

FEBRUARY 12, 1920

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# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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SUCCEED  
FOUNDED 1880

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

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LV.

LONDON, ONTARIO, FEBRUARY 19, 1920.

No. 1430

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Writes J. Galdner, of Kitchener, Ont. He further adds: "We filled and re-filled a 12 ft. x 40 ft. silo in 16 1/2 hours with a 6 h.-p. Gilson and an N-13 Gilson Cutter. The outfit also made a record in cutting straw, at the rate of five loads an hour."

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The Gilson is not a one season machine—it is built for many years of hard service. It is made entirely of steel and iron, with the exception of the feed table. All five main bearings are a part of the one-piece semi-steel frame, thus assuring perfect alignment of the cutting mechanism for all time. The drive is direct, and the power is transmitted throughout by heavy gears—thus chain troubles are completely eliminated. The patented safety reverse makes accidents practically impossible. The drum or casing is steel—steel dangerous cast-iron. The wheel is indestructible—steel bound, with no breakable parts, such as spokes or bosses. It runs at slow speed—800 to 800 r. p. m.

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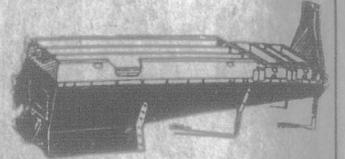
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That's what his neighbors said, they were right too, but there were reasons, this sap was not fresh enough or clean enough, his boiling outfit was out of date and he scorching the whole batch. He did a lot of hard work with poor results. It is all a question of proper outfit. With a



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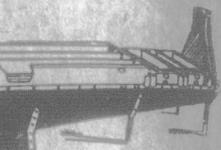
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his neighbors said, they were there were reasons, this sap was light or clean enough, his boiling of date and he scorched the. He did a lot of hard work with it. It is all a question of. With a



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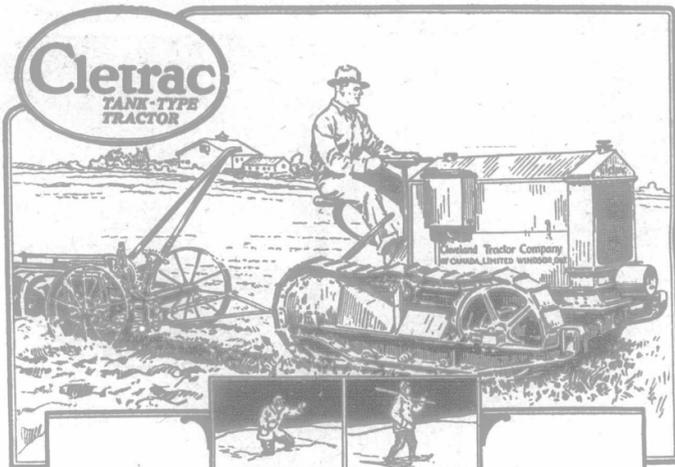
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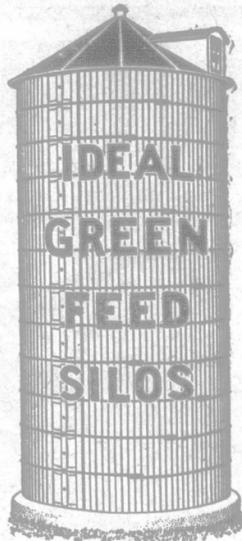


