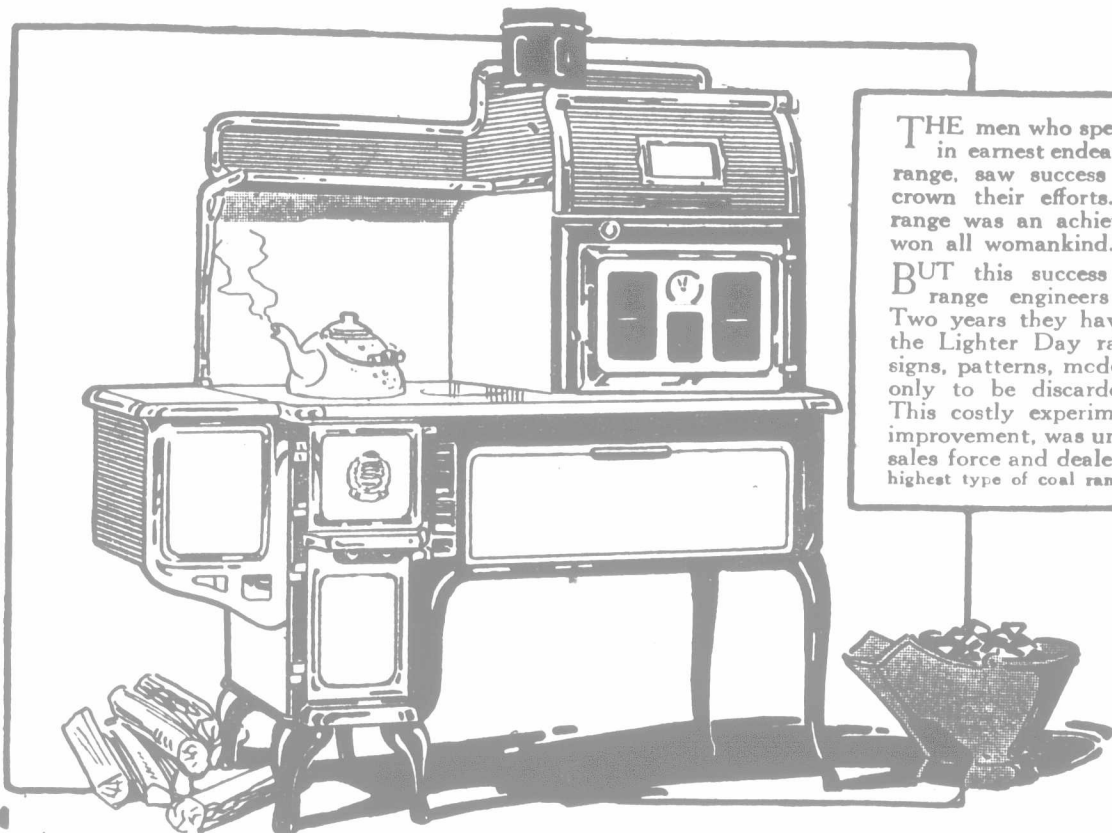
##### Cook Potatoes With Skins.

Boil potatoes with the skins on, and peel quickly, dropping each into a hot dish as soon as peeled. In this way much less of the potato will be wasted, and more of the food value and flavor will be retained.

##### A Feather Pillow Solution.

When the days become warm and bright renovate the pillows. One way to





THE men who spent years of their lives in earnest endeavour to make an ideal range, saw success beyond all thought crown their efforts. The Lighter Day range was an achievement. As such it won all womankind.

BUT this success only spurred these range engineers to greater effort. Two years they have toiled to improve the Lighter Day range. Countless designs, patterns, models, have been made, only to be discarded for better ideas. This costly experiment, this search for improvement, was undertaken to give our sales force and dealers in every town the highest type of coal range that can be produced.

# Clad in blue and white this NEW Lighter Day Coal Range

THE Lighter Day gave to women a handy-height oven for baking with coal.

That was two years ago. In the days before coal, stoves had high ovens. But when coal came for cooking, and for forty years after, range-makers could not make a coal range with an oven at handy-height.

For forty years women toiled at bend-over ovens. Fine-looking ranges they had, good in many ways—well-built, and durable—but BACK-BREAKERS every one of them. A day's baking was a hard day's work. The stooping, stooping, stooping, made baking day a day of aching backs. It was not coal alone that went into these old style ranges. Health, strength, and youth were the fuel consumed.

### Science Turned to Kitchen Reform

Clare Bros.' engineers solved the baffling problems of heating a handy-height oven with coal. The Lighter Day was invented. A lighter day dawned in thousands of Canadian kitchens.

The Lighter Day was a marvel range. Engineering skill never did more for womankind.

To Canada's women this Canadian invention seemed perfect. They have written it in letters, thousands of them. But Clare Bros.' engineers studied, criticized, improved. There followed two years of constant experiment, countless tests. Thousands of dollars were spent on new designs, new inventions, and finally new patterns.

### To-day a New Lighter Day Appears

If the old Lighter Day was a marvel range, see now what science has created. Every dollar spent, every month of experimenting, is more than repaid by the labour-and-money-saving improvements now added to the Lighter Day Range.

### Cut the Cost of Fuel

Lighter Day engineers have invented an entirely new way to avoid loss of heat. Coal never was known to produce heat at such low cost. The oven is ready for baking a few minutes after the fire is started. The fire is under perfect control, holding the oven temperature steady for hours. Lighter Day construction will upset all old ideas of range building. It will save money in thousands of Canadian homes.

### No More Blacklead

The new Lighter Day is clad in blue and white porcelain enamel. Specially toughened enamel had to be produced. To make a range that would require no blacklead, new processes of enamelling had to be found. The cooking top is polished brighter than steel. Other cast parts are japanned. A damp cloth will clean any part of this wonderful range.

### Greater Cooking Capacity

The cooking top is made wider and deeper. There is room at the back for kettles or saucepans that require only moderate heat.

The oven has been moved back to leave a shelf. Now one may draw out dishes for basting or testing. The warming closet

is directly heated. It serves as a second oven for baking pies while the roast is cooking in the oven. In addition to the four outside pot-holes, there are holes in both the oven and warming closet. Turnips, cabbage or other strong vegetables may be shut in while being cooked. The large hot water reservoir is of porcelain enamel.

### No Steel Parts Exposed to Rust or Intense Heat

To make a range that would be almost everlasting called for big changes in construction. No steel range ever made could resist the wearing action of heat and rust. The flues rusted out or burned out. The Lighter Day is built with flues of porcelain enamel—absolutely proof against corrosion.

The fire-box is lined at the back with four ordinary fire-bricks, such as are used in smelting furnaces. If they should become broken, they may be replaced anywhere for a few cents.

### Right or Left Oven

The New Lighter Day has the oven at either the right or left side. Ovens are made 18 or 20 inches wide. Pot-holes 8 or 9 inches.

### Clear Illustrations of the New Lighter Day

If your local range dealer does not sell the Lighter Day range, write for a handsome folder showing every labor-saving feature of this marvel range. Every woman should see for herself what we have done to lighten her kitchen work. Mention this paper and your copy will go to you promptly.

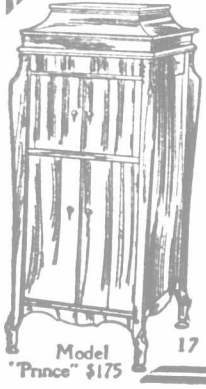
# new LIGHTER DAY range

CLARE BROS & CO. LIMITED PRESTON, WINNIPEG, VANCOUVER



**Don't put your money into any talking machine**

until you have fully investigated the Phonola—the machine that is all but human. Plays all disc records—and plays them better—positively without any scratching noises. Proof of Phonola superiority lies in the instrument itself—words cannot tell it. Call at local dealers and hear it.



Made in Canada—you pay no duty. Prices range from \$15 to \$250.

Write for free descriptive catalog and our new catalog of records.

**DEALERS:—**  
We have a fine proposition for dealers in unrepresented towns. Write for details.  
The Pollock Mfg. Company, Ltd.,  
Kitchener, Ontario

Model "Prince" \$175

**Spend a Cent Raise the Chick**  
One cent a chick is all it costs for three weeks' feeding with

**Pratt's Baby Chick Food**

A complete balanced ration, ensuring healthy, rapid growth and vigorous chicks.

Sold on a Money Back Guarantee.  
14-lb. bag, \$1.00; 6½-lb. pkg., 60c.; 3-lb. pkg. 25c.  
At your dealer's.

Write for FREE Baby Chick Book.  
**PRATT FOOD CO., of Canada, Limited**  
68 J. Claremont St., TORONTO. P-10

**City Hospital School of Nursing**

Registered by the University of the State of New York. Course, 2 years and 6 months, including three months' preparatory term. Hospital bed capacity 1,000, affording exceptional opportunities for study. Minimum Requirements—One year of High School or equivalent. Allowance—\$10 per month first year, and \$12 per month remainder of course. Uniforms are furnished. Nurses' Residence—Most desirable location, homelike atmosphere. For information, address: **Principal, City Hospital School of Nursing, Blackwell's Island, New York City.**

**SEED BARLEY, O. A. C. NO. 21**  
Tests 50 lbs. per bushel. Price, \$1.50 per bushel. Bags free.  
**JOHN TAYLOR, JR., R.R. No. 4, Galt, Ont.**

remove the feathers so that the ticks may be washed is to provide a bag, rip one end of the pillow and baste it roughly along to the bag, then pour out the feathers and tie up the bag until it is time to return them. Another method which may be used by anyone who owns a vacuum cleaner is the following, given by a contributor to McCall's Magazine:

Whenever you wish to transfer feathers from one pillow-tick to another, take your electric vacuum cleaner, remove the dust-bag, and tie your empty tick in its place. Then rip just enough of an opening in the end of the tick containing the feathers to allow it to slip over the suction end of the cleaner, first removing the sweeper-brush, if it contains one, and tie this tick tightly around the opening. Turn on the current and the cleaner will draw the feathers into the empty tick without spilling. Tie the ticks very tightly over the openings, so that the air pressure will not force them off.

**Boiled Rice Hint.**

When boiling rice add a teaspoon of lemon juice to the water, and the kernels will be much whiter.

**To Keep Wool Blankets Soft.**

When washing wool blankets never rinse them in clear water. Rinse them in warm water in which a little good, white soap has been dissolved.

**Current Events.**

Seven United States seamen were drowned when the steamer Healdton was torpedoed off the Dutch coast.

President Wilson called an extraordinary session of Congress to deal with pressing questions due to the war.

The Provisional Government of Russia issued an order for the arrest of Nicholas Romanoff and Alexandra Feodorovna.

Premier Lloyd-George telegraphed the Russian Premier that he believed the revolution in Russia to be the greatest service the Russians had yet rendered to the Allied cause.

The German withdrawal in the North of France, which began on February 7th but has been carried out with increasing rapidity during the past three weeks, seems to be halting somewhat in the vicinity of St. Quentin and Laon, where the Germans are again showing fight. During their retreat over 500 square miles and many villages fell into the hands of the Allies, who pursued hotly, bombarding as they went, but the Germans destroyed buildings, fruit-trees and even shade trees as they went. On March 18th a violent offensive was launched at Verdun by the Crown Prince, but the French have again been able to withstand. Heavy fighting has also taken place again in Belgium.

**NOTICE To Stallion Owners**

Stallion owners having horses requiring inspection, should make application on or before **APRIL 4th**. Inspectors will be sent commencing **APRIL 7th**, to those owners who have made application at the proper time.

R. W. WADE, Secretary,  
Ontario Stallion Enrolment Board, Parliament Buildings, Toronto.

**CALDWELL'S**

**Instead of Milk Feed Caldwell's Cream Substitute Calf Meal**

Your calves will thrive just as quickly and the cost of raising them will be much less.

This Calf Meal is very nourishing and easily digested. It contains 19% protein, 7% fat and 53% carbohydrate.

Order a 100 lb. sack or more from your feedman. Do it now!

The Caldwell Feed & Cereal Co., Limited  
Dundas, Ontario



**STANDARD FEEDS**

**Crops Must be Bigger**

**FERTILIZING, THE ONLY SURE WAY**

No matter what kind of soil you have, or what kind of crops you want to raise, fertilize your fields this year with

**"Best-by-Test" FERTILIZERS**

We can supply you with just what you need, at very reasonable prices, and guarantee strength and quality of our chemicals. If you want information of any kind, regarding fertilizing your farm, write us. We

freely and gladly advise you as to what kind, and how much Fertilizer you will require. A valuable booklet on the subject of Fertilizer sent free on request.

Local Agents Wanted

**Canadian Fertilizer Co., Ltd.**  
12 Market Chambers, Chatham, Ont.



**SOW SIMMERS SEEDS**

Established 1856  
Our handsome Spring Catalogue now ready. A copy will be mailed free on request.

**J. A. SIMMERS Limited**  
Bulbs, SEEDS, Plants  
Toronto, Ont.

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

**"The Ontario Farmers' Own Organization"**

There is a possibility of our Cement prices advancing after March 29th, and we would therefore urge you to send in your orders as soon as possible.

If our coal estimate is large enough, we hope to quote most attractive prices on this commodity for Summer delivery. We have heard from a number of farmers, but there are still a great many we would like to receive estimates from before setting our prices.

As anticipated, Coal Oil and Gasoline have advanced one cent per gallon. The oil market is strong.

We are now in a position to handle your butter and eggs. Get our prices before disposing of same elsewhere. When shipping your produce, always send us a statement of same by mail.

Farmers having seed grain or potatoes for sale may forward samples to this office stating varieties, price and quantity.

We have about 600 bushels of American White Beans at \$7.60 per bushel; also some White Normandy Oats at \$1.02, and O. A. C. 72 at \$1.05, all f. o. b. Goderich, Ont. Bags extra.

Could you give us any idea as to your probable requirements in potatoes?

We are in a position to supply groceries, implements, fertilizers, ground limestone, oils, etc. Get our prices.

Our supply of Seed Corn is almost exhausted.

**THE UNITED FARMERS' CO-OPERATIVE CO., LTD.**  
110 Church St., Toronto, Ont.

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



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.

BARRED ROCKS—MY ROCKS WERE FIRST winners at Toronto, Hamilton and London Shows. Stock and eggs for hatching at moderate prices. L. H. Kerns, Freeman, Ont.

BARRED ROCK EGGS FROM BRED-TO-LAY trap-nested stock, which have size and quality combined. Our stock have free range; should hatch well. Eggs, \$1.00 per 13; \$6.00 per 100. Biggar Bros, Oakville, Ont.

BARRED ROCK COCKERELS FOR SALE—Write for free circular and prices. John Pringle, London, Ont.

BARRED ROCKS—GRAND LAYING strains. Cockerels, pullets, eggs. Prices right. Central Poultry Yards, Colborne, Ont.

BUFF ORPINGTONS, WHITE WYANDOTTES Imported and "International Laying Contest" strains. Eggs, \$3 per thirty. Express prepaid. Buff Orpington cockerels \$3. "Ingliside Farm", Ancaster, Ont.

BLACK LEGHORNS—WINNERS CANADA'S best shows. Eggs, \$5, \$2.00 and \$1.50 per fifteen. Also stock. Fred de Gex, Kerwood, Ont.

BUFF ORPINGTON—HATCHING EGGS \$1.00 for 15. Nine chicks guaranteed. Extra heavy layers and silver cup winners. Hugh A. Scott, Caledonia, Ont.

CHOICE S.-C. BROWN LEGHORNS, S.-C. Reds. Cockerels, \$2 each. Wm. Bunn, Denfield, Ont.

EGGS FOR HATCHING, FROM COCKEREL and pullet matings. Barred and Partridge Rocks. Several high-grade prize-winners are in these pens. Eggs \$3.00 per 15, 30 per \$5.00. Also one pen the same stock. Eggs \$2.00 per 15, 30—\$3.00. Joseph Foster, Brampton, Ont.

EGGS FOR HATCHING FROM OUR BRED-TO-LAY pure-bred Barred Rocks, \$1 per 15. Mrs. C. A. Newell, R.R. 3, Campbellville, Ont.

EGGS FOR HATCHING, SINGLE-COMB White Leghorns, heavy winter layers, Famous Tom Barron strain. Price \$1.25 per 15; \$3.00 per 30, \$5.00 per 100. Robb, A. Birrell, Claremont, Ont.

EGGS—NEARLY ALL VARIETIES POULTRY Bantams, Ducks, Turkeys, Geese. 1226 prizes 1916. Living prices. Luxton and Sons, Mt. Forest, Ont.

FIRST YOUNG WHITE GOBBLER, Toronto, \$10. Choice yearling Bronze Tom, Guelph winner, \$15. T. A. King, Milton, Ontario.

INDIAN RUNNER DUCKS, SPANISH Barred Rocks, Brahmas, White Leghorns, Hamburgs, African geese, white Guineas, Pearl Guineas, Bourbon red turkeys. Eggs only. Send stamp for mating list. John Annesser, Tilbury, Ont.

INDIAN RUNNER DUCKS AND ENGLISH Red Cap chickens, two of the best laying strains. Duck eggs \$2.00 and hen eggs \$1.50 per setting. Drake and two ducks \$6.00. H. Raison, Duke St., London Ont.

"LAVILOT" LEGHORNS, S.-C. W., LAST season's best layers, proven so by trapnest. Heading this pen is an absolutely pure Barron yearling cock, hatched from a pen with a record of 256 to 282. Eggs at \$2 for 15. J. A. Butler, M. D., Newcastle, Ont.

PURE BRONZE TURKEY TOMS FOR SALE—Guaranteed free from disease. E. V. Wilson, Shanty Bay, Ont.

PURE INDIAN RUNNER DUCKS—CHAMPION layers—\$1.50 per ten eggs. Ray Clark, Harrow, Ont.

"REGAL" DORCAS WHITE WYANDOTTES—champions eleven years at New York State Fair; also wonderful records in laying contests. Stay-white Utility Cockerels, \$3.00 and \$5.00 each. Pullets, \$2.50 and \$3.00 each. Hatching eggs, \$3.00 and \$5.00 per setting. Send for free illustrated catalogue. John S. Martin, Drawer F, Port Dover, Ont.

SIGNET BRED-TO-LAY BARRED ROCKS select pen-hens from high record hens, mated to cock bird from 243-egg hen. Eggs ten cents each. W. Marshall, Merlin, Ont.

SINGLE-COMB RHODE ISLAND REDS, O. A. C. strain. Choice pen, winter layers. Eggs, \$1.50 fifteen, \$7.00 hundred. Earle Willson, Aurora, Ont.