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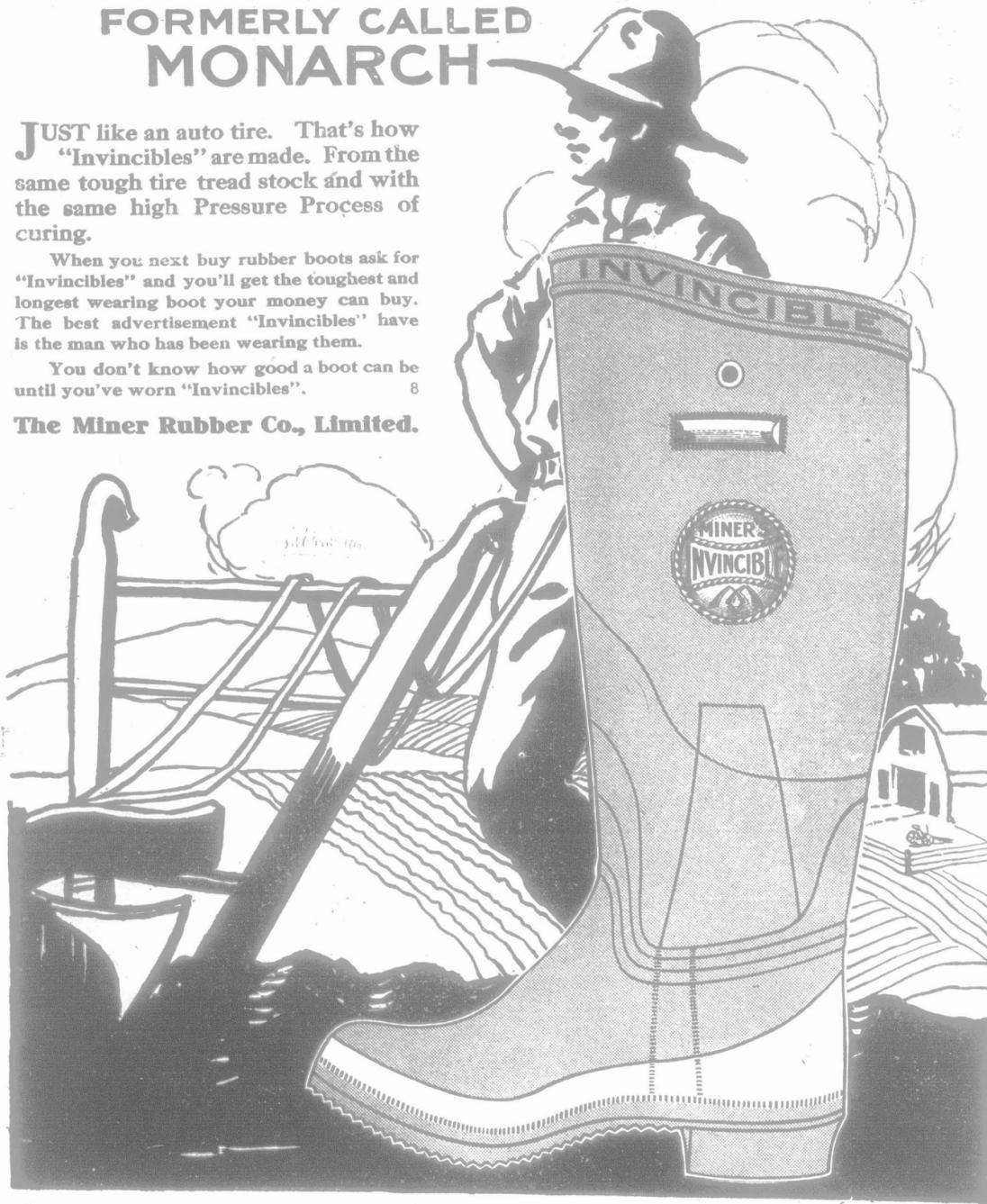
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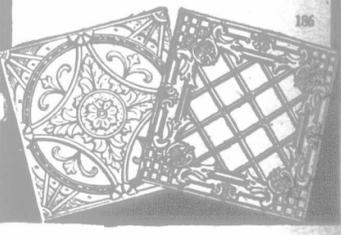