S.-C. WHITE LEGHORNS, DAY OLD CHICKS from vigorous heavy laying stock, \$15 per hundred. Order now. Live chicks guaranteed. Wm. Adcock, Denfield, Ont.

S.-C. WHITE LEGHORN CHICKS, 14c. each under 100, 13c. each per 100, Barred P. Rocks and White Wyandottes, 15c. each under 100, 14c. each over 100. Eggs \$1.25 per 15, \$6.00 per 100. Indian Runner Duck eggs, \$1.50 per 12, ducklings, 20c. each. These are bred for size and egg production. C. E. Smith, Scotland, Ont.

The Windrow

Among the measures which Hon. Jeannette Duncan will try to push through Congress are: an eight-hour day for women workers; an enactment providing that women receive the same wages as men for equal amounts of work; a further extension of the present child labor rulings; a mother's pension law; and a provision for universal education.

The United States Congress has passed a law which absolutely excludes intoxicants for beverage purposes from States which forbid the sale of liquor.

A collapsible life-boat that may be carried on the back has been invented by

a Herr Meyer, of Berlin. It will carry 660 lbs., while a larger model, for use on ships, will carry from 50 to 100 people.

An outline of the career of Mr. Jeffery Farnol, who sprang into celebrity with his romance, "The Broad Highway," is given by a writer in "To-day." It seems that as a schoolboy, Mr. Jeffery Farnol told tales of marvellous adventure to his school-fellows. At 17 he commenced work with an engineer and brass-founder in Birmingham, working for some time at the forge. While there, for a wager of 2s., he climbed to the top of the factory chimney (120 ft.), and hung his handkerchief on the lightning conductor. He was reprimanded for his habit of taking notes and wasting fellow-workers' time. The foreman would find a dozen or more listening spellbound to the stories he told. It is not surprising to learn that he was sent home to his parents with a note: "No good for work—always writing." Going to London, he studied drawing at the Westminster School; among his fellow-students was Yoshio Markino. Then followed marriage, and a spell of poverty and hard work in New York. There he painted literally miles of scenery for the stage, and while living in "Hell's Kitchen" was kicked in the abdomen during a fight, and has never recovered from the effects. This and his rather bad sight prevented his joining the army, though he was very anxious to do his bit. A brother was killed in the Boer War, and another has been invalided out of the army after service in the Cameroons. When conscription came, Jeffery Farnol was classed for "garrison duty abroad," but the Government found other work for him. He was sent on special visits to the Fleet, to the shipyards, to munition works, etc., and a series of descriptive articles recording his impressions will shortly appear. His books have sold to the extent of 1,500,000 copies.

What the average layman wants to hear about in church has been determined in an interesting manner by a California clergyman, the Rev. Bryant C. Preston, who submitted lists of suggested sermon topics to several hundred business men, professional men and educators of the town.

Since the subjects suggested were for Sunday evening treatment, it was not a little surprising that much attention was devoted to devotional and doctrinal subjects as opposed to historical, travel and literary subjects. Leading the list was the subject, "Are the Objections to Worldly Amusements Reasonable?" Closely following this came, "The Good in Bad People—and the Bad in Good People." A social and political subject was third in popular favor, "Wanted? A More Powerful Navy and a Larger Army! By Whom?" Fourth came the topic, "Are Secret Societies a Blessing or a Curse?" Fifth in favor was a general subject, "The Best Medicine—A Merry Heart," especially favored by the doctors.

The seven next popular subjects, in the order of their selection were, "The Christian Science of Prayer," "Thomas the Doubter and His Present Prototype" tied with "Judas Iscariot, An Illustration of Spiritual Gravitation," "The Narrowness of Orthodoxy," "Does the Open Shop Mean the Closed Heart?" "Kipling, the Poet-Prophet of the Strenuous Life," "The Will to Believe," and "The Eternal Question" ("Whom say ye that I am?").

To get the referendum started, twenty-five men of the church congregation submitted fifty names each, to which letters were sent. A number was written on an inconspicuous corner of the return blank and the corresponding number set down opposite the name of the man addressed on the list. Thus, when the answers and suggestions came in, the pastor could tell, even from unsigned letters, what classification the writer belonged to—doctor, lawyer, craftsman or business man.

The lists of names were then turned over to the original twenty-five men, who are responsible for notifying the men on their list of the date on which the pastor will speak on their respectively chosen topics.

More than seventy per cent. of the men answered the letter. About two hundred of the five hundred addressed were not church members.

Many ministers have tried a referendum before but have failed because the "follow-up" system was incomplete. The entire success of such a plan depends upon the thoroughness with which it is put into operation.—The Independent.

FOR THE MEN WHO HAVE PAID THE PRICE

WHAT can be done for a man whose life has been given in the great fight? One thing only—and that is to perpetuate his name and commemorate his sacrifice by a worthy memorial in the place where he once lived.

We bring to the work of memorial tablet-making, a reverent care, a consummate skill that ensures the best expression of the remembrances of family, friends, church, society or lodge. Write for particulars of brass and bronze memorial tablets. Our special department will be glad to assist in every possible way.

The Dennis Wire and Iron Works Co., Limited, London, Can.



KEITH'S SEEDS FIFTY-ONE YEARS SERVICE

We wish to warn customers against delays in sending their orders for seeds. Supplies are limited, and present indications point to a bigger demand than can be filled.

MAKE UP YOUR ORDER NOW

Table listing various seeds and their prices. Columns include Seed Corn, Crib Cured, Govt. Standard No. 1 Red, etc. Prices range from \$1.00 to \$14.00 per bushel.

GEO. KEITH & SONS SEEDS 124 KING ST. E TORONTO

FREE To try at Home Our Big Selection of Latest MUSIC

WE are prepared to send you a selection of our latest and best songs to try over on your own piano. Return all you don't want. This is our new "Try at Home" plan to reach music lovers, who are not convenient to music stores.

The Most Liberal Plan Ever Offered

To start this plan off, we have made a selection of our newest songs. The complete assortment sells at \$1.00. But don't send us any money! We want these songs to sell themselves strictly on merit.

Clip this Coupon, fill in your name and address plainly and mail it to us to-day, enclosing 4c. in stamps for postage. We will then send these song hits direct to you. If you wish to keep the lot, send us \$1.00, if not, pay only for those you do not return. You are under no obligation whatever.

Thompson Publishing Co. 73 Bay Street Toronto Canada. Name and Address fields.





## DE LAVAL

The First, the Best Known  
and the Greatest

## CREAM SEPARATOR

Better Now Than Ever Before

**T**HE first practical, continuous cream separator, the De Laval, has easily maintained its original success and leadership for nearly forty years. Step by step, year after year, by one improvement after another, the De Laval has led in every single step of cream separator development and improvement.

The first belt driven, the first steam turbine driven, the first of every kind of hand turnable, the first disc bowl, the first blade bowl, the first bottom or suction feed, the first splitting feed, the first feed-through-the-discs, the first self-centering bowl, the first automatically oiled—all these and a hundred other features of separator development and improvement have been conceived by De Laval inventors and perfected by the De Laval Company, most of them to be cast aside for something still better in the ever onward advance of De Laval construction.

### The New 1917 De Laval

And now, in the De Laval machines for 1917, a number of new and still further improvements have been made, which make the De Laval machines of to-day much better in many respects than they have ever been before.

Their capacities are greater per dollar of cost; they skim cleaner under the more difficult conditions of separator use; they are equipped with the most improved speed regulator, thus insuring the proper speed necessary for complete separation; they are even better lubricated, and the bowl construction is even more sanitary than ever.

In other words, superior as the De Laval machines have always been to all would-be competitors and utilizers of abandoned De Laval features, the De Laval machines of 1917 are improved and superior in every way to all previous types and models of De Laval construction.

All these improvements and new features are described and explained in the new 1917 De Laval catalogue now ready for mailing, but some of them are difficult to describe and make fully understood by words.

### Be Sure to See a New De Laval

The new De Laval machines themselves best explain their new and superior features, and their use does this more completely and convincingly than even an examination of them. Every local agent is glad to afford opportunity for examination, and better still, for home test of a new De Laval machine.

But the demand for the new machines is a month ahead of the possible supply under the present difficult conditions of manufacture and freight distribution. More De Laval machines by half have been made in 1917 than ever before, but the De Laval Works is now ten thousand machines behind actual orders, and the demand is ever increasing.

Hence, the importance of securing a machine quickly if your local dealer happens to have one, and of ordering well ahead if he does not. And likewise, the importance of waiting patiently a little for a machine if need be.

A new De Laval catalogue 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, Limited

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

Silver Stream Farm offers two Holstein Bulls fit for service. They are both sired by King Lyons Colantha. The dam and grandam of these bulls of this breeding, ready for service, see these. We have others younger; also females.

JACOB MOGK, R. R. No. 1, Tavistock, Ont.

When Building—specify  
**MILTON BRICK**

Smooth, Hard, Clean-Cut. Write for booklet.

MILTON PRESSED BRICK COMPANY  
Milton, Ontario

### Choice Seed Oats for Sale

O. A. C. No. 72, winning first prize in field competition. Write for prices.  
E. BARBOUR & SONS,  
"Tower Farm" R. R. 2, Hillsburg, Ont.

### Seed Corn

White Cap Yellow Dent, \$2.75 per bushel of 70 lbs., on cob. F.O.B., cash with order. Bags free.  
Geo. B. Langford, Kent Co., Kent Bridge, Ont.

### Gossip.

#### McGugan's Holstein Sale.

We would direct attention to the large Holstein sale of A. D. McGugan at Rodney. Owing to continued serious illness, Mr. McGugan is compelled to dispose of his whole herd. The sale will be on April 10, and although the location is entirely outside the dairy districts, the fine herd of 50 head should not escape the notice of those wanting heavy producing, well-bred Holsteins. The foundation cows were selected for size, type and heavy milking qualities and had the best of backing in their breeding, and on these nothing but high-class sires have been used. An inspection of the herd will convince anyone that the breeding has been along practical lines. A process of selection since the herd was founded has been followed and only the paying kind have been retained. The cows are all young, with the exception of three, and there is an extra choice lot of yearling and two-year-old heifers. The great herd sire, Ourvilla Calamity Abbecker 12821, is one of the best in the Province. He is a show bull from the ground up and is an exceptional sire.

#### Belleville's Annual Sale of Holsteins.

The seventh annual consignment sale of Holsteins, advertised elsewhere in this issue by the Belleville District Breeders, promises to bring into the sale ring the best lot of cattle the Club has ever had the privilege of offering the public in their past six years selling. The sale will be held as usual at the Albion Hotel Stables, Belleville, Ont., on Wednesday, April 4th, and will comprise seventy-two head, mostly females, and we understand all will be brought into the ring in excellent condition. At each of the past sales the Belleville breeders have, without exception, brought out only the best, and, in numerous cases, cows purchased in this sale have gone on and made 28, 30, 32 and 36-lb. records for their purchasers. This is only one of many good reasons why the same buyers return year after year, and go on their way more than pleased with their purchase. On running through the pages of the 1917 catalogue, breeders will see that much of the same blood, rich in quality and rich in breeding, has again been contributed, and nearly every consigner has tried to do his part in establishing a new high record this year, by putting in animals that in every case will help raise instead of lower each and all of their past good averages. We would not attempt to enumerate in this limited space the breeding or quality of individual animals in this offering, but in all of our experience we have never seen a catalogue so rich in blood of May Echo, May Echo Sylvia, Lulu Keyes, Victoria Burke, Mable Segis Korndyke, etc. Inka Sylvia Beets Posch, the sire of May Echo Sylvia, the world's champion milk cow, stood for eight years in the Belleville district, and has almost a score of descendants in this sale. There are daughters of a son of the great May Echo, and daughters and granddaughters of the 100-lb.-bred sire, Count Segis Walker Pietertje; daughters of Fairview Korndyke Pontiac. There are heifers by a brother to Mabel Segis Korndyke, 40.32 lbs.; several cows bred to a son of Lulu Keys, 36.05 lbs., one of these is a full sister to a \$1,000 cow. The majority of the young bulls catalogued are by the famous young bull, King Segis Alcartra Spofford, a 34-lb.-bred son of the \$50,000 sire. These young bulls are all from high record cows, many of the highest in the Belleville district, and as the offering in numbers will be somewhat limited, those wanting one of these will need to be on hand with their bids early. To any of our readers who are intending to strengthen their herds this year with a few females, and to others who are in need of a young sire, we would strongly advise sending for a catalogue of this sale at once with a view of studying the breeding of the animals consigned and attending the sale on April 4th, as there is perhaps no other annual sale in Canada where more high-record blood has been purchased than those that have been sold from these events in the past. The \$50 fine imposed on any member of the Club who attempts any side-bidding also makes it a safe place to buy. Every animal consigned must go to the highest bidder regardless of the price offered. This rule has always been strictly enforced.



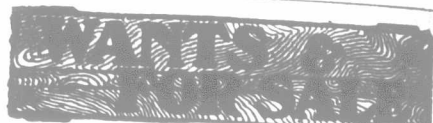
### Work Him and Cure Him

Don't lay up because of Ringbone—Thoropin—SPAVIN, or ANY Shoulder, Knee, Ankle, Hoof or Tendon Disease.

### SAVE-THE-HORSE

is sold with a Signed Contract-Bond to return money if it fails to cure. OUR FREE BOOK is our 21 years' discoveries treating every known lameness. It's a "mind settler." Write for it and Sample Contract-Bond together with ADVICE—all FREE.

Keep a bottle of Save-The-Horse on hand for emergency—it is the cheapest Horse Insurance.  
TROY CHEMICAL CO., 145 Van Horn St., Toronto, Ont.  
Druggists everywhere sell Save-The-Horse with CONTRACT, or we send by Parcel Post or Express Paid.



Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted and Pet Stock.

TERMS—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. No advertisement inserted for less than 50 cents.

A QUANTITY OF CHOICE SEED OATS  
O. A. C. No. 72 and Daubensy free of all weed seeds. Price \$1.20 per bushel, sacks free. E. Broderick, R. R. 1, Exeter, Ont.

FARM MANAGER, MARRIED, AGE 35, disengaged, can furnish good references. Please state wages. Arthur Walton, R. R. 4 Kenilworth, Ont.

FOR SALE—285 ACRES STOCK AND grain farm in the county of Northumberland, two sets of buildings, seven acres of orchard, considerable small fruit. First-class soil, well watered, some timber, and a good road, near churches and schools and within easy distance of three lines of railway. Immediate possession. For terms and particulars apply to Harris Realty Co., Cobourg, Ontario.

FARMER WANTED TO WORK AND manage farm of about 140 acres, at Corbyville, near Belleville, Ont. Wages \$300.00 per year and 10% of the profits; also free house, etc. Married man preferred. Must be energetic and able to look after everything. Apply H. Corby Distillery Company Limited, Montreal, P. Q., stating age, past experience, references and full details.

FARMS FOR SALE: CONSISTING OF 150 acres, being east part of Lot 29, Con. 6, King, Co. of York. There is a good dwelling and good outbuildings, about 30 acres of hardwood and cedar bush; a good orchard, and three never-failing wells. The soil is a good clay loam; ¼ mile from the Schomberg and Aurora Electric Railway stop 167. Also a farm consisting of 100 acres, in west part of Lot 30, Con. 6, King township. This is a good stock farm; running streams and good springs. The above property will be sold as a whole or in separate parcels to suit purchasers. Address:—Simeon Lemon, Kettleby, Ont., R.R. 1.

FOR SALE—FIRST CLASS 50 ACRE FARM all wire fenced, with good buildings. Barn 42 x 52, with good stabling, all-steel granary. Soil ½ grass with two acres fall wheat. On the property is 1½ story red brick veneer dwelling. Near railway and school. Bargain for immediate sale. H. J. Cotty, Real Estate and Insurance, 103 Downie St., Stratford, Ont.

SCOTCHMAN—EXPERIENCED WITH registered horses and cattle, would work and manage dairy farm. Box J, Farmer's Advocate, London, Ont.

WANTED AN EXPERIENCED FARM HAND (single) for general farm work and stock feeding for a term of eight months or 1 year. George D. Fletcher, Erin, R. R. 1, Ont.

WANTED—AN EXPERIENCED STOCKMAN single, or a young man desirous of learning. Apply to Robt. McEwen, R. R. 4, London, Ont.

WANTED—GOOD, RELIABLE FARM HAND, good milker and teamster. Yearly engagement. Give reference, nationality, wages expected. Wm. Manning & Sons, Woodville, Ont.

WANTED: GOOD COOK, ALSO NURSE housemaid to take charge of one child, age 6 years. References required. Apply Mrs. Hume Cronyn, 580 Dundas St., London, Ont.

HIGH-GRADE SEED CORN  
Only 35 bushels; peg cured Golden Glow.  
Germination tests, 98%, at \$2.75 per bushel  
Bags free.

W. A. Barnett, R. R. 1, Arner, Essex Co., Ont.

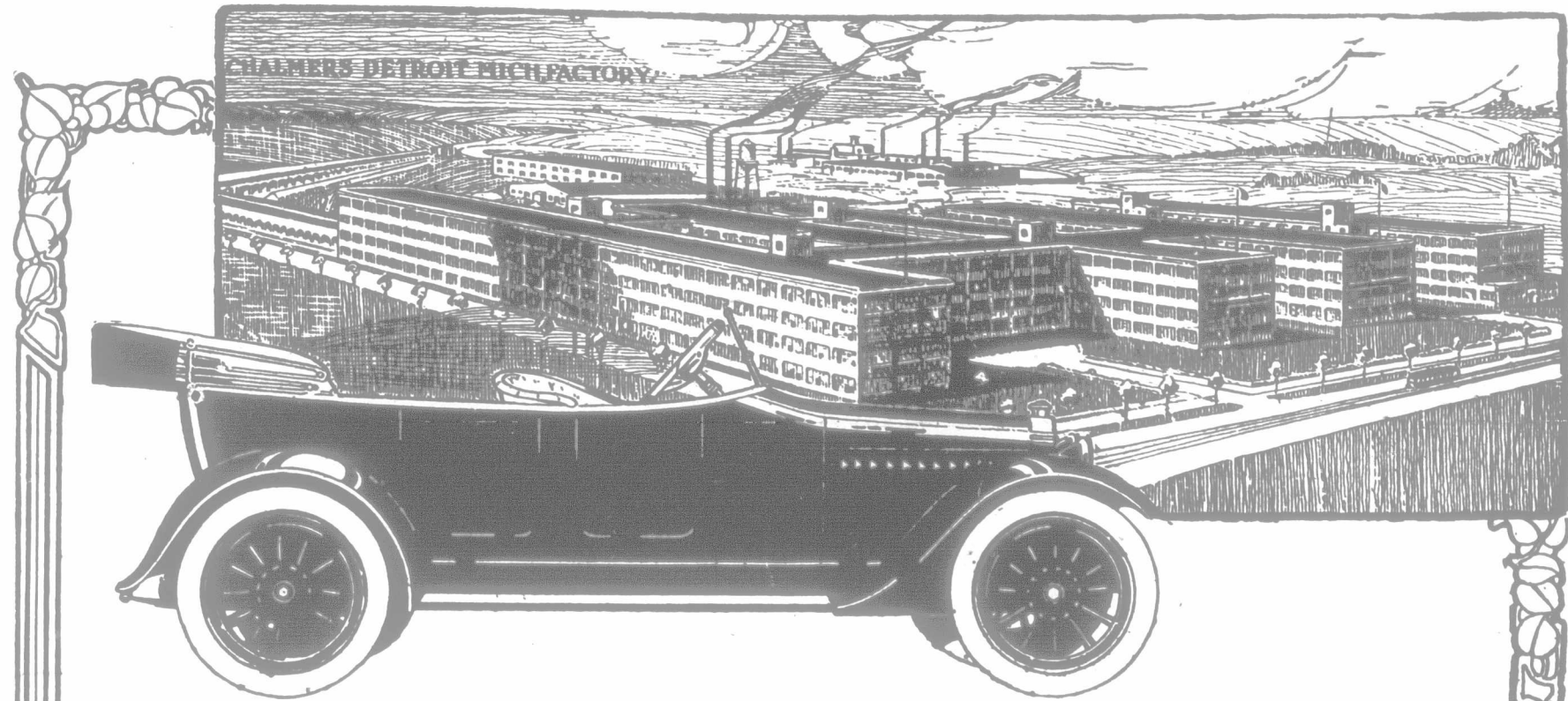
PATENTS AND LEGAL  
FETHERSTONHAUGH & CO., PATENTS Solicitors. The Old Established Firm. Head Office, Royal Bank Building, Toronto, and 5 Elgin Street, Ottawa, and other principal cities. Send for free booklet.

### BABCOCK & SONS

ESTAB. 1877. Formerly Patent Office Examiner, Master of Patent Laws. Book, full information, free. 99 St. James St. Montreal. Branches at Ottawa, and Washington.

Standard-bred Trotting Stallion (50201) for sale, sired by Red Badger-dam Daisy-at-Law; stands 16 hands; weight about 1,150 lbs. Took 3rd prize Western Fair, 1916, in class of eight. Guarantee this horse right every way. H. Raison, Duke St, London, Ont. Phone 3570





## The Car was built — a CHALMERS

Across the vision of a man came a car.  
He built the car  
—and with it built a world-famed  
institution.

The field of motordom choked with weeds.  
Luxury rode behind a Mogul engine in an  
upholstered truck.

Men were tired of motor extravagance. But, the  
supreme comfort of motoring came *not* with economy.  
Chalmers success—marvel of a decade—came from  
low-cost production of the car ideal.

Chalmers *saw* the *sensible* car—the sort of car a  
business man would drive. A car that would appeal  
to keen minds as a sound buy.

The Chalmers Institution, founded on ideals, took  
up the task, to bring to men of moderate means,  
comforts that until then only a Croesus could buy  
—luxury, beauty, fine furnishings and finish, light  
weight, speed performance.

Chalmers *built* the ideal car.

Not—mark you this—a car ideal for the price.  
Price never creates the ideal. Chalmers has said  
“Any fool can cut prices, but it takes brains to make  
a better article.”

No, the Chalmers Institution *made the car to the  
Chalmers ideal.* Your Business Man's car must be  
a fine car. Luxurious comfort, his family expects.  
Appearance he must have, he's grown an aesthete.  
Power, for speed and heavy going. Life, in crowded  
traffic. Pep, on the hills.

Security and reliability above all.

Chalmers made a car for every day business:

not a toy

nor a truck

—but a road-active pleasure car—A MOTOR CAR.  
The car was built, a Chalmers. Chalmers efficiency  
held down costs. Chalmers markets supplied an  
output enormous. The Chalmers Institution pro-  
duced the ideal at the cost of mediocrity—\$1625.

### CHALMERS BRIDGES THE BOUNDARY

The Canadian Chalmers is made to the Chalmers  
ideal—in Canada.

Chalmers has created a Factory in Canada.

The young giant parallels the old. It is one with  
the parent Chalmers Institution; one in purpose—  
one in ideals of making and marketing cars.

Men high up in motordom have linked their for-  
tunes with Canadian Chalmers.

In every city the big motor car distributors are  
Chalmers men. Local success joins with Chalmers  
success. Men who achieved by serving well, are  
eager to sell the ideal car—the Chalmers.

Chalmers is a symbol of success that attracts suc-  
cessful men.

Your business man drives his Chalmers. He chose  
it because it was the ideal car, the *sensible* car for  
him.

He calls it by name, “his Chalmers.”

In Canada, throughout the world, the name rings  
clear.

Chalmers is a car, a man, an institution.

Chalmers	6-30	5-passenger	- -	\$1625.
“	6-30	roadster	- - -	1625.
“	6-30	7-passenger	- -	1775.

The Chalmers Motor Company of Canada, Limited, Walkerville, Ont.

# CANADIAN Chalmers



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For cakes



**PURITY FLOUR**

also makes  
**MORE BREAD and BETTER BREAD**

10

**R**unning water for every building on your farm



Mr James N. Birrell, of Fanshaw, Ont., writes us regarding his Empire water supply system as follows:—

"Dear Sirs:—I never spent money that gave me better satisfaction than your Pressure System. It is a complete success and I am sure that hundreds of rural homes would have your system installed if they knew of its success and convenience."



**Empire Water Supply Systems**

are giving satisfaction in hundreds of homes to-day. They perform every water carrying service required in the house and barn by the simple turning of a tap. Learn more about this water system.

Send to-day for FREE CATALOGUE and INFORMATION BLANK, fill in the latter, mail it to us and we will select a system suited to your home without charge or obligation.

**Empire Manufacturing Company, Limited**  
EAST LONDON, CANADA Branch Office—119 Adelaide St. W., Toronto

## NOTICE FENCE PRICES

**A**LTHOUGH the price of wire and steel of all kinds has recently advanced, and though some fence concerns have greatly advanced prices lately, we are still selling at prices established by us several months ago, and we expect to hold to these prices for the next three months. We cannot at this date make promises to hold good after that.

We sell direct to the user, and also through those dealers who are thoroughly reliable and are satisfied with a reasonable profit. Our Price List and Catalogue are ready for you.

**THE PAGE WIRE FENCE COMPANY**  
LIMITED

WALKERVILLE, TORONTO, MONTREAL, ST. JOHN.

DO YOU NEED  
**FURNITURE?**  
Write for our large photo-illustrated Catalogue No. 7—It's free to you.  
**THE ADAMS FURNITURE CO., Limited**  
Toronto, Ontario

You can assure your family a  
**MONTHLY INCOME FOR LIFE**  
or assure yourself an income during your old age  
by means of an  
**Imperial Monthly Income Policy**  
Write for particulars now, and mention  
The Farmer's Advocate. Address:  
**Imperial Life Assurance Co. of Canada**  
Head Office: TORONTO

### "1900" Gravity Washer

Sent free for one month's trial.  
Write for particulars.  
**"1900" WASHER COMPANY**  
357 YONGE ST., TORONTO, ONT.  
(Factory, 79-81 Portland St., Toronto)

### Questions and Answers. Miscellaneous.

#### Lime for Wall.

What quantity of lime will be required to build a stone wall under a barn 60 feet long on the north, 33 feet on each end, with a wall 3 feet high on the south? Do you advise a half wall of concrete with the remainder frame for a foundation? Which is the cheaper, cement or stone? Regardless of cost, would you use cement or stone? What height should this wall be?

H. M.

Ans.—Building a stone wall 20 inches thick and 8½ feet high on the three sides, and 3 feet high on the south side will require about 23 barrels of lime; that is, figuring that it will require one barrel of lime for every 3½ cubic yards of wall. The amount of mortar varies with the size of stone and whether stone or mortar is used to fill in between the larger stones. Some masons use more mortar than others. It is difficult to state the cost of building a wall of this nature. It depends on the cost of lime, which varies considerably, and on the price at which labor can be secured. With certain kinds of stone the walls can be built much quicker than with others. In regard to the half wall spoken of for the south part of the building, it is a very good idea. Some prefer building a three-foot foundation for the entire barn, and then use frame to the required height. If gravel is handier to secure than stone the concrete wall would, no doubt, be the cheaper of the two. It would not be necessary to build it as thick as with stone, and a mechanic would not be required to build it. Any handy man could build a concrete wall. As to which material we would use would depend altogether on the distance it would have to be drawn. With plenty of stone on the farm we would think twice before deciding on drawing gravel several miles, as either wall proves satisfactory for a stable. In regard to the height, 3 feet is high enough for the foundation when the upper part is to be frame. The entire height of a stable should be from 8½ to 9 feet.

#### Weed Eradication.

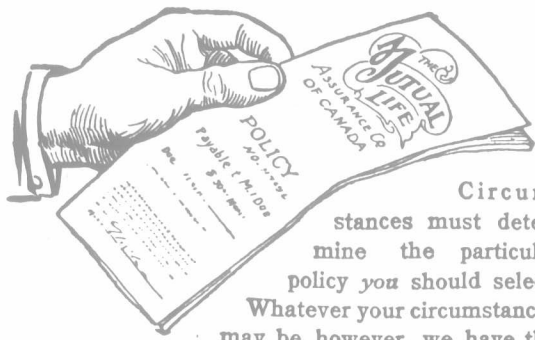
The Ontario Agricultural and Experimental Union has announced co-operative experiments in weed eradication for 1917 to be carried on under the director, Prof. J. E. Howitt, of the Ontario Agricultural College, Guelph. It is hoped that a large number will take advantage of these co-operative experiments which are as follows:

1. The use of rape in the destruction of perennial sow thistle.
2. A system of intensive cropping and cultivation, using winter rye followed by turnips, rape or buckwheat, for eradicating perennial sow thistle.
3. The use of rape in the destruction of twitch grass.
4. A method of cultivation and cropping for the destruction of twitch grass.
5. A method for the eradication of bladder campion or cow bell.
6. Spraying with iron sulphate to destroy mustard in cereal crops.
7. A method of cultivation and cropping for the destruction of ox-eye daisy.
8. A method of cultivation and cropping for the suppression of field bindweed or wild morning glory. (Requires two years to complete.)
9. A method of cultivation and cropping for the eradication of wild oats. (Requires two years to complete.)
10. A method of cultivation for the destruction of chess.

Those who are troubled with any of these bad weeds are invited to write to the Director of Co-operative Experiments in Weed Eradication, Ontario Agricultural College, Guelph, Ont. He will be glad to furnish full information concerning these experiments and to supply application blanks for the same. All experimenters will be supplied with full and detailed instructions for carrying out the experiments selected, and with blank forms on which to report the results of the same. All interested in clean farming are asked to co-operate in this work. Address all communications to J. E. Howitt, Ontario Agricultural College, Guelph.



## The very policy for you



Circumstances must determine the particular policy you should select. Whatever your circumstances may be, however, we have the particular policy to provide for them.

Is it protection you need? A straight life Mutual policy, with profits applied to reduce premiums, is the one to choose.

If again you wish for protection, but do not care to think of paying throughout life, take a Mutual life policy, but with payments limited to say twenty years.

If you wish to save money but find it difficult—as most of us do—take a Mutual Life 15, 20 or 25 year endowment payable to yourself at the end of that time.

It may be that you are liquidating a debt which it will take some years to pay. Lest you should not live to complete the payments, take a term policy sufficient to pay the debt.

Do you fear that the proceeds of your policy might be misspent on account of inexperience on the part of the beneficiary? The policy for you is our Life Income Policy payable in monthly instalments.

**The Mutual Life Assurance Company of Canada**  
Waterloo, Ontario

500

## Money Makes Money

Don't keep that few hundred dollars on "check" in an account earning no interest, or only a paltry 3%.

Invest it in a 5% Debenture of the Standard Reliance Mortgage Corporation.

Thousands of farmers and townspeople are holders of our Debentures.

And never a cent of their money has been lost.

A \$1000 Debenture at 5% for five years pays \$280 in interest, or 28% gain. It is one of the safest, if not the safest, investment. The debentures are issued in sums of \$100 and upwards. Interest is payable in cash at your local bank.

Wouldn't you like to invest your money to earn equal profits? Alright then—write for our booklet about Profits from Savings. It tells you how to get 5% for your savings instead of 3%.



**STANDARD RELIANCE MORTGAGE CORPORATION**  
Head Office 82-88 King St E Toronto

Branch Offices:  
AYR BROCKVILLE CHATHAM  
ELMIRA NEW HAMBURG

### Questions and Answers. Veterinary.

#### Retention of Afterbirth.

Ewe retained the afterbirth. I applied traction and it broke, leaving some in the womb. I then gave her 18 to 20 drops of carbolic acid in water twice daily. She seems to be doing well. What treatment should be given in such cases? What was the cause, and will she prove barren?

B. A. & SON.

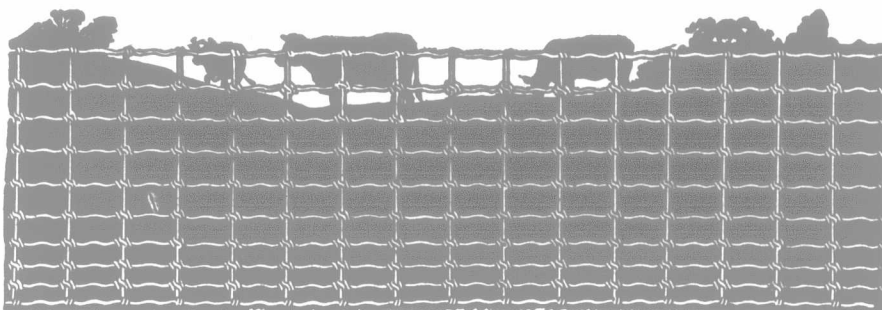
Ans.—When the afterbirth is retained longer than 24 hours it should be carefully removed by hand, if there be room to insert the hand into the womb without too much pressure. When this cannot be done, slight traction may remove it, but traction should not be sufficient to break the membranes. The womb should be flushed out daily with about a gallon of a warm, 1 per cent. solution of one of the coal-tar antiseptics and the patient given about 15 drops of carbolic acid in  $\frac{1}{2}$  pail of water twice daily until all discharge ceases. The cause of retention in any female is not understood. It is seen in females in all conditions. There is no reason why she should prove barren.  
V.

#### Ewes Give Birth to Dead Lambs.

Ewes have been fed on clover hay, a few oats and very little roots. They have been out during the day-time and well housed at night. They have not met with accidents so far as we know. In several cases they have given birth to apparently fully developed but dead lambs.

R. H.

Ans.—Your ewes have been intelligently cared for, provided they have received a reasonable daily ration of oats and have



## It's service, not surface, that counts in Wire Fencing

Fences made of soft wire may look all right, but they are liable to act all wrong when it comes to keeping strong, healthy, active live stock within bounds.

**T**HERE is, however, one fence that you can count on for satisfactory service year in and year out, and that is "Ideal." Made of large gauge No. 9 hard steel wire, heavily galvanized, with the verticals and horizontal clamped together with a patent lock that cannot slip, "Ideal" fence is bull-strong, hog-tight, horse-high—a real fence, every foot of it.

## Ideal Fence

The quality of the wire from top to bottom in "Ideal" Fence is all the same gauge, hard drawn steel wire, tough, live, springy, heavy wire that will be standing up doing splendid service years from now. This is a point you have to watch mighty carefully. Some fences have 9-gauge horizontal, but softer, weaker wire for the stays and locks. Naturally this takes something off the price, and it takes something off the strength and durability too, far more than the difference in price. You are going to fence for a lifetime, then fence with "Ideal" and get a lifetime's service.

We make a fence for every purpose. Write for a copy of our catalogue which describes them all.

The McGregor-Banwell Fence Co., Limited, Walkerville, Ontario.

23

had access to water. While it is not uncommon for a ewe to produce a dead foetus without apparent cause, it is uncommon for large numbers in the same flock to do so. Females that are supplied with sufficient good food and water during pregnancy and allowed regular exercise should produce strong young. There may be some local cause for the trouble, but from the facts stated, we can give no reason for it. If the clover or the oats were of poor quality it would tend to the trouble.  
V.

#### Sequel to Distemper.

Collie puppy 9 months old acted strangely. He frothed from mouth, jaws worked, and his eyes looked wild. I treated him for worms without results. His appetite failed for a time, but now he is better. He eats fairly well now and has got stronger, but is very thin. His muscles twitch when he sleeps.

E. B.

Ans.—He suffered from distemper, and the twitching noticed now is a sequel which occasionally is noticed. Give him 8 grains of bromide of potassium three times daily. Do not attempt to fatten him too quickly. Feed lightly for a time, and if his bowels tend to constipation give a tablespoonful of castor oil.  
V.

#### Gossip.

##### Three Generations of Clydesdales.

In this issue readers will notice the illustrations of three Clydesdales—mother, daughter and granddaughter. They are owned by B. Rothwell, of Ottawa, whose advertisement runs in this paper. Mimosa won six first prizes as a foal at large shows in Scotland, second at the Royal and second at Chester-le-street. Manilla won second at the Royal, fourth at Ayr, Derby, first at Darlington and first and champion at Chester-le-street, also first at Ottawa. Margery Daw's winnings appear with the illustration.





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Heightens Pleasure**

It costs no more to get a really good Working or Outing Shirt—one that fits right, feels good, and wears splendidly. All you have to do is ask for, and see that you get, a "Deacon" Shirt. Sold at all good stores.

**DEACON SHIRT COMPANY**  
BELLEVILLE CANADA

**What Has Coal Got To Do  
With BRICKS?**

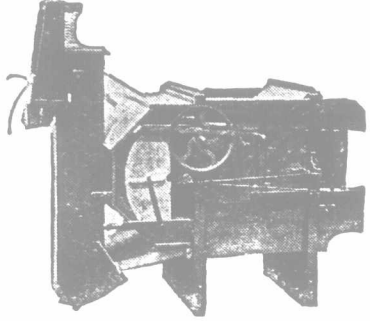
Coal is the main factor in making bricks, and as the price has increased this will increase the price of brick very soon.

Take advantage of winter prices of

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Pressed Brick**

and order now while the hauling is good.  
*Quality and Service are assured.*  
Write for samples—see for yourself.