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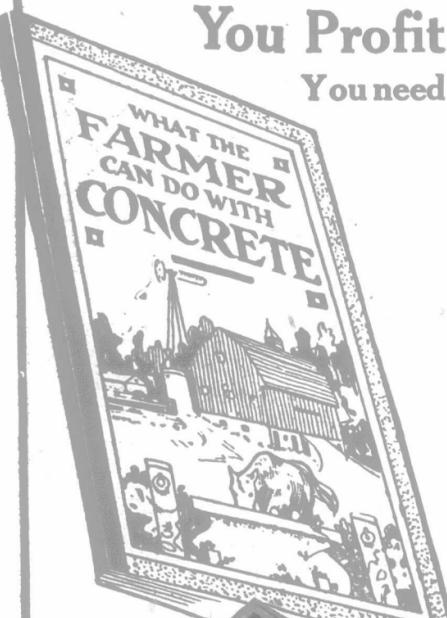
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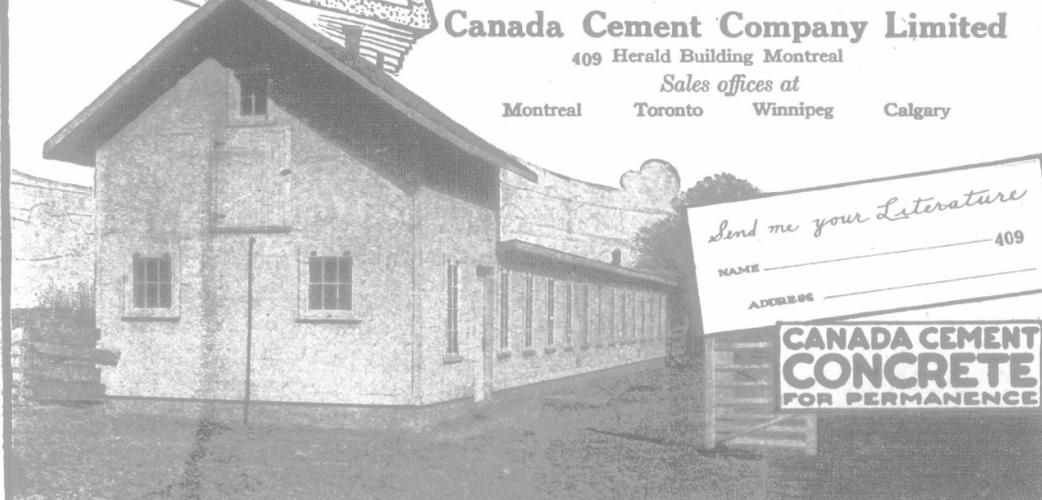
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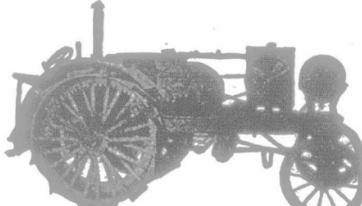
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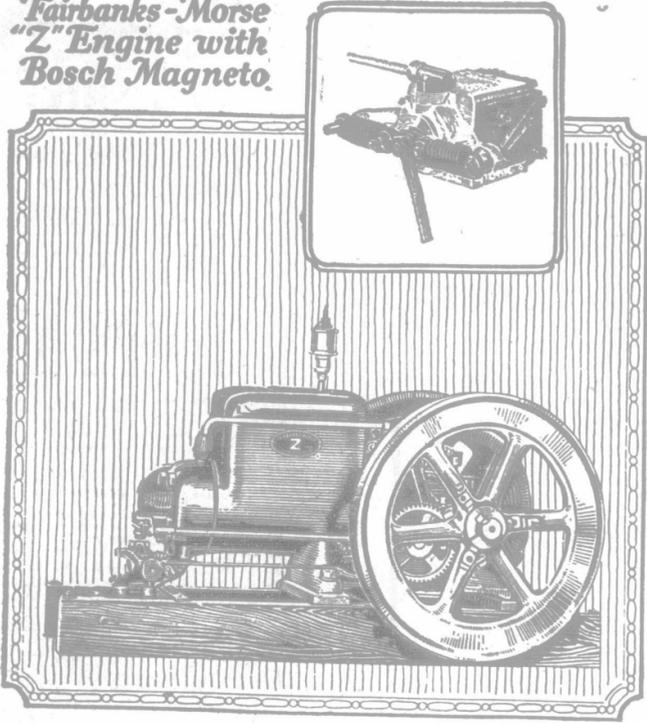
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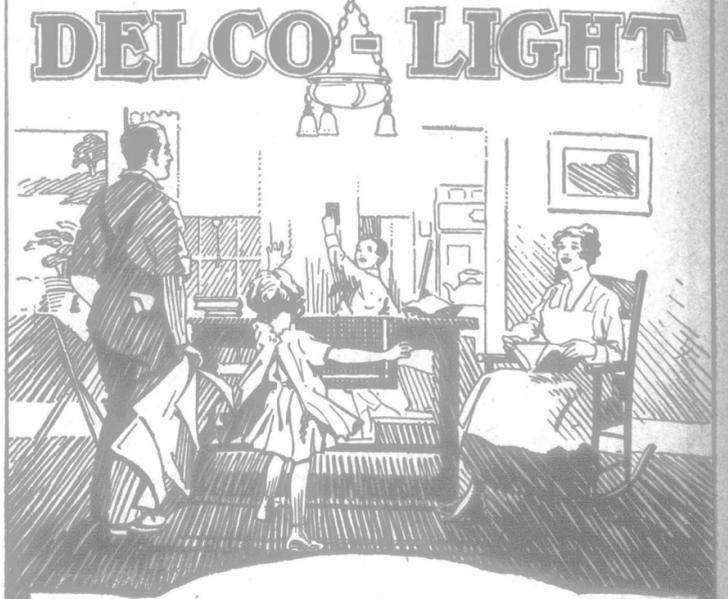
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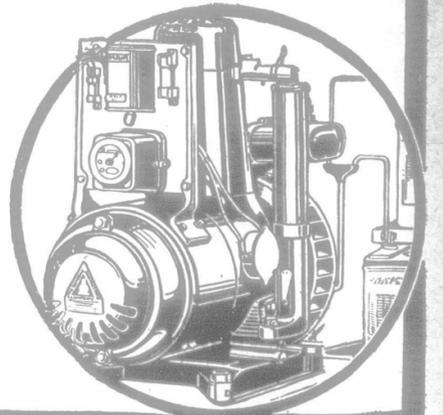
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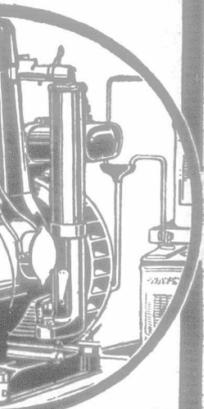