**Interprovincial Brick Company**  
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**KLINE FANNING MILL**

We welcome such a test, because in no other way is it possible to so decisively demonstrate the superiority of the KLINE on all kinds of grain. It is absolutely unequalled for separating wild oats, chaff, all small seeds and smut. In grading seed grain this mill will pay for itself three times over in one year off 40 acres, giving heavier yield per acre than any mill built. Write for full particulars, price and terms. Agents wanted in unrepresented territory.

**KLINE MANUFACTURING CO.**  
Beeton Ontario

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day at home"*

You may say that, too—if you want more income. Easy to learn. Steady work at home the year round. Write Auto-Knitter Hosiery (Canada) Co., Ltd. Dept. 302 F 257 College St., Toronto

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Transit, in-foal Mares and Stallions, also Automobile Fire, Life and Accident Insurance.

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**BAX WILL FORM CO.,**  
Room 191A 163 College Street, Toronto

**Questions and Answers.**  
Miscellaneous.

**Feeding Saltpetre.**

Will saltpetre prevent a stallion from getting foals if fed during the breeding season?  
E. H. G.

Ans.—Given in limited quantities it should not prevent a horse from breeding, but it is usually advisable to avoid all drugs or stimulants unless prescribed by a veterinarian for some specific trouble.

**Silo Under the Barn Roof.**

Is it advisable to build either a wood or concrete silo inside the barn? What are the chief objections against it?  
J. H.

Ans.—Provided there is ample room in the barn and stable for a silo, there is no serious objection against building it inside. A silo 12 or 14 feet in diameter, extending from the stable up through the barn, takes up considerable space itself, and being round, causes a slight waste of space in both stable and barn.

**Contract Terminating.**

Is it necessary to give notice, and if so for how long, when party who is shipping cream and has a written contract made out for one year wishes to discontinue shipping same at the end of that time? Contract is signed by both parties?  
J. C.

Ans.—If the contract distinctly calls for one year, it will not be necessary to give notice of discontinuing shipping at the end of the time. However, it would be courtesy to do so.

**Securing a Patent.**

1. I have made a door latch which I would like to have patented. What will it cost to have it patented?  
2. At what age can a boy take charge of his own money?  
S. H.

Ans.—1. Write the Patent Office, Department of Agriculture, Ottawa, where full information will be obtained regarding patenting of articles.

2. A boy is not considered to be of age until he is twenty-one, and therefore cannot legally take charge of his money until he reaches that age.

**Butter-fat in Cream.**

What per cent. butter-fat should cream test when 23½ lbs. of cream churn 8 lbs. of butter. I send my cream to a creamery. The test for January was 32 per cent. butter-fat, while for February it was only 25 per cent. A certain portion of cream was churned each month to supply butter for home use, and the same amount of butter was secured from the same number of pounds of cream each month. I milked the same cows, fed the same kinds of feed, and turned the separator myself each time. I can't see why there should be such a difference in the test.  
H. D.

Ans.—Counting on 16 per cent. overrun the cream would test about 28.3 per cent. butter-fat.

**Tarring Corn.**

Is there any method of treating seed corn to keep the crows from destroying it? I have tried erecting scare-crows in the field, stringing paper and tin over the field, shooting the crows, but it is of no avail. The crows pull out a large portion of the crop each year.  
E. J. M.

Ans.—It is essential that the ground be in good tilth before the corn is planted, in order that it may germinate quickly and make rapid growth. The corn will soon get too large for the crows to bother. Applying tar to the seed before planting has proven effective. Put the corn in a tub or bucket, dip the end of a stick in a tin of tar and then stir it around in the corn. Continue doing this until each kernel is coated. In this way the tar is applied uniformly to the kernels and yet not sufficient is put on to interfere with planting in any way. Of course, it is quite easy to put on too much tar, which, no doubt, would interfere with the seeding. Applying it with the stick, as mentioned, avoids the danger of getting too much on.

A blacksmith and a gardener argued as to which was the first trade or means of living in the world.

The gardener was sure it was gardening, and he quoted from Genesis the statement that Adam was put on the earth to till it. Pat, the blacksmith, was unconvinced. "Well, thin," he queried, "who made the spade for Adam?"

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and wall plates make very handsome, easily-cleaned, fire-retarding interiors. Splendid for home, church, school, etc. Fix up one room and see how you like it. Get prices and illustrations from

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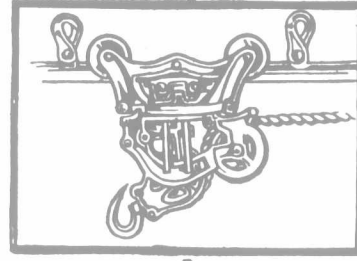


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Is at all times safe and dependable, because of its simplicity and its strength. For twenty years it has been standard, and on thousands of farms it is to-day giving excellent service.

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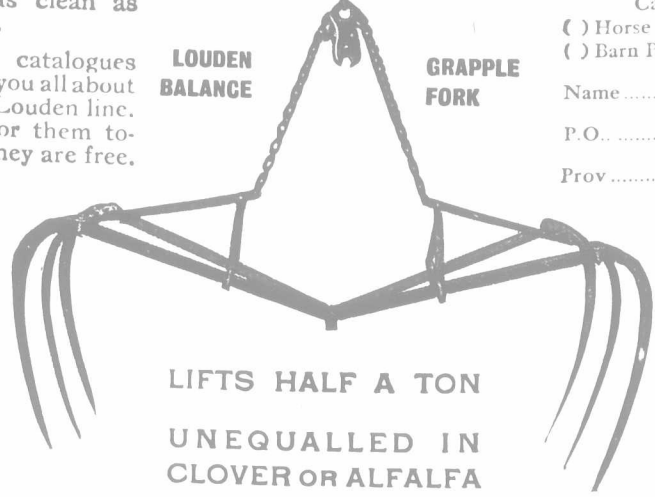
Set the tines of the fork deep into the load. It will lift an immense bundle and deliver it in the mow in even flakes, not tangled up as is the case when other forks are used. Handles clover, alfalfa, loose grain or straw, as clean as timothy.



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- Horse stable fittings.
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**Questions and Answers**  
**Miscellaneous.**

**Garage—Grain for Cattle.**

1. I have some good second-hand corrugated sheets. Would these be satisfactory for a garage, both for siding and lining, with a four-inch air space?

2. About what size should a garage be on a farm for a small car?

3. How would wheat and oats ground together compare with corn and oats for finishing beef cattle, when silage and hay are fed? F. H.

Ans.—1. Corrugated sheets properly put on should be satisfactory for siding a garage. They are frequently used. While many do not line the garage, yet by having an air space it will no doubt keep it warmer.

2. The average car is about 5 feet wide and 14 feet long. For convenience it is necessary to have the garage considerably larger than this, and the minimum dimensions should be about 9 by 20 feet. This will leave space for getting around the car to make any adjustments or repairs.

3. We would prefer oats and corn for finishing cattle.

**Crop For Hay—Clover for Poultry.**

1. Can little pigs be raised without milk of any kind? If so, what feed would they require?

2. What would be the best seed to sow this spring to have a small crop of hay this year?

3. When and what kind of clover seed should be sown for green feed for poultry? What time should it be cut, to use as green feed for poultry during the winter? T. E. C.

Ans.—1. Milk is the natural feed for all young animals. It is not practicable to raise little pigs up to 3 or 4 weeks of age without milk. After they are six weeks old it is much easier to get along on substitutes, such as tankage.

2. Oats would possibly be the best seed to sow to produce hay this year. Oats cut green make fairly good hay.

3. Any of the clovers sown on a well-prepared seed-bed will produce a very nice growth and should make good picking for poultry this summer. If cut about the time it is blossoming the clover should make very good green feed for poultry in the winter. It is better to run it through the cutting-box and possibly steam it before feeding. Many poultrymen secure very satisfactory results from feeding steamed clover leaves, which they gather up along the edge of the mow.

**Trimming Spruce—Storing Turnips.**

1. What time of the year should spruce trees be trimmed or headed back?

2. What is considered the best method for storing turnips for winter and spring use?

3. Is it dangerous to pour boiling water on onion seed, as some propose, to hasten germination?

4. Is there a trick in making cabbage head up quickly? J. M. M.

Ans.—1. Early spring is the best time for heading back and trimming spruce trees. If shaping a spruce hedge, the trimming could be done quite satisfactorily in June after the new growth had started.

2. Turnips should be kept in a comparatively cool, dark cellar or pit. A good pit is as good a place as any in order to have the turnips sound and fresh in the spring. In case of pitting turnips care must be taken to have sufficient covering to keep out the frost, and yet not so much as to cause heating. Under the approach to the barn makes a very satisfactory storage, and we have known turnips to be quite sound late in May when kept in the ordinary stable basement.

3. Soaking onion seed for a short time previous to planting will, no doubt, hasten germination. Warm water might be better than cold, but we would not like to pour boiling water on the seed, as there would be danger of injuring the germination.

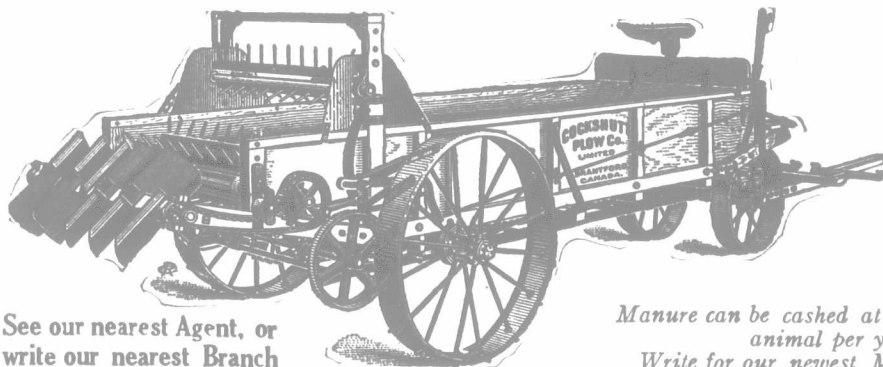
4. We do not know of any special method or "trick" employed in making cabbage head up quickly. Good, thrifty plants set in soil comparatively rich in potash, and given reasonable care and cultivation through the season, should result in large heads. There is a difference in the plants set and in the varieties.

# COCKSHUTT MANURE SPREADER

**—HEAD AND SHOULDERS OVER THE COMMON RUN—THIS  
SPLENDID MACHINE PUTS MONEY IN YOUR POCKET EVERY  
DAY IT'S USED—IN SAVED LABOR, IN BETTER DIS-  
TRIBUTION AND IN BIGGER, STRONGER CROPS**

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we go further—a special Distributing Paddle pulverizes and DISTRIBUTES the manure in a very thorough way. Strong, direct chain drive—no bothersome gears or clutches; the driving and conveyor chains are extra heavy and strong, for years of hardest service; easily-oiled bearings and big, wide-tired wheels make light draft; the box is specially low for easy loading.



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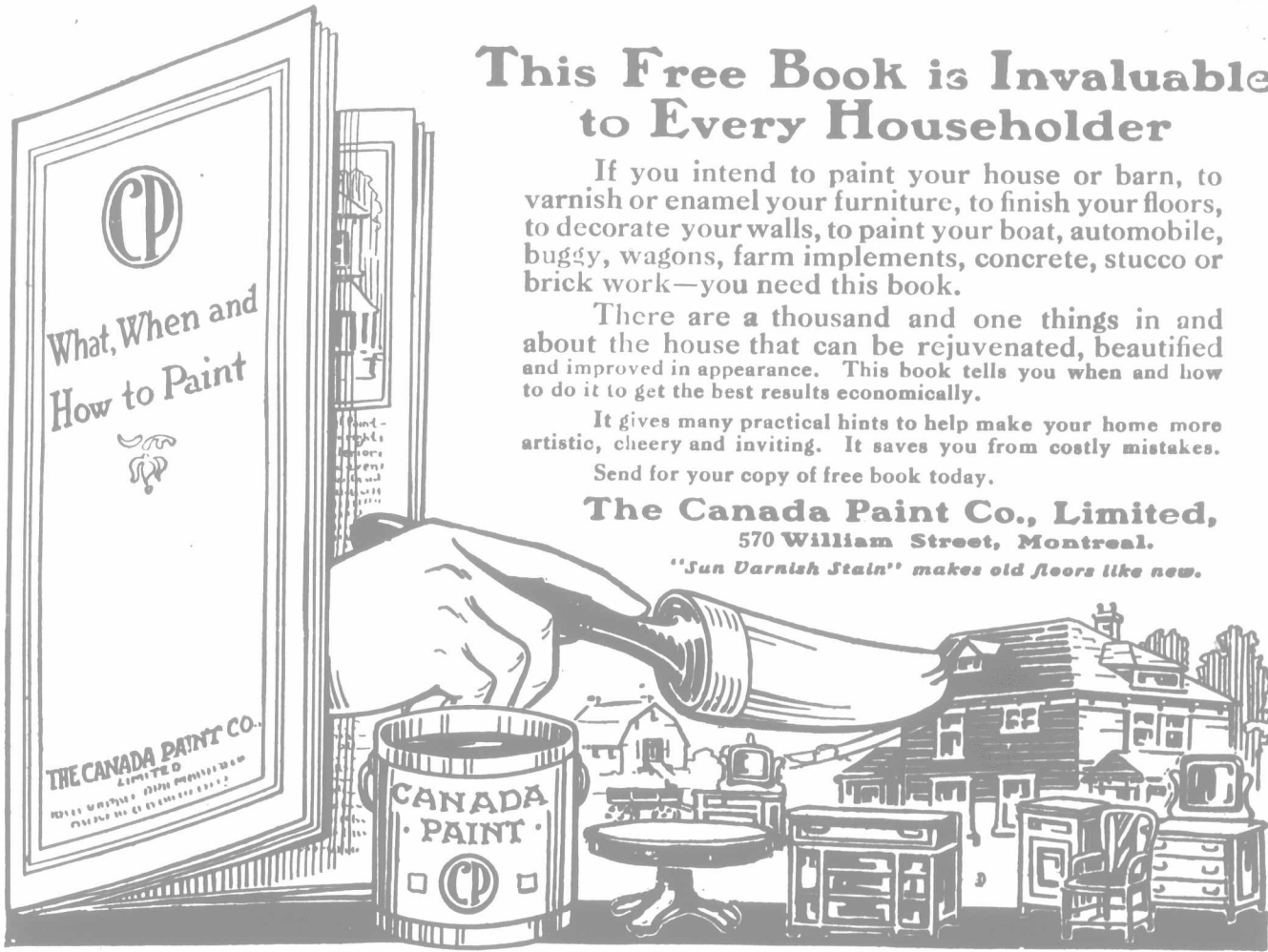
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Please mention The Farmer's Advocate

**Questions and Answers. Miscellaneous.**

**Manure for Hotbeds Not Heating.**

About three weeks ago I started to put the horse manure in a pile by itself for hotbeds. It is now time to make the beds, but the manure is not heating at all. It is as cold in the centre of the pile as it is on the outside. There is not much straw with it. Would you kindly advise me what the trouble is and state a remedy?

L. G. M.

Ans.—To get the most satisfactory results the heap of manure should contain about two parts of excrement to one part of litter. When the litter is lacking it is often difficult to get fermentation started, but when it does start fermentation may be violent and of too short duration. The manure from horses fed on grain is the best for hot-bed use. A stable or protecting shed is necessary in preparing the heap of manure to get the best results in cold weather. Rains and severe cold will check fermentation, and we can quite understand how our correspondent failed to get results. The pile of manure should be 4 or 5 feet wide, about 4 feet high, and of any convenient length. When the manure is thrown into the pile it should be tramped but not too compactly. If the manure is dry the addition of hot water will help to start fermentation. We would advise our correspondent to see that the manure and litter are mixed in the proportions mentioned previously, and to pile the material on the south side of some building where the rays of the sun will strike it during a large portion of the day. Perhaps if it were covered at night it would help it to retain the heat engendered in the early stages of fermentation. A few warm days now will probably start it off at once.

**Artificial Manure for Strawberry Patch.**

What would be the best kind of artificial manure to put on a strawberry patch in the spring to stimulate growth? The soil is a good clay loam, and I have a fairly good stand of plants. Also, when is the best time of the day to put it on, and what quantity per acre should be applied?

SUBSCRIBER.

Ans.—In the ordinary routine of growing strawberries the best plan is to fertilize very heavily with barnyard manure when preparing the soil. Then mulch with straw manure and allow the mulching to remain between the rows. However, if it is deemed advisable to add some class of commercial fertilizer one must apply nitrogen, phosphates and potash, when they have no ill effect on the soil really needs. Possibly one or two of these ingredients are altogether unnecessary, because they may be found in sufficient quantity in the land already. Potash can be added in the form of wood ashes. It is almost useless talking about nitrate of potash at this time. Twenty-five to fifty bushels of wood ashes spread between the rows early in the spring, and cultivated in, would supply a fairly good amount of potash. Bone meal at the rate of 200 to 300 lbs. per acre applied early in the spring would no doubt provide phosphates for the plants in time to increase the crops. Nitrate of soda will add nitrogen. Some growers apply this just before the blossoms come out if the plants show that they are being badly nourished. One hundred and fifty pounds or two hundred pounds per acre, of nitrate of soda is a fairly liberal application. Perhaps the wood ashes and the nitrate of soda would be sufficient. In applying the nitrate of soda, it would be wise to put it on when the plants are dry.

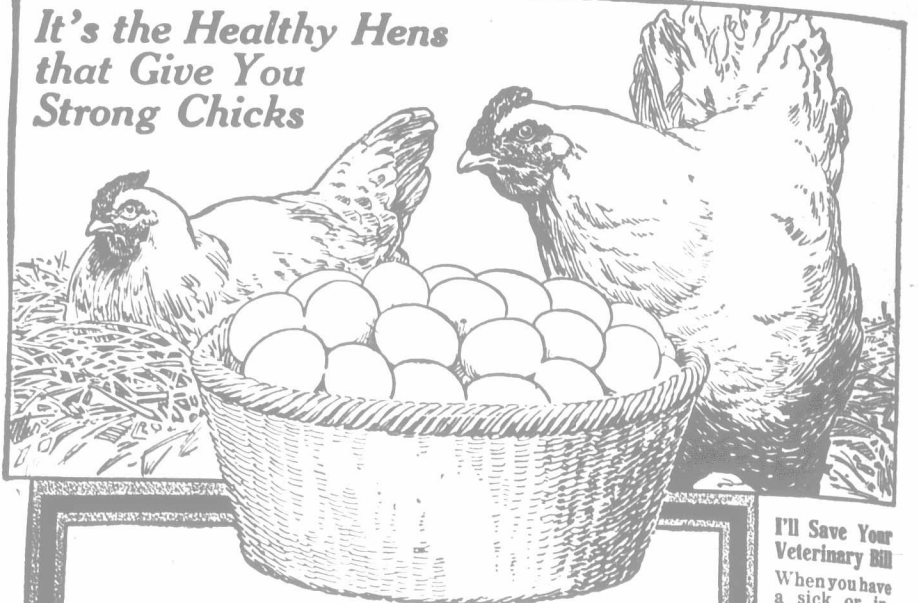
**Slow Sale of Seed Oats.**

Thus far only sixty odd thousand bushels of No. 1 Canada Western seed oats have been ordered for all parts in Eastern Canada. Flour and feed merchants are somewhat averse to purchasing car lots without assurance as to its being wanted for seed. As a matter of fact, this seed oats should be worth the extra price for feed, because the light grain and weed seeds have been removed in cleaning.

Farmers desiring No. 1 C. W. seed oats should order promptly through their dealers or club together and purchase in car lots. These seed oats are of the Banner and Abundance varieties, and the germination is much superior to Eastern-grown oats of the 1916 crop.

SEED BRANCH, OTTAWA.

**It's the Healthy Hens that Give You Strong Chicks**



Now that mating time has arrived, it's up to you to see that your poultry get a tonic and internal antiseptics to make them vigorous and free from disease. Therefore, feed Pan-a-ce-a.

In that condition your hens will lay better, you will get more healthy, fertile eggs and the chicks will stand a better show of reaching maturity. Therefore, feed Pan-a-ce-a.

**Dr. Hess Poultry PAN-A-CE-A**

It's a Tonic—Not a Stimulant

And, before the hatches come, I want to warn against gapes, leg weakness and indigestion for these ailments are responsible for half the baby-chick losses. Therefore, feed Pan-a-ce-a—it will save you these losses.

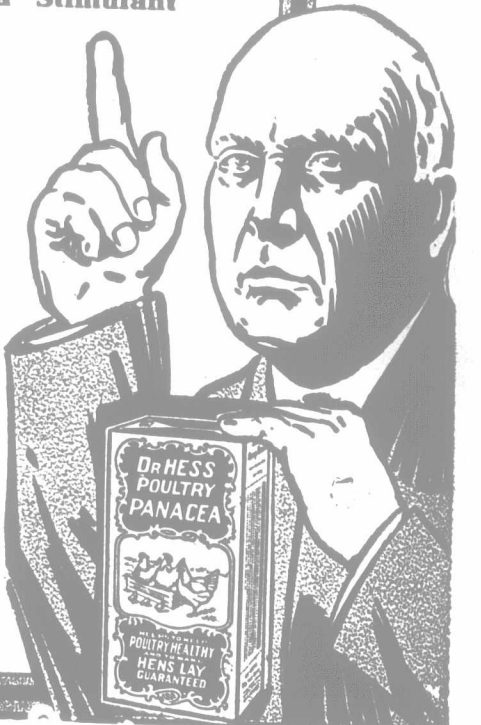
**My Guarantee**

So sure am I that Dr. Hess Poultry Pan-a-ce-a will help make your poultry healthy, help make your hens lay and your chicks grow, that I have told my dealer in your town to supply you on condition that if Pan-a-ce-a does not do as I claim, return the empty package and get your money back.

DR. HESS & CLARK, Ashland, Ohio

**Dr. Hess Stock Tonic Expels Worms**  
Conditions all animals, gives health, good digestion, keeps them toned up. Prepares horses for spring work and cows for heavy milking. 25-lb. pail, \$2.25; 100-lb. sack, \$7.00 (duty paid).

**Dr. Hess Instant Louse Killer**  
Kills lice on poultry and farm stock. Sprinkle in dust bath and about roosts, nests and houses. Dust into hair of animals. Destroys lice on cucumber vines, cabbage worms, slug on roses, etc. Comes in handy sitting-top cans, 1 lb., 75c; 7 lbs., \$6 (duty paid). Fully guaranteed.



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When you have a sick or injured animal or ailing poultry, write me, telling symptoms. Enclose 2c stamp for reply, and I will send you prescription and letter of advice, free of charge.

1 1/2 lbs., 35c; 5 lbs., 85c; 12 lbs., \$1.75; 25-lb. pail, \$3.50 (duty paid).

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**20,177 lbs. milk, 780 lbs. butter**

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This calf is a beauty and is priced very reasonable. Write us. JOSEPH O'REILLY, R. R. No. 9, PETERBORO, ONTARIO

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**Our Latest importation of CLYDESDALES**

arrived at our farms late in November. A number of them since, have been prominent winners at both Guelph and Ottawa. But we have others (both stallions and mares) that were never out of the stables. Come and see them, we'll be glad to show them.

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Farm 3, miles east of Ottawa

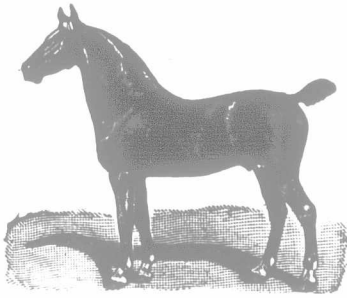
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BREEDER OF HIGH-CLASS CLYDESDALES

Write me for prices on champion mares. R. R. No. 1, OTTAWA, ONT.



### Warranted to Give Satisfaction. **Gombault's Caustic Balsam**



#### Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hoof, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give entire satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Friends for descriptive circulars, testimonials, etc. Address  
The Lawrence-Williams Co., Toronto, Ont.

### **ABSORBINE** TRADE MARK REG. U.S. PAT. OFF.

Reduces Strained, Puffy Ankles, Lymphangitis, Poll Evil, Fistula, Boils, Swellings; Stops Lameness and allays pain. Heals Sores, Cuts, Bruises, Boot Chafes. It is an **ANTISEPTIC AND GERMICIDE** (NON-POISONOUS)

Does not blister or remove the hair and horse can be worked. Pleasant to use. \$2.00 a bottle, delivered. Describe your case for special instructions and Book 5 K free. **ABSORBINE, JR.**, antiseptic liniment for mankind reduces Strains, Painful, Knotted, Swollen Veins, Milk Leg, Gout. Concentrated—only a few drops required at an application. Price \$1 per bottle at dealers or delivered. **W. F. YOUNG, P. O. 7, 255 Lyman Bldg., Montreal, Can.**

**BRANDON BROS., FOREST, ONT.**, have for sale **TWO CLYDESDALE STALLIONS** imported by them in Oct. 1916, the oldest is Aurelian (18325) (17731) foaled in 1912. This horse is sired by Auchenflower and his dam is by Prince Shapely Aurelian, gained good prizes in Scotland and was the King of the premium horse in both 1915 and 1916. He has the best of clean bones and in fit will weigh 2,100 lbs. The other horse is Rosyth (18326) (18968) rising three. This is an extra good, thick horse and was second at the recent Guelph show. He is sired by Revelanta, dam by Prince of Brunstane. His first, second and third dams are among Scotland's best mares. His second dam, Sarah, Pride, by Baron's Pride was sold at Mr. Wm. Dunlop's recent great Clydesdale sale. She was in foal to Dunlop Footprint and Mr. Dunlop holds an option on her foal, if a horse colt, for \$1,500.00. These horses will be sold reasonable and a guarantee of fifty per cent, as a foal-getter will be given. Both horses have been inspected and approved.

### **Clydesdale Stallions**

**FOR SALE**  
Shawano King (imp.) (15708) Brown, with star and white hind feet; foaled, May 31, 1913.  
Baron Knight (14178), Chestnut, stripe, legs white; foaled June 29th, 1909. Imported sire and dam. Both inspected and enrolled, form one.

**J. SOCKETT & SONS,**  
Rockwood, Ont., R. R. No. 5

### **Clydesdales & Shorthorns**

We have a number of choice female Clydesdales, also 2 choice, pure-bred Shorthorn bulls, 14 months old—a red and a roan, from heavy milking dams.  
**J. B. Calder, R. R. 3, Glanford Sta., Ont.**

### **Alloway Lodge Stock Farm**

Angus—Southdowns—Collies

**SPECIAL this month:**

### **CHOICE BULLS**

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

**MESSRS. A. J. HICKMAN & CO.,** (late Hickman & Scruby), Court Lodge, Egerton, Kent, England exporters of

### **PEDIGREED LIVE STOCK**

of all descriptions. Specialty made of draft horses, beef and dairy breeds of cattle, show and field sheep. Illustrated catalogues and testimonials on application. All enquiries answered with pleasure. Now is the time to import. Prospects were never better, and insurance against all war risks can be covered by payment of an extra 1% only.

### **Beaver Hill**

Aberdeen-Angus bulls, from calves at foot, and bred again; females all ages. Rose-comb Rhode Island Red cockerels from good winter laying strains, \$2.50 each. Write **ALEX MCKINNEY, R. No. 1, Erin, Ont., L. D. phone.**  
**DR. BELL'S** Veterinary Medical WONDER, 100% FREE to horsemen who give the Wonder a trial. Guaranteed for Colic, Inflammation of Lungs, Bowels, Kidneys, Fevers, and Distempers, etc. Send 25 cents for mailing, enclosing Agents wanted. Write address plainly. **DR. BELL, V. S., KINGSTON, ONT.**

### **Manchurian Ottawa 50 Barley.**

EDITOR "THE FARMER'S ADVOCATE":

This six-row barley is a selection made several years ago by the Dominion Cerealists from the old, commercial sort, Mensury, which has been favorably known in Canada for a long time and has been successfully grown in very many districts.

As the tests in regard to yield are still in progress, final conclusions cannot yet be drawn; but it may be stated that the new selection appears to be, for many sections of this country, the most productive barley known, among those sorts which have fairly satisfactory straw. The straw of this barley is of good length and strength, as compared with other popular six-row sorts; but it should be emphasized that even the best barleys have a tendency to lodge when sown on rich soil, in seasons when moisture is plentiful. The heads of this variety are exceptionally long and heavy, and herein, perhaps, lies the secret of its large yield. In very high winds it does not behave quite so well as some of the other sorts, as it shows a tendency for the heads to break off at the base, and for the kernels to thresh out on the ground. However, these objections, though worth considering in wind-swept prairie districts, are of no importance in most localities.

The foliage is good and the plants are not particularly liable to attacks of rust. They will withstand a reasonable amount of drought and will grow well on a great variety of soils. It should be remembered, however, that, as a rule, barley does not succeed on soils which are badly in need of lime. While it is early in ripening—like nearly all barleys of its class—it does not mature exceptionally early, being perhaps a trifle later than the average.

The awns of this barley adhere somewhat firmly, so that, for best results, it should be in thoroughly dry condition when threshed. The grain is of a very good yellowish color, and quite free from the objectionable greenish or bluish shade which lessens the value of some barleys for exhibition purposes.

Considering all its characteristics, Manchurian Ottawa 50 is recommended by the Dominion Cerealists as the best variety of six-row barley for nearly all parts of Canada, except those districts where destructive winds are to be feared about harvest time.—Experimental Farm Note.

### **2,100 Guineas for a Short-horn Bull Calf.**

At Perth (Scotland) two days' sale of young Shorthorns, Joseph Shepherd, a London exporter of cattle to the Argentine, paid 2,100 guineas for the champion bull calf, i. e., James MacWilliam's Garbity Golden Victor, one of the Goldie line, which has been in the MacWilliam family for 40 years. The bull was sired by Edgote Actor, and is looked upon as a typical breeding bull, with scale and symmetry and size. Two other young bulls made 1,000 guineas apiece, E. N. Casares, an Argentine buyer, resident in London, paying that figure for Lord Moray's Doune Grand Knight, and A. W. Maconachie, a Kent breeder, the same sum for J. J. Moubray's Warspite of Naemoor. Several purchases were made by Messrs. Carpenter & Ross for Ohio, U.S.A. They bought two yearling heifers at 190 and 80 guineas respectively, but in bulls gave 350 guineas for James MacWilliams' Garbity New Year's Gift, and 110 guineas for Duncan Stewart's (Millhill's) Sir Christopher. Next they paid 130 guineas for Stephen Mitchell's (Boquhan) Monteith Silver Star, and 85 guineas for Duncan Stewart's (Millhill's) Lorne. All told, the Perth 411 bulls sold averaged £107 0s. 9d; the highest average on record. At Aberdeen Shorthorn Sales Carpenter & Ross gave 390 guineas for the reserve champion, exhibited by A. Crombie, Woodend, Aberdeenshire. This was a Queen of Rothes calf. In the Aberdeen sale 304 bulls averaged £19 5s. Scotland's spring sales of Shorthorns have made new history; we are in for a record year, all round. ALBION.

Miss Wheat, the new teacher, was hearing the history lesson. Turning to one of the scholars, she asked: "James, what was Washington's Farewell Address?"

"The new boy arose with a promptitude that promised well for his answer. 'Heaven, ma'am,' he said.



### **You'll Have Eggs to Hunt Winter as well as Summer**

If you feed Royal Purple Poultry Specific to your hens. It contains all the necessary elements to keep laying hens healthy, and at the same time assists them in digesting all the food taken into the system. Keeps them active, vigorous, and makes them lay.

### **Royal Purple Poultry Specific**

Is manufactured from roots, herbs, minerals, etc., practically what the fowl find during the summer months. It is therefore a perfect substitute for you to feed your hens to make them produce eggs. Don't experiment—Royal Purple goods are guaranteed. A 25c. package lasts 25 hens 35 days—less than 1c. per day, on account of feeding them the right food."

Your money back if it does not produce the eggs, when used according to directions. Mr. J. Brandon, Ayr, Ont., writes as follows: "Kindly send me one of your book-lets. We didn't have an egg all winter until we started using your 'Royal Purple' Poultry Specific, and it is the best thing I have ever used. We are getting eleven to twelve eggs per day now on account of feeding them the right food."

Royal Purple Poultry Specific is put up in 25 and 50c. packages, also \$1.50 and \$5.00 tins. Secure them from our dealer in your town.

**W. A. Jenkins Mfg. Company, Limited**  
London - Canada

**FREE BOOK**  
We will send you our 80-page book, describing all the common diseases of stock and poultry; also how to build hen houses, and explains how to raise calves without milk.

### **GREAT PUBLIC SALE OF SHORTHORNS**

Comprising fourteen head of pure-bred females, one young bull and a number of extra good grades.

The majority of the females are of breeding age, several being mature cows that are extra heavy milkers, and have always been hand milked. The families are Duchesses, Snowdrops and Louisas. The sire in use is the 4-year-old Wedding Gift bull, "Broadlands", by Broadhooks Prince. Everything in the herd is thrifty, but none are in high fit. Someone is sure to buy them worth the money on

### **Tuesday, April 10th, AT THE FARM Newcastle, Ont.**

At the same time there will also be sold:—one Reg. Clydesdale mare (in foal), one matched span of general purpose horses (4 and 5 years), and a large number of pure-bred Tamworth swine, including five blood sows, several near farrowing.

**TERMS:—**On pure-bred stock will be cash or 6% on bankable paper.

**A. A. Colwill, Prop., GEO. JACKSON AUCTIONEER Newcastle, Ont.**

### **WOODLANDS BROWN SWISS AND PONIES**

We have no Clydes. left for sale. Our special offering is Brown Swiss bulls, out of high-testing and big producing dams. Strictly high-class. Also Shetland and Welsh ponies.

**R. BALLAGH & SON GUELPH, ONTARIO**

### **A Choice Offering Shorthorn Bulls**

We have several good, thick, low-set bulls that are now just ready for service, all reds and roans, and mostly of Booth breeding. We would like to have you see these. **THEY ARE PRICED TO SELL.**

**GEO. E. MORDEN & SONS, Halton Co. Bell Phone. Oakville, Ont.**

### **BLAIRGOWRIE SHORTHORN OFFERING**

Imported and Canadian Bred. More bulls to select from than any herd in Ontario, all of serviceable age; also a large number of females, which are bred right and priced right, all the stock for sale  
**JOHN MILLER, ASHBURN, ONTARIO Myrtle Station, C.P.R. and G.T.R.**

### **Spruce Glen Shorthorns**

of such popular strains as Minas, Fames, Miss Ramsdens, Florences, Emiliya, etc. Present offering, our stock bull, Earl Derby 2nd, 5 yrs. old, a show bull, hard to beat. Also a few young, thick, mellow fellows, fit for service.  
**JAMES McPHERSON & SONS, DUNDALK, ONTARIO**

### **ONE 7-MONTHS' ROAN BULL**

from a heavy milking dam, and another red bull the same age. These are the dual-purpose kind, and will prove their worth; also females. In Clydesdales, 1 filly rising three years, and 1 stallion colt, one year. Yorkshire pigs, either sex. Everything priced to sell.  
**ALLAN B. MANN, R. NO. 4, PETERBOROUGH, ONTARIO**

### **ELDERS for BULLS**

This herd of about 60 head is one of the most healthy and prolific herds in Canada, and of the good, dual purpose kind. Present offering is 7 bulls, 10 to 18 months of age, at \$125 to \$185. Cows bred or with calf at foot, at \$100 to \$300. All reg'd.  
**Jno. Elder & Sons, Hensall, Ontario**

### **SALEM SHORTHORNS**

Herd headed by Gainford Marquis (Imp.), undefeated in England and Canada. Sire of the winning group at Can. National, 1914, 1915 and 1916. Can supply cattle, both sexes, at all times.  
**J. A. WATT, ELORA, ONT.**

### **Imported Shorthorns**

35 imported cows and heifers forward in calf to service in Scotland. Our 1916 importations are all choicely bred. Have also home-bred bulls and females. Farm, half mile from Burlington Junction. Write, or call and see us.  
**J. A. & H. M. PETTIT, Freeman, Ont.**

### **Spring Valley Shorthorns**

Herd headed by the two great breeding bulls, Newton Ringleader (imp.) 73783, and Nonpareil Ramsden 83422. Can supply a few of either sex.  
**Kyle Bros., Drumbo, Ont. Phone and telegraph via Ayr.**

### **IMPORTED SHORTHORNS**

Cows and heifers in calf, or with calf at foot. Yearling bulls and bull calves. One of the best importations of the year. You will be surprised when you see them.  
**Will A. Dryden Maple Shade Farm Brooklin, Ont.**



## Bog Spavin

Cure the lameness and remove the bunch without scarring the horse—have the part looking just as it did before the blemish came.

**FLEMING'S SPAVIN CURE (Liquid)** is a special remedy for soft and semi-solid blemishes—Bog Spavin, Thoroughpin, Spint, Curb, Capped Lock, etc. It is neither a liniment nor a simple plaster, but a remedy unlike any other—doesn't irritate and can't be imitated. Easy to use, only a little required, and your money back if it ever fails.