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# The Farmer's Advocate and Home Magazine

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LV.

LONDON ONTARIO FEBRUARY 19, 1920.

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## EDITORIAL.

To make a fair educational, begin with the prize-list

It is never too late to commence breeding and feeding better live stock.

The breeding pen should soon be selected if early-hatched chicks are to be secured.

Even though clover seed is high in price, one cannot afford to curtail in the quantity used.

A well-planned garden will do something toward reducing the high cost of living to the farmer.

If the grain has only been run through the fanning mill once, plan on putting it through at least once more and if time will permit, twice.

Order implement parts now and have the farm machinery ready. Delivery is very uncertain nowadays, and delays will prove costly.

Try taking the boys into partnership as a remedy for their dissatisfied attitude to farm work. Give them a voice in planning the farm operations.

The labor situation will possibly be as acute this summer as last year. The man who has his work most carefully planned will be in the best position to cope with the situation.

J. Lockie Wilson's ambition to clean up the fall fairs and rid them of fakers and cheap shows is commendable. Fair boards ought to give him their hearty support, or else the Department should cease to recognize fairs which are not functioning properly.

It is none too soon to get the seed grain cleaned. The cleaner the seed the less weed troubles. Do not rush the grain through the fanning mill. Let it go through slowly and take plenty of time at the beginning to get the sieves adjusted to do the best work.

Why shouldn't the farmer and his family have more reasonable working hours. Short hours for artisans and manufacturers have resulted in raising the price of many of the necessities which the farmer must buy. It is a poor rule that doesn't work both ways, and city and town folk should not protest.

The Liberty League got an expression of public opinion on October 20, 1919, and the \$20,000 they are apparently asking for with which to defeat Hon. W. E. Raney at the polls, will not purchase a verdict favorable to them. There is a feeling that Hon. Mr. Raney should be given an opportunity to prove himself as Attorney-General, while the Liberty League unquestionably stands condemned at the bar of public opinion.