**Fleming's Vest-Pocket Veterinary Adviser** describes and illustrates all kinds of blemishes, and gives you the information you ought to have before ordering or buying any kind of a remedy. Mailed free if you write.

**FLEMING BROS., Chemists**  
75 Church Street, Toronto, Ont.

## What is Your Best Horse Worth to You?

Yet your best horse is just as liable to develop a Spavin, Ringbone, Splint, Curb or lameness as your poorest!

### KENDALL'S SPAVIN CURE

has saved many thousands of dollars in horse flesh by entirely curing these ailments.

**Ed. Elstone, Jr.,** Haliburton, Ont., writes: "I have been a user of your Kendall's Spavin Cure for about 20 years, with good results. Could you supply me with your *Treatise on the Horse*? Don't take chances with your horses. Keep a bottle of Kendall's handy. \$1.00 per bottle. Our book 'Treatise on the Horse' free at druggists' or **Dr. B. J. KENDALL CO.,** Enosburg Falls, Vt. 119

## BLACK LEG

LOSSES SURELY PREVENTED by CUTTER'S BLACKLEG PILLS

Low priced, fresh, reliable, preferred by western stockmen, because they protect where other vaccines fail.

Write for booklet and testimonials.  
10-dose pkg. Blackleg Pills, \$1.00  
50-dose pkg. Blackleg Pills, \$4.00

Use a syringe, but Cutter's simplest and strongest. The capsules need no water, and are so easy to use that you can give them in a horse's mouth. **INSIST ON CUTTER'S.** If you find a cheaper one, it is not Cutter's.

The Cutter Laboratory, Berkeley, Cal., or Chicago, Ill.

## GLENFOYLE SHORTHORNS

Seven bulls, big, straight, smooth, fleshy fellows, some from cows milking 40 to 60 lbs. a day. Also a few outstanding heifers that are bred. Three young cows. Prices right. Bell phone.

**Stewart M. Graham, Lindsay, Ont.**

## Scotch Shorthorns

FOR SALE—1 extra good young bull of breeding age, with best Scotch breeding; also bull calves and females of different ages. Write your wants.

**Geo. D. Fletcher, Erin, Ont., R.R. 1**  
Erin Stn., C.P.R. L.-D. Phone.

## "Maple Leaf Farm"

Shorthorns; Shropshires; both sexes. Mail orders satisfactorily filled.

**J. BAKER, R. R. 1, Hampton, 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.

## Shorthorns

For Sale—Three good bulls, ten to twelve months, red and roan, well bred, at reasonable prices. Write or come and see them.

**N. A. McFarlane, R. No. 2, Dutton, Ont.**

## Shorthorns

We have some young cows with calf at foot or to calve, by the Augusta Bull, Auguste (imp.) = 291804 =. Also 2 red and 3 roan bulls, smooth and fleshy. We invite inspection.

**JOHN SENN & SONS,**  
Caledonia, R.R. 3, Haldimand Co., Ont.

## Dual-Purpose Shorthorns

Plaster Hill Herd—Five young bulls, seven to fifteen months old. A number of cows in our herd with high records. Visitors always welcome.

**F. MARTINDALE & SON, Caledonia, Ont.**

## Mardella Shorthorns

Bulls; from des; six to ten months; our dual-purpose cattle over 40 years old. 11 lbs. dam gave 14,599 lbs. milk, 471 lbs. butterfat in the herd.

**THOMAS GRAHAM, Port Perry, Ont., R. R. 3.**

### Questions and Answers.

Miscellaneous.

#### Skunks.

How many times a year do skunks have young? How many are there in a litter?

J. E.

Ans.—There is but one litter in a year, but the young number from 6 to 10.

#### Triple Expansion.

Could you give me an illustration of triple horse-power?

R. G.

Ans.—The term, triple horse power, is not known to the gasoline motor world, but in steam engineering it means triple expansion, the steam being used in three different chests.

#### Blocks for Silo.

1. I purpose building a cement-block silo 13 by 35 feet, with 5 feet solid cement at the base. How many blocks will be required?

2. How many yards of gravel will be necessary to build the blocks, and also for the foundation? How many barrels of cement will it take to build the silo?

W. B.

Ans.—1. It will require about 1,500 blocks.

2. Making the blocks 8 x 8 x 16, and mixing in the proportion of five of fine gravel or sand to one of cement, and using one bag for facing every 100 blocks, it will require about 23 cubic yards of fine gravel and 34 barrels of cement for the blocks. Building the foundation wall 8 inches thick it will require about 5½ cubic yards of gravel and 4½ barrels of cement, if mixed in the proportion of 8 of gravel to one of cement.

#### Heaves.

I have a pony mare due to foal early in June, but she is pretty bad with heaves. Is there any special way in which I should feed or attend to her either at present or coming up to the foaling time? Would she be better on the pasture for some time previous to foaling, or should I keep her working at light farm work? She has been doing very little work all winter; sufficient for exercise. Am feeding her hay, no grain, and she is in good condition.

W. J. B.

Ans.—Care should be taken to feed clean, high-quality oats and hay to a mare affected with heaves. If the hay is at all dusty it should be dampened with a little lime-water. Do not feed too much hay. If the mare is working she should receive considerable grain. Pasture is good for a pregnant mare, but it is a mistake to allow one suffering with heaves to gorge herself; that is one thing which must be guarded against with an animal suffering from the heaves. A little light work about the farm will do her no harm.

### Brant County Holstein Breeders Meet.

Brant County Holstein Breeders' Club held a banquet recently, at which the members of the Club and their friends spent a very enjoyable time. Among the speakers on the occasion were: E. S. Archibald, Dominion Animal Husbandman; R. Schuyler, District Representative for the county, and R. S. Stevenson, a breeder of the Black and Whites. The value of live stock, and particularly the dairy cow to agriculture, was emphasized by the different speakers. The national as well as individual prosperity is due largely to live stock, and it was claimed that more food products which could be successfully utilized can be turned out by a dairy cow from one hundred pounds of feed than by any other animal. Improved methods of feeding which would include a balanced ration were advocated. Such gatherings of members of breeders' clubs cannot help but give an impetus to the dairy and live-stock industry.

A visitor to a Sunday school was asked to address a few remarks to the children. He took the familiar theme of the children who mocked Elisha on his journey to Bethel—how the young ones taunted the prophet, and how they were punished when two she bears came out of the wood and ate forty-and-two of them. "And now, children," said he, "what does this story show?"

"Please, sir," came from a little girl in the front row, "it shows how many children two she bears can hold!"

## YOU'RE GOING?—YES! Of Course You're Going

### To the Seventh Annual Consignment Sale of the Belleville District Holstein Breeders

to be held in the city of Belleville,

**Wednesday, April 4th, 1917**

at the Albion Stables

Holstein Breeders, the Dominion over, always plan to meet at Belleville, the home of the champions and 100-pound cows.

Be with us again on April 4th.

More hundred-pound-breeding will be offered in this sale than ever offered at any one sale in the world, before. 75% of Canadian high-record cows have been bred in the Belleville District—a large percentage of them have been purchased before making their records at one of our previous sales. We believe we are offering better breeding and better individuality than we ever offered before.

We are offering dozens of untested sisters of hundred-pound cows, in this sale. We are offering untested daughters from bulls that have 30-lb. daughters, in this sale. We are offering untested daughters by sons of 30-lb. cows, in this sale.

Surely this is the buyers opportunity. Just look at this list of cows with records over 30 lbs. of butter in 7 days, everyone of them bred or developed in the Belleville District.

	Butter
May Echo Sylvia	41.00
Lulu Keyes	36.05
Lawn Crest May Echo Posh	33.77
Katy Burke Korndyke Pontiac	33.11
Edith Prescott Albino Korndyke	32.67
Flas Pontiac Artis	31.45
May Echo	31.33
Victoria Burke	31.30
Rauwerd Count DeKol Lady Pauline	30.46

Catalogues are now out, apply to the secretary or sales manager for one.

**Ralph Parks, Pres. F. R. Mallory, Sec., Frankford, Ont.**  
James A. Caskey, Sales Manager, Madoc, Ontario.

### ESCANA FARM SHORTHORNS

Herd numbers 100. Sire in use, **RIGHT SORT (imp.)**. His get has won numerous first and special prizes at Toronto, Newton Grand Champion (imp.), a Marr Chara, a great calf recently imported by us for sale, seven bulls, choice individuals, at reasonable prices, a dozen cows and heifers, some of them bred to our imported herd sires.

**MITCHELL BROS., Burlington P. O., Ont.**  
Jos. McCrudden, Manager. Farm one-quarter mile from Burlington Jct.

### ROBERT MILLER Pays the Freight on his Shorthorns

I have six Lavender bulls over a year old, two Duchess of Gloster bulls over a year, four other bulls from good families, all have good bone and good feeding qualities, and they are naturally thick fleshed, but not highly fitted in some cases. They are half reds and half good roans. I have some heifers in calf and some to be bred soon.

You can get the right kind from me at reasonable prices.

**ROBERT MILLER, STOUFFVILLE, ONT.**

### SHORTHORNS AND SHROPSHIRE—T. L. Mercer, Markdale Ont.

Have sold all the Shropshires I can spare this season. Present offering in Shorthorns—ten really choice young bulls, sired by Broadhooks Golden Fame = 50018 = (imp.), and out of such noted families as Campbell-bred Claret, Nonpareils, Marr Missies, Stamford, Crimson Flowers, Village Girls and Charming Gems, ranging from 9 to 16 months old. All are good reds and roans.

#### IMPORTED SHORTHORNS

Have just received from Scotland some very superior Shorthorns. All cows and heifers have either calves at foot or are close up to calving. Also four imported bulls and a number of good Canadian-bred cows. These cattle will strongly appeal to the most exacting. Visitors can be met if notified.

**A. G. FARROW, OAKVILLE, ONTARIO**

### Glengow Shorthorns, Cotswolds

For the present, we have sold all the Cotswolds we wish to spare, but 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, Ont., Mvtle, C.P.R. Brooklin, G.T.R., Oshawa, C.N.R.**

**Creekside Farm Shorthorns** We have for sale at present a number of young things by our former herd sire, Clan Alpine (the Claret-bred bull, by Proud Monarch). We like them; so will you. If it's young bulls, or a few females you need, we would welcome a visit from you. Write or phone. Visitors met by appointment.

**Geo. Ferguson, Elora Stn., C.P.R., G.T.R., Salem, Ontario**

**WILLOWBANK STOCK FARM SHORTHORN HERD** Established 1855. This large and old-established herd has at the head the two great bulls: Imported Roan Chief = 60865 =, a Butterfly, and the prizewinning bull, Browndale = 80112 =, a Mina. An extra good lot of young stock to offer of either sex. Splendid condition. Good families of both milking strain and beef.

**JAMES DOUGLAS, Caledonia, Ontario**

### BURNFOOT STOCK FARM

Breeders of high-record, dual-purpose Shorthorns, with a splendid conformation for beef.

**S. A. MOORE, Prop. VISITORS WELCOME. CALEDONIA, ONT.**

**SCOTCH SHORTHORNS (SHOW MATERIAL) BOTH SEXES** We are offering some extra quality in young bulls; two of the Emmeline family, fit for service now; one very promising Matchless bull calf (9 mos.); show bulls every one. Any person wanting something good of either sex will do well to see our herd.

**R. R. Station Grand Valley GEO. GIER & SON, R. M. D., Widdmar, Ont.**

### IMPORTED SHORTHORN BULLS

We have several newly-imported bulls of serviceable age. Cruickshank, Marr and Duchie breeding, as well as a number of choice home-bred young steers, got by our noted herd sire, Proud Monarch, by Royal Blood. Get our prices before buying elsewhere.

**RICHARDSON BROS., Columbus Ont.**

**Pleasant Valley Farms** We have for sale (at prices that will move them in the next 30 days) the following exceptionally good bulls, 1 ROAN LADY, 1 BROADHOOKS, 1 ROSEWOOD, 1 WIMPLE, 1 STAMFORD, 1 MERRY LASS, 2 DUCHESS-OF-GLOSTERS and several others. Also equally well bred cows and heifers bred to (Imp.) ROYAL SCOT and BEAUMONT BRAD. Inspection invited. Our cattle will interest you. 90 head to select from.

**GEO. AMOS & SONS, Farm 11 miles east of Guelph, C.P.R., MOFFAT, ONTARIO**





**"The Coulters Do the Work"**

They cut, crush, smooth, pulverize, and mulch, turning the soil twice—all in one operation. That's why the

**"Acme" Pulverizing Harrow** makes an ideal seed bed. Light draft—easy on the horses and YOU ride. There's an "Acme" for every purpose—sizes 3 to 17 1/2 feet in width. Send for new free book, *The "Acme" Way to Crops That Pay*. Do it NOW.

Bateman-Wilkinson Co., Limited  
501 Symington Ave. Toronto, Ont.  
No. 23 6 1/2 ft. wide



**BOB LONG**  
UNION MADE  
GLOVES and OVERALLS



Known from Coast to Coast  
**R. G. LONG & CO. LIMITED**  
TORONTO ONTARIO

**16** <sup>95</sup> <sup>ON TRIAL</sup>  
<sup>Upward</sup> **American**  
<sup>FULLY GUARANTEED</sup>  
<sup>CREAM</sup>

**SEPARATOR**

ASOLID PROPOSITION to send new, well made, easy running, perfect skimming separator for only \$16.50. Closely skims warm or cold milk. Makes heavy or light cream. Bowl a sanitary material, easily cleaned. Different from picture, which illustrates larger capacity machines. See our easy Monthly Payment Plan. Shipments made promptly from Winnipeg, Man., Toronto, Ont., and St. John, N. B. Whether dairy is large or small, write for handsome free catalog and easy payment plan.

**AMERICAN SEPARATOR CO.**  
Box 3200 Bainbridge, N. Y.

**"MAPLELEAF" OIL CAKE MEAL**

Made by the old process, and is guaranteed absolutely pure and unadulterated.

Contains over 35% Protein and 33% Carbo-Hydrates.

**CANADA LINSEED OIL MILLS LTD.**  
TORONTO AND MONTREAL

**For Sale**  
A son of Inka Sylvia Beets Posch, eleven months. Write for particulars and pedigree to  
**W. T. Fritz, R. R. No. 2, Brighton, Ont.**

**Questions and Answers.**  
Miscellaneous.

**Estimating Weight of Hay.**  
- What rule is used for estimating the amount of feed in stacks and mows?  
C. G. W.

Ans.—The rules for measuring hay vary according to the length of time the hay has been stacked or left in the mow, and also to the kind and quality of the hay. When the hay has been stacked or stored for five or six months, it is estimated that a ton of fine timothy or blue grass hay will occupy about 450 cubic feet. A ton of clover and timothy mixed takes about 475 cubic feet. Thus, in estimating the amount of hay in a stack or mow the cubical contents would be estimated in feet and then divided by 450 or 475, according to the nature of the hay in order to determine the number of tons.

**Pasture Mixture.**  
Would the mixture of grass seeds generally recommended for permanent pasture on heavy land be suitable for muck soil? How many pounds of timothy and clover would you advise sowing per acre? Which makes the best nurse crop, barley or oats?  
J. S.

Ans.—Some of the grasses and clovers recommended for heavy soils would not prove quite so satisfactory on muck soil, especially if it were wet. The alsike and white clover might be increased and red top added to the list. Six pounds of clover and 4 pounds of timothy make a fair seeding, although it might be better to increase the amount or else add a pound or two of alsike. Barley generally proves to be the more satisfactory nurse crop. It does not shade the young clover plants quite so much as do oats, and it is usually harvested several days earlier.

**Stringy Milk.**  
I have a cow which has been giving stringy milk for the past week. She has been milking eleven months, and is due to freshen in about two months' time. Would you advise letting her go dry when in this condition?  
A. H.

Ans.—It depends somewhat on the cause of the stringy milk, and also on the quantity of milk which she is giving. Sometimes it happens that a cow nearing the end of the lactation period will produce rather thick milk, but the condition also arises from inflammation in the udder. If the cow is only giving a small flow of milk she might safely be dried. It would be necessary to milk her out a few times at irregular intervals. A cow due to freshen in a couple of months should be dried in order that she may have an opportunity of fleshing up before freshening again. If the trouble is due to inflammation, it would be advisable to draw a little milk until the inflammation has subsided.

**Flax in the Grain Crop.**  
1. Some time ago I overheard two farmers talking of sowing a small quantity of flax seed with their mixed grain. What do you think of this idea? Will flax ripen and thresh with the other grain? About what would be the correct quantity to sow?  
2. Sweet clover appears to be an easy plant to start, judging by the way it grows along the roadside. We have about an acre and a half which was seeded with clover last spring but is not a good stand. Could this be improved for hog pasture by sowing some sweet clover on it this spring?  
J. M. B.

Ans.—1. A number of farmers make a practice of sowing a little flax in their oat or mixed grain crops, in order to have flax in the feed for the various classes of stock. The flax is really extra, as it is not considered that the yield of other grains is decreased. It ripens fairly well with the other grains, and the most of the seed is secured when it is threshed. It is claimed, however, that flax straw deteriorates the feeding value of the straw from the grain. Flax straw is rather harsh and stiff, and is not particularly suitable for bedding stock. This claim has also been made against sowing it in the grain. However, all the flax straw there would be if 8 or 10 lbs. of flaxseed were sown to the acre would not seriously interfere with either the feeding or bedding value of the straw, and the flaxseed would tend to increase the feeding value of the grain mixture.

2. If sweet clover seed were sown early this spring it, no doubt, would get a good catch and would tend to improve the pasture.

**Griffith's GIANT ROPE Traces & Equipment**  
**Are Best for Work in the Orchard**

Don't damage your fruit trees with unwieldy harness when working in the orchard. Griffith's Equipment, with low hames, prevents scraped limbs. Giant Rope Traces at 1/4 the cost of leather are much stronger. Made of 1/2-inch hard Manila rope, they stand a tremendous amount of wear. Giant Rope Traces complete with malleable ends and electric welded heel chains. Cost \$4.00 per set (\$4.50 west of Fort William). You save \$12.00 per team. The whole draught includes clip or hook hames (state whether high or low style wanted; if low top preferred, specify whether for small, medium or large collars); hame straps; wide leather plow pads; belly bands and billets; and Giant Rope Traces. The business end of the harness for \$14.00, all charges prepaid (\$12 west of Fort William). If your dealer can't supply Griffith's money-saving specialties, write us. We will fill your order promptly. Our booklet, "What's New for the Stable?" will interest you.

**G. L. Griffith & Son**  
68 Waterloo St.  
Stratford, Ontario

**ABSOLUTE DISPERSION**  
**HEAVY PRODUCING**  
**50 HOLSTEINS 50**  
**Tuesday, April 10th, 1917**  
at Glenora Stock Farm, Rodney, Ontario

Owing to the continued serious illness of the proprietor, everything on the farm must be sold. There are forty registered Holsteins, including the great five-year-old herd sire, Ourvillia Calamity Abbecker (12821) a show bull from the ground up, and a great sire. There is one extra choice bull calf three months old. There are 38 registered females. This is a strictly business herd—every cow had to pay or she could not stay. The policy followed for years at Glenora has been to retain only the best workers and eliminate the light producers and low-testers. High-class sires only have been used, and the herd is right in size, type and color and an inspection will convince anyone that they are heavy producers. Shipping cream to Toronto and Detroit has been one of the important sources of income. Several of the cows have given yearly from 12,000 to 14,600 lbs., with ordinary dairy care. There is a grand lot of one and two-year-old heifers. There are also ten grades to be sold. These have been retained only because they are heavy milkers.

All the farm horses will be sold, together with a pair of Hackneys, 2 and 4 years old. These are a handsome pair—chestnuts with white markings, from imported sire and dam, and have been winners at many of the fairs, including London and Guelph. The fine Cadillac automobile will also be sold. Send for large bill.

Terms:—Six months' credit on bankable paper. All trains will be met at Rodney. Connections from London and all points east can be made at St. Thomas with M.C.R., Express No. 23 leaving St. Thomas 11.40 a.m., arriving at Rodney 12.15.

**MOORE AND DEAN**  
**D. M. CAMPBELL AUCTIONEERS** **A. D. McGUGAN, Proprietor.**

**HOW DOES THIS BREEDING SUIT YOU?**

Sr. sire LAKEVIEW DUTCHLAND HENGERVELD 2nd, Grand Champion C. N. E. and Western Fair, 1916, 75 per cent. blood of L.D. Artis, Can. Champ, Sr. 3, with 34.66 butter in 7 days. Jr. sire, KING SYLVIA KEYES, born Dec. 12, 1915; faultless individual. Sire, Inka Sylvia Beets Posch, the sire of MAY ECHO SYLVIA, world's greatest dairy cow, milk 1,005 lbs., butter 41 lbs. in 7 days, best day 152 lbs. Dam, Helena Keyes, milk 1 day 100 lbs. At 3 years 25.13 lbs., mature 28.20; will be tested again shortly and should easily make over 30 lbs. A daughter of Helena De-Kol's De-Kol at 16 years, 20.80 lbs., Can. Champ. 20 of "KING'S" nearest relatives average, 7 days, 29.97 lbs. butter. "KING" is open to service to a limited number of approved cows. Write at once for terms, prices, etc. **W. G. BAILEY, OAK PARK STOCK FARM, R. R. NO. 4, PARIS, ONTARIO.**

**EVERGREEN STOCK FARM—High-class Registered Holsteins**

To breeders who wish to make secure their future success we are offering some extra choice bull calves at living prices. Two of these are from daughters of a son of Lulu Keyes, 36 lbs. butter 7 days, and 21 lbs. milk per day, and sired by Prince Colantha Abbecker, whose dam made 32 lbs. butter 7 days and 104 lbs. milk per day. **A. E. HULET, NORWICH, ONT. Bell Phone 48-r. 3**

**CLOVERLEA HOLSTEINS**

Our entire lot of bulls, fit for service, as advertised are sold. We still have a number coming on eight months and under, which will be priced right for immediate sale. Write quick, for they will go fast—as the others did. **GRIESBACH BROS., COLLINGWOOD, ONT.**

**2 ONLY ORCHARD LEIGH HOLSTEINS ONLY 2**

We have only 2 young bulls fit for service left. No 1—Born November 7th, 1915. His dam was first prize mature cow at Guelph Dairy Test, '15, R.O.M., 7 days, 27.96 lbs. butter and 514 lbs. milk. Price \$200. No 2—Born October 18th, 1915. His sire's 7 nearest dams average over 30 lbs. butter in 7 days. His dam, at 3 years, made 25.81 lbs. butter and 559.5 lbs. milk in 7 days. Price \$173. **JAS G CURRIE & SON. (Electric car stops at the gate) INGERSOLL ONT.**

**HOLSTEIN BULLS READY FOR SERVICE**

Two are by King Korndyke De Kol, a son of the great Pontiac Korndyke. One is from a 25-lb. three-year-old, and the other from Queen of Oxford, dam of Queen Butter Baroness. We have others younger, by King Walker Pride, a 24.36-lb. son of King Walker. Write us also for females. **COLLVER V. ROBBINS, BELL PHONE, WELLANDPORT, ONTARIO**

**PIONEER FARM HOLSTEIN HERD**

Of long-distance record makers, the kind that milk heavy and test around 4 per cent. the whole year. Of the six highest butter-fat records of two-year-olds in Canadian R.O.P., one half were bred at Pioneer Farm. Young bulls for sale from dams of the same breeding as these and sired by Canary Hartog whose three nearest dams average 30 lbs. butter in 7 days and 108 lbs. milk in one day. **WALBURN RIVERS, R. R. No 5, INGERSOLL, ONT. Phone 343 L., Ingersoll Independent**

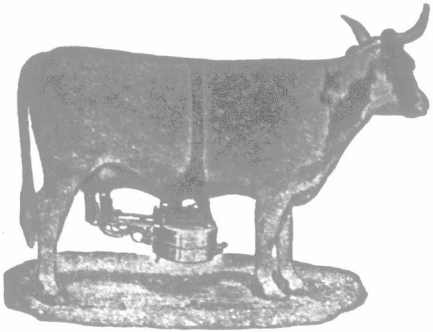
**Dumfries Farm Holsteins** 175 head to choose from. We have on hand at present about 20 young bulls. Visitors always welcome. **S. G. & ERLE KITCHEN, St. GEORGE, Ont.**

**TWO HOLSTEIN BULLS FOR SALE**

We have for sale two Holstein bulls, 10 months old, sired by Schilling Posch Prince, whose dam, Olive Schilling Posch, has an official record at 5 yrs. of 533.5 lbs. milk and 27.5 lbs. butter in 7 days. Her average test was 4.12% fat. They are growthy, type animals and from large framed cows which are heavy producers. Inspection solicited, prices right. **W.T. Whale & Sons, Goldstone, Wellington Co., Ont.**



### OMEGA Milking Machines



#### Care of Milking Machines

Excerpts from an article in the "Implement News":

"One of the most important needs of users of milking machines is that of quick cleaning. It should be done properly at the proper time. The machines should never be allowed to stand until the casein hardens on the rubber tubes or cups."

#### Omega has NO RUBBER TUBES

Short transparent celluloid tubes take the place of long rubber ones. They do not decay or harbor germs, and are easily and quickly cleaned. This is an exclusive OMEGA feature; another is that the pail and milking parts are suspended from the cow's back, and the teat cups cannot fall to the floor and suck up filth.

#### WRITE TO-DAY

for illustrated booklet describing the many exclusive features of the OMEGA.

**C. RICHARDSON & CO.**

St. Mary's, - - - Ontario

### Lump Jaw

The first remedy to cure Lump Jaw was Fleming's Lump Jaw Cure and it remains to-day the standard treatment, with years of success back of it, known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it no matter how old or bad the case or what else you may have tried—your money back if Fleming's Lump Jaw Cure ever fails. Our fair plan of selling, together with exhaustive information on Lump Jaw and its treatment, is given in

**Fleming's Vest-Pocket Veterinary Adviser**  
Most complete veterinary book ever printed to be given away. Durable bound, indexed and illustrated. Write us for a free copy.  
**FLEMING BROS., Chemists**  
78 Church Street - Toronto, Ont.

#### CREAM WANTED

We hesitate to quote prices, because the figures for to-day may be too low for to-morrow.

Our guarantee is:

- Prompt Service
- Accurate Records
- Highest Prices

Write for particulars—it will be worth your while.

**TORONTO CREAMERY CO., Ltd.**  
9 Church Street, Toronto

### CREAMO

#### Cotton Seed Feed Meal

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#### DAIRYMEN and FEEDERS

Ask your dealer or write for prices.

**Fred Smith, 32-34 Front St. W., Toronto**

#### LIVINGSTON BRAND

The purest and best.

#### OIL CAKE MEAL

**THE DOMINION LINSEED OIL CO., Ltd.**  
Manufacturers, Baden, Ont.

### 18 HOLSTEIN BULLS FOR SALE

Eleven months and under. Also 1 cow; 8 heifers, freshening from March till September, from tested and untested dams.

**R. M. HOLTBY, PORT PERRY, ONT. R. 4**

### Questions and Answers. Miscellaneous.

#### Gunpowder.

What materials enter into the composition of gunpowder? **W. J. W.**

Ans.—Saltpetre, charcoal and sulphur are used; the amounts vary with the different grades of powder, but it averages around 75 per cent. nitre, 15 per cent. charcoal, and 10 per cent. of sulphur.

#### Lice on Sheep.

My sheep rub themselves a good deal against anything that is convenient, and, incidentally, cause a considerable loss of wool. What is the cause of the rubbing and a remedy for the same? **A. W. G.**

Ans.—It is just possible that lice or ticks are bothering the sheep. While the ticks are usually visible, it requires a fairly close scrutiny to locate the lice. The latter sometimes torment the sheep considerably and would certainly cause them to do a good deal of rubbing. Shear the sheep so as to save the wool, and then when the weather becomes warm dip both sheep and lambs, using some commercial sheep dip. If the weather is chilly the freshly-sheared sheep should be kept in a fairly warm place. It is possible that two dippings might be necessary in order to not only destroy the lice but also any eggs which might be present.

#### Caked Udder—Pasture for Hogs.

1. How can we prevent a cow's udder from caking? What treatment do you apply to a badly-caked udder?
2. Is it advisable to feed sulphur to cows before freshening?
3. What is tankage worth per ton for hogs, when shorts are selling at \$40 per ton?
4. What is the best crop to sow this spring to furnish pasture for hogs about the first of July?
5. Will rape grow up again after being eaten off?
6. Can small pigs be fed on oats, barley and wheat satisfactorily, or is it necessary to feed shorts in order to get cheap gains?
7. What is the best variety of corn to plant for silage in order to get a large percentage of stalk without much cob?

Ans.—1. It is sometimes impossible to avoid caked udders previous to the cow freshening. Care should be taken to avoid the cow getting a chill. Sometimes it helps to massage the udder. Of course, this has a tendency to stimulate milk production. After the cow freshens she might be given a dose of salts and the udder should be rubbed well with goose grease or camphorated oil. As a rule the swelling decreases after the cow has been milked a few times.

2. A little sulphur would do no harm, but if the cow is in good condition she is in no need of this material.

3. It depends a good deal on the age of the pigs and whether or not skim-milk is available. It has a considerably higher value for young pigs than with old ones. It is a very good substitute for skim-milk, but at no time should it exceed one-tenth of the ration. You cannot entirely replace shorts and other feeds with tankage and obtain satisfactory results.

4 and 5. Rape would possibly do as well as any crop. It continues growing as it is picked off.

6. The grains mentioned may be fed satisfactorily in conjunction with skim-milk. However, for pigs that have just been weaned and even those up to three months of age, finely ground oats and shorts make the best feed.

7. The dent corns are generally considered to give a little heavier yield of fodder than the flints, although in some experiments this has not proven to be the case. Any of the dents which mature fairly early would give very good results.

#### Good Returns.

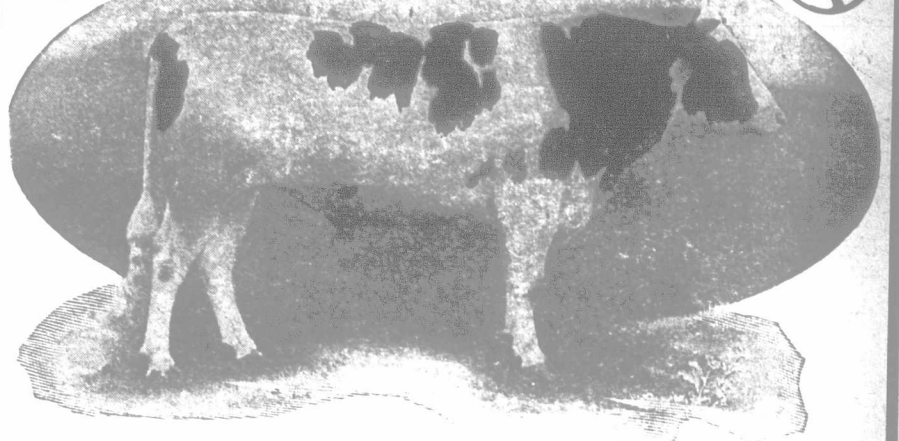
We wish to refrain from making any criticism regarding the postponement of the enforcement of the Dairy Standards Act, but it seems that the patrons of any factory or creamery who are being paid for milk by test are well pleased with the system. One farmer near Burford, who has four Jersey cows in different stages of lactation, received for his February milk \$112.60, and for January \$101.60. I am told that this is the highest average of any herd in that factory. Two of these were two-year-old heifers with their first calf.

Peel Co.

B. A. BULL.



## MANOR FARM



### KING SEGIS PONTIAC POSCH SENIOR SIRE IN SERVICE AT MANOR FARM

Sire King Segis Pontiac Alcartra (the \$50,000 Sire)  
Dam Fairmont Netherland Posch (22.59 lbs. at 4 yrs. old)



You know Manor Farm has a real reputation for cattle dealings.

Now, Mr. Breeder, no matter where you live, if you are in the market for a young sire of choice breeding to head your herd, just let me hear from you.

I can take care of your needs, whether you want a high- or low-priced fellow.

Now is a good time to buy.



### GORDON S. GOODERHAM CLARKSON, ONT.

#### AT SERVICE

### May Sylvia Pontiac Cornucopia

"The most perfectly bred bull of the breed," and a perfect individual. Sire, Spring Farm Pontiac Cornucopia, a son of the 44.18-lb. cow, K. P. Pontiac Lass. Dam, May Echo Pontiac, a daughter of the great May Echo Sylvania, champion milk cow of the world. The butter records of his two grandams average 42.59 lbs. in seven days, and 170.5 lbs. in thirty days, being also another world's record.

Apply early, as only a number of approved cows will be accepted. Terms, a matter of arrangement.

Owners—W. F. Elliott, A. J. Camplin, C. R. Dyke, L. M. Kennedy, G. Brownsberger.

**W. F. ELLIOTT, Sec., (Bell Phone) Unionville, Ont.**

### ROYCROFT FARM HOLSTEINS

FORMERLY THE HET LOO HERD

We have a few exceptionally nice, straight 9, 10 and 12-month heifers, principally all from high-record cows we have purchased in both Ontario and United States. They are all from good record sires, but as our stabling is limited we are offering these at prices away below their value, so we may keep only those of our own breeding. They will not remain with us long. Write quick if you want them.

We are at present offering the services of King Segis Alcartra Spofford to a limited number of approved cows. Write for particulars.

W. L. SHAW, Prop.

Gordon S. Manhard, Supt., Newmarket, Ont.

### Hospital for Insane, Hamilton, Ont.

The choicest lot of young bulls we ever offered

is the best description we can give you of the half dozen we are now pricing—from our Korndyke bull and R.O.P. dams, testing 4.08 per cent. butter-fat. Ages range from three to twelve months. No females offered.

Apply to Superintendent

#### HIGHLAND LAKE FARMS

Herd sire, Avondale Pontiac Echo (under lease) a son of May Echo Sylvania, the world's record cow for milk production, and Canadian record for butter—41 lbs. Only one other 41-lb. bull in Canada. Our herd of one hundred includes nearly fifty daughters of a 33.31-lb. son of the great King Segis, 40.32 lbs.

Junior herd sire, King Segis Pontiac Canada, a half brother to Avondale Pontiac Echo, out of a 30-lb. Segis cow. He is for sale.

If this combination of breeding interests you, write for prices on either males or females.

R. W. E. Burnaby,

Farm at Stop 55, Yonge Street Radial

Jefferson, Ont

### A Son of King Segis Alcartra Spofford

For sale (see illustration of this sire page 391, March 1st issue) out of a 21½ lb. Jr. 3-year-old, her sister made 41 lbs. butter in 7 days. On her dam's side there are 40 and 33-lb. records. He is a straight young fellow, with lots of quality, and bred along the same lines as are Canada's big producers of milk and butter. We also have other sons of King Segis Alcartra Spofford, bred from official record dams. It will pay you to buy here. Send for extended pedigree.

B. R. LEAVENS,

BLOOMFIELD,

ONTARIO

### SUMMER HILL HOLSTEINS

The only herd in America that has two stock bulls that the dam of each has milked over 116 lbs. a day and their average butter record are over 35 lbs. a week. We have fifty heifers and young bulls to offer, by these sires, and out of dams just as well bred. We invite personal inspection.

**D. C. FLATT & SON, R.R. 2, HAMILTON, ONT. Phone 7165**



Questions and Answers. Miscellaneous.

Retention of Afterbirth.

My cow has twice suffered from retention of the afterbirth. Is there anything I can do to prevent the trouble when she next freshens? W. T. W.

Ans.—This trouble is not infrequent in cows kept under all conditions. The cause is not known. Good care and comfortable, sanitary surroundings after parturition, also avoiding chills from exposure or drinking cold water is about all that can be done to prevent this trouble.

Birds are Weak in the Legs.

I have a pen of 36 pullets which appear weak in the legs. Sometimes they are unable to stand on their feet. Their morning feed consists of a wet mash; they get wheat screenings at noon, and they are fed mangels and boiled potato peelings. The grain is fed in a litter of straw. This pen is one of three, but the other two pens, fed in exactly the same way, appear all right. They have been laying well during the winter. What is the cause of the trouble? Should the lame birds be kept in the breeding pen? C. C.

Ans.—It is difficult to diagnose the case from the symptoms given. It is just possible that individual birds are suffering from rheumatism or an inflammation of the connective tissues of the muscles and joints. This is usually caused by exposure or dampness, and is an indication that the pen is not as dry as it should be. If this is the trouble, a warm, well-ventilated pen and a ration which contains plenty of green feed should remedy the trouble. Birds affected with tuberculosis very often go lame. It would be advisable to remove the lame birds from the breeding pen.

Claim on Property—Varnish

1. Could you give any hints concerning the making of a rag carpet, mentioning what colors to use and what style to make it?

2. A father, mother, son and son's wife and family lived together for thirteen years. The father has all claim on everything expecting at his death to leave it to his son. The son died leaving his widow with no title to any of the property. Can his wife collect anything?

3. A father wills his property to his wife, which after her death is to go to two sons. The wife while living signs over to one son his property. The other holds a copy of the will, which had been duly registered. Is this sufficient for any emergency? What should the former son have to show for his title?

4. Could you give a way for making a cheap varnish, also what to use for staining light and dark?

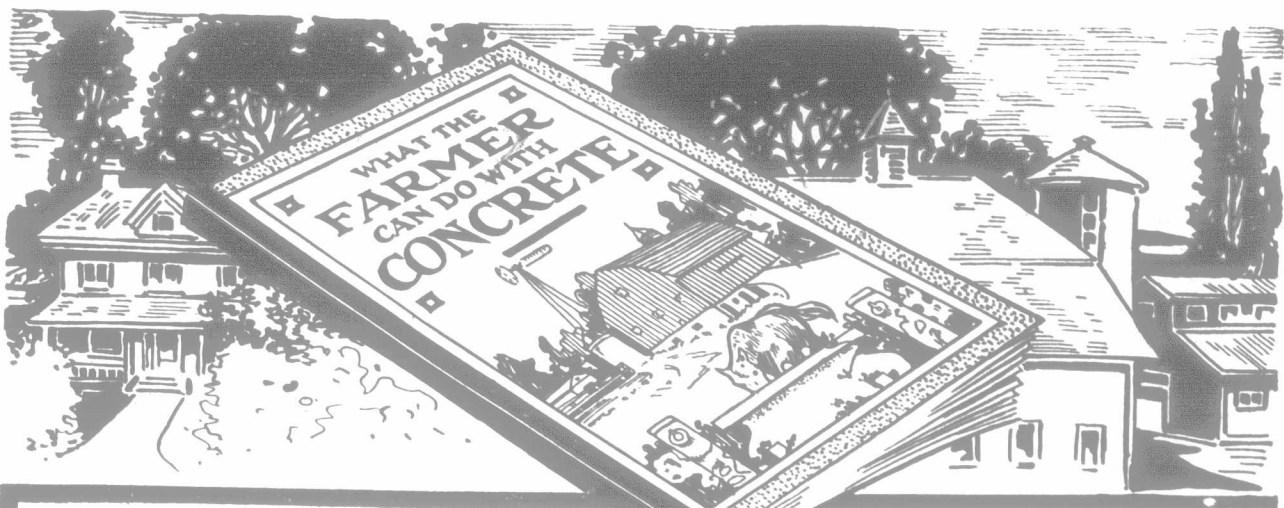
A very cheap and durable paint can be made by mixing cement and milk with dry paint, which will give the color desired. J. McG.

Ans.—1. As the name implies, rag carpet is made from rags. It is customary to cut the material into strips about an inch wide, then sew them together and wind them in balls. Any color material may be used. The pattern, color, or style of the carpet is made by the color of warp. It is necessary to take the rags to a weaver to have them woven into carpet.

2. She has no legal claim on property which is not in her husband's name.

3. If the will states that the son is to get a certain share at a certain time, it should be sufficient. The other son should have the deed of his property in order to make him secure.

4. Varnish is a solution of resinous matter and is made from a number of substances, depending on what it is to be used for. Driers are generally added in the form of sugar of lead or white copperas. For body and lustre amber, anime, lac, etc., are used. A coloring matter soluble in water or alcohol gives the tinctorial effect. Varnish suitable for one material would not do on another. For instance, for black varnish the following materials may be used: shellac 8 parts, resin 5 parts, lampblack 1 part, alcohol 32 parts. Body varnish is made from finest African copal 8 lbs., fused carefully and 2 gallons of clarified oil added; boil gently for 4 1/2 hours, or until quite stringy. Cool and thin with 3 1/2 gallons oil of turpentine. If a cabinet varnish is wanted, fuse 7 lbs. of very fine African gum copal and pour in 1/2 gallon of pale, clarified oil.



A Book That Brings New Light On Profitable Farming

WE want every Farmer in Canada to have a copy of our latest edition of "What the Farmer Can Do with Concrete." It contains complete yet simple directions as to how you can build with Concrete, in your spare time. Shows how the farmer himself, without previous experience and at small cost can get satisfactory results.

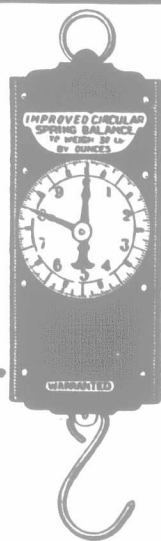
The book will make you enthusiastic for Concrete. It will, if you accept its advice and act on its instructions, enable you to have farm buildings completely sanitary, entirely water-proof, and proof against the ravages of time and weather.

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The coupon below is for you to use in sending for the book, or in asking us for any special information you may want on any particular subject. Use the coupon—write us to-day.

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Form with fields for 'What you want information about' including Floors, Concrete Blocks, Silos, Garages, Troughs and Tanks, Dairy Houses, Barns, Fence Posts, Root Cellars, and Roads.



Let your scales tell! Let your record sheet tell!

Royal Purple Stock Specific will increase the flow of milk per cow from 3 to 5 lbs. per day during the winter months. It will enable you to fatten your steers and hogs a month earlier, thereby saving a month's feed and labor.

T. G. Delamy, Toledo, Ont., states: "I have used a part of a package of your Royal Purple Stock Specific. I fed it to one cow according to directions. She gained six lbs. of milk while using part of a package. The rest of my herd reduced in milk while this one gained. I consider it has no equal."

Royal Purple Stock Specific

Good for horses, cattle sheep and swine. Royal Purple Stock Specific assists stock in securing all the nourishment there is in the food they consume. If you are feeding heavily for milk, or fattening stock, it assists them in digesting and assimilating all the food eaten instead of voiding it in an unused condition.

Royal Purple Stock Specific is purely a digester and blood purifier. It will improve the condition of ANY run-down animal on your farm. This is our guarantee, and we will refund the money paid for it, should you fail to get results. If you have a poor, miserable, run-down, hide-bound horse in your possession, try it on him first and be convinced.

Robt. Cochran, Stella, Ont., states: "I had a cow in very poor condition. I was induced by Thos. Hall to try your Royal Purple Stock Specific. In less than a week I found marked improvement, and I know I would have lost the use of her milk all summer had I not fed it. She is now in good condition. I also used your Royal Purple Poultry Specific for my fowl with equally good results."

Royal Purple Stock Specific is put up in 50c. packages, also \$1.50 and \$5.00 air-tight tins.

W. A. Jenkins Mfg. Company, Limited London, Canada 39

FREE BOOK

Write for FREE booklet on the common diseases of stock and poultry. Tells how to raise calves without milk, and how to build hen houses.

THE WOODVIEW FARM JERSEYS LONDON, ONTARIO Jno. Pringle, Prop. CANADA'S MOST BEAUTIFUL JERSEY HERD Present offering—Some high-class bull calves ready for service, from Record of Performance dams, including grand champion bull at last Western Fair and his full brother; also cows and heifers. State distinctly what is wanted if writing WE WORK OUR SHOW COWS AND SHOW OUR WORK COWS

Young BRAMPTON JERSEYS Bulls For the next fortnight we are making a special offering on young bulls, bred from the highest producing families ever introduced into Canada. Brampton Jerseys and their descendants hold all Jersey R.O.P. records, save one. Females, all ages, also for sale B. H. BULL & SON, BRAMPTON, ONTARIO

EDGELEY STOCK FARM The home of Canada's greatest producing Jersey, SUNBEAM OF EDGELEY, the Sweepstakes Dairy Cow at the recent Guelph test; is also the champion R. O. P. butter cow for Canada. Would a grandson or a great-grandson of this famous cow improve your herd? We have them. Write for particulars. JAS. BAGG & SON, Woodbridge, C. P. R., Concord, G. T. R. EDGELEY, ONT.

Glenhurst Ayrshires For 50 years I have been breeding the great Flox tribe of Ayrshires, dozens of them have been 60-lb. cows. I have lots of them get 60 lbs. a day on twice-a-day milking. Young bulls 1 to 10 months of age, females all ages. If this kind of production appeals to you write me. James Benning, Williamstown, Ont

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For Sale  
Large numbers of choice males and females.  
All ages.  
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Young sows bred for April and May farrow, and a nice lot of young boars for sale. Write:—

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A large number of choice pigs, February farrowed. One of our sows farrowed 59 pigs in three litters. Correct bacon type. Pairs not akin. We guarantee satisfaction.  
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I am offering a splendid choice of sows, bred for May and June farrow. All bred from prize-winning stock. Prices reasonable.  
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Bred from prize-winning stock.  
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Young stock at all times, both sexes and all ages. Can also supply anything in Dorsets or South-downs. Everything priced to sell.  
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My herd won all the champion prizes at London, Toronto and Windsor, 1916. Young stock for sale, pairs not akin. Come and see them, or write. Trains met by appointment.  
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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.**

### Questions and Answers. Miscellaneous.

#### Dog With a Swollen Eye.

I have a dog whose eye has been swollen shut for some time. He can only open it half way. What treatment would you advise?  
**A. R.**

**Ans.**—The eye has possibly been injured in some way and inflammation has set in which has caused the swelling. Bathe it carefully two or three times a day to allay the inflammation. This will reduce the swelling and as the swelling goes down the eye will no doubt be all right. If there is anything affecting the pupil of the eye, your veterinarian might inject something which would ease it.

#### Forbidding Hunting.

A creek runs through my farm. Can I prevent outsiders from trapping on my place, even though they have a license? What is meant by "high-water mark?"  
**S. A.**

**Ans.**—The Ontario Game and Fishery laws provide that no person shall trespass, or at any time hunt, shoot or have sporting implements in his possession on land of another, after having had notice not to shoot or hunt thereon. An owner or occupant of land may give such notice verbally or in writing. Sign boards not more than 80 rods apart can be erected on the property and bear the words: "Hunting or shooting is forbidden." The term "high-water mark" is usually construed to mean the highest point to which a body of water rises.

#### Cottonseed for Feed.

What is the feeding value of cottonseed meal in producing milk? How much may the average cow be fed daily?  
**R. B. McL.**

**Ans.**—Cottonseed meal is rich in protein and is generally considered a very satisfactory concentrate for dairy cows. When feeding timothy hay or fodder of that nature more marked results will be obtained with the cottonseed, and in fact all concentrates rich in nitrogen than when they are fed in conjunction with legume roughage. Two or three pounds of cottonseed meal is generally considered to be very good feeding. The amount will depend largely on the other feeds in the ration. Cottonseed meal contains 6.2 per cent. ash, 44.1 per cent. crude protein, 8.1 per cent. fibre; 25 per cent. nitrogen free extract, and 9.1 per cent. fat.

#### Alsike and Sweet Clover.

I have rented a field for flax to be grown on. I purpose sowing a mixture of sweet clover and alsike with the flax. I have been told that flax is a good nurse crop. Would it be possible to cut the first crop of the sweet clover with the binder so as not to interfere with the alsike? Would the second crop of the sweet clover and the alsike ripen about the same time? Will there be enough alsike and sweet clover seed drop to the ground to re-seed it?  
**A. C. A.**

**Ans.**—It might be possible to cut the sweet clover with the binder, but there would be considerable difficulty in curing it unless it was all spread out. It would have to be cut pretty high in order to avoid injuring the alsike. The alsike would ripen considerably earlier than the second crop of sweet clover. If the sweet clover ripens, it will no doubt re-seed the ground. Alsike will do the same if the ground is suitable for the growing of that crop.

#### Planting a Wind break.

I purpose planting two rows of trees to form a wind-break for an apiary. What distance should trees be planted apart so as to make a dense growth right down to the ground? Which would be the better, spruce or cedar? Would it be necessary to lean the trees slightly to the west when planting, as that is the direction from which we have our prevailing winds? When would be the proper time to plant, spring or fall? Where could trees be secured?  
**E. C. H.**

**Ans.**—The spruce should be planted about 8 feet apart, and cedars from 5 to 6 feet. Either Norway spruce or cedar would make a good wind-break. The cedar would possibly stand a little better than the spruce. Of course, it depends a little on the soil. If the trees are planted with a slight incline towards the prevailing wind they generally stand a little more plumb when mature. Spring is considered the best time for planting trees. Write some of the nurserymen who advertise in these columns.

## PEERLESS PERFECTION

For the Big Ranch, or the small farm, put up a fence that will last a lifetime, that does not serve only as a mere boundary line, but one that gives real fence service—one that is built strong enough to withstand the onslaughts of stock as well as the ravages of all kinds of weather.

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Animals can't break through it no matter how hard their attacks. It simply can't be broken. Just springs back in shape like a bed spring. It's made of heavy Open Hearth steel galvanized wire with all the impurities taken out and all the strength and toughness left in. Will not corrode or rust. Top and bottom wires are extra heavy. Will not sag. Requires less posts than ordinary soft wire fence. Absolutely guaranteed.

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When the calves are 3 or 4 days old they can be fed Royal Purple Calf Meal and raised just as well without one drop of milk. What prominent breeders remark: "Gentlemen,—In regard to your Calf Meal, I think you have the best on the market, as people who have bought it give it great praise. Some have taken their calves off sweet milk, and feed them nothing but your Calf Meal and water, and say they are doing as well on it as they did on the whole milk."

To Whom It May Concern: This is to certify that I have secured your "Royal Purple" Calf Meal from our druggist, Mr. T. C. Nicholls, of Uxbridge, and can speak of this meal in the highest terms. I have used other calf meals, but this one is the best I ever tried. I never saw a calf gain more rapidly and thrive better than mine did while using your "Royal Purple" Calf Meal. I can cheerfully recommend it to all our stockmen who wish to raise large, healthy calves.—Stanley W. Croxall.

Note—The above Mr. Croxall keeps a large herd of pure-bred Holstein cattle, and is an excellent authority on Calf Foods.

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**Duroc Jersey Swine** Just home from quarantine: Brookwater Principle Orton sired by that great sire, The Principle 4, that has proved himself one of the greatest sires in the U.S., which we are using on a number of imported and home-bred sows for spring farrow. A few of the sows and young stock for sale at all times. Pairs furnished not akin.  
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FOR SALE—Young stock of both sexes, bred from imported animals, high-class in type and quality. Also, we are now offering for sale highly-bred imported stock boar and sows. Write for particulars.  
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Lynnore Stock Farm—English Dairy Shorthorns and Berkshire Pigs.

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In Duroc Jerseys we have either sex of any desired age, bred from winners and champions for generations back. In Jerseys, we have young cows in calf and young bulls, high in quality and high in producing blood.  
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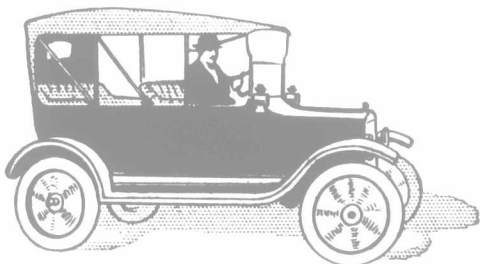


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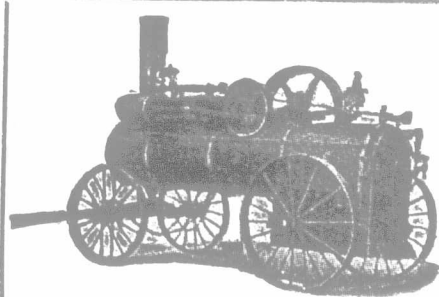
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Do the work ten times faster than the old-fashioned tools. A woman, boy or girl can push one. 38 combinations—easily adjusted. Light, strong and durable. Prices, \$3.25 to \$16.00. Will help you to cut the high cost of living.

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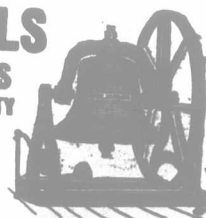
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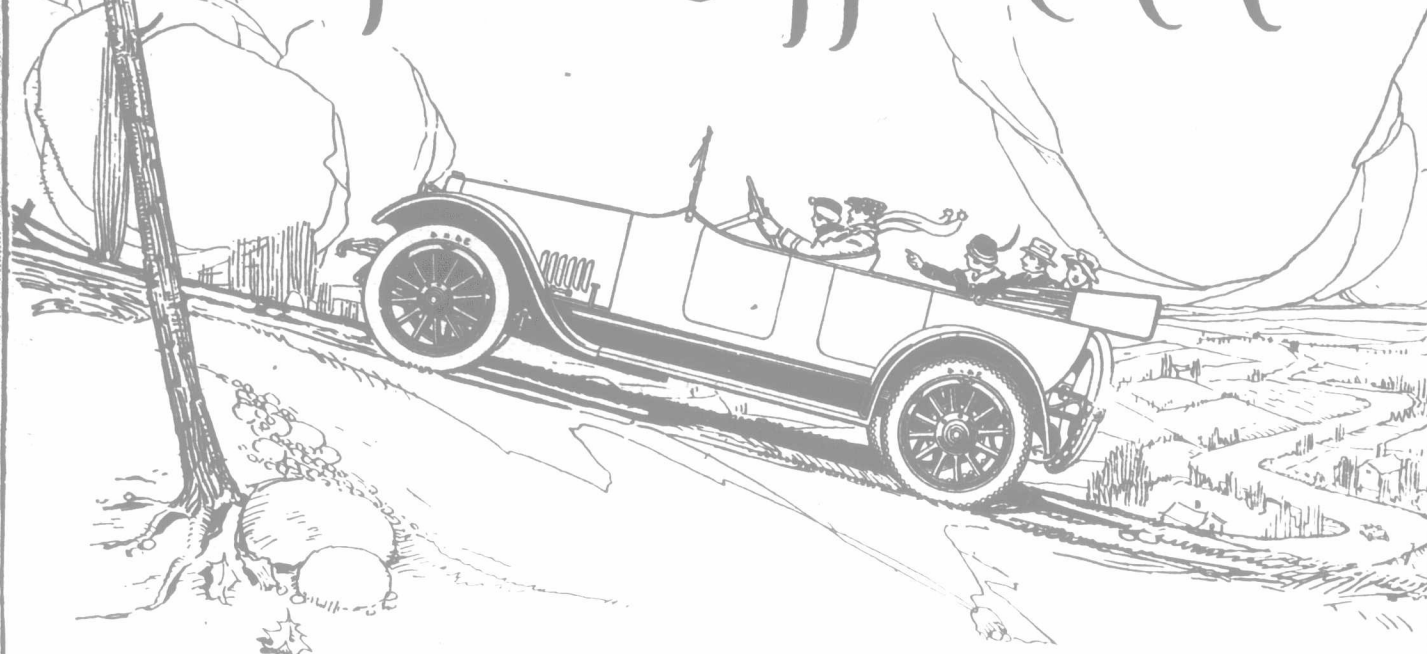
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