Our country is not organized for epidemics of disease and our health departments are peace time institutions, which act slowly and usually lock the door after the horse is stolen. Disease is raging, and whether it is "flu," "grippe" or something else, the results are serious. Public health matters should come first and engage the attention of our best physicians; as it is now such matters come second, and the best medical men are apparently not engaged to administer the affairs of our health departments. No class of professional men are doing a greater or more noble work than are physicians at this time, and especially is this true of doctors with country practices. The strain upon them is unnecessarily heavy, however, because of the wait-and-see attitude of our health departments.

### Stockmen Want Feed Act Properly Administered.

One resolution of sufficient importance to farmers generally to warrant their taking a keen interest in it came before the live-stock breeders' meetings, held in Toronto during the first week of February. For many years we have had Acts regulating the quality and contents of live-stock feeds, but these Acts have always been administered by departments of the Government, which had no particular interest in agriculture. The result has been that feeds of very questionable character have been sold without much restraint, and in some cases serious consequences have followed the feeding of mixtures containing noxious and poisonous weed seeds. It was the resolution dealing with this matter to which we refer.

At the last session of Parliament the Act was revised and very much strengthened, but left in the hands of a Department which has not yet shown that it has any particular excuse for existence, namely, the Department of Public Health. The administration of the Act concerning live-stock feeds has been juggled about from the Departments of Inland Revenue, and Trade and Commerce, to the Department of Public Health and live-stock men are now asking that the Act be given one boost over to the Department of Agriculture, where it belongs. The Seed Branch of this Department is equipped for the purpose of making physical analyses of feeds, and such analyses are absolutely necessary. A chemical analysis might reveal no detrimental ingredients and show that the feed is well balanced for the particular use to which it will be put. On the other hand, a physical analysis will sometimes uncover the fact that the proteins, carbohydrates, and other ingredients which go to make it a balanced feed may be derived from poisonous weed seeds, which will undoubtedly have a detrimental effect on the live stock to which it is fed. There is entirely too much foreign matter being blended with feeds, and farmers are asking for more protection.

The Department of Agriculture is intensely interested in the live-stock industry, and it is only reasonable to expect that the officers of that Department would administer the Act to better advantage than would any one of the Departments in which this Act has been buried.

### Willing to be Investigated.

Prior to the recent Ontario election there was evident a growing belief throughout the Province that the late Government desired to curtail the splendid work accomplished by the farm management surveys, started in 1917. Prior to the beginning of this work farmers were not a great deal interested in a public way in the cost of producing farm crops. They knew their labor incomes were relatively small; and they knew that the total cash outlay of the average farmer was much larger than was generally appreciated by the man who thought that the farmer got all his living off the land. With the publication of the first year's results, however, inaccurate for purposes of absolute information as they may have been, there came to farmers generally the thought that such figures, if compiled on a larger scale and for various types and kinds of farming, could be made of inestimable value. It is true that prices for farm products had risen to some extent before 1917, and have risen to a still greater extent since that time, but no one other than the farmer can realize the extent to which his expenses have also risen. He is confronted with the shrinking dollar, as well as with the larger volume of cash to handle each year.

One fact seems very striking in all the accusations of profiteering made against almost every branch of industry. We know of no other industry, except agriculture, which is asking openly that its profits be officially

investigated. Farmers are asking this. They are asking, for instance, that the labor incomes of dairy farmers be very fully investigated; that the occupation of dairying be studied carefully by experts on the subject of farm management; and they are asking that the Government establish as closely as possible what is the cost of producing milk. In all cases, we believe, dairymen are confident that the resulting figures will show that, with the possible exception of the producer of milk for consumption in a very few of our large cities, the price received now is not as high as it should be. Just recently the apple growers in an important apple belt on the north shore of Lake Ontario have asked the Provincial Government that their business, too, should be investigated, because they feel that it has not been possible, under the conditions that have obtained since 1914, for growers of this important fruit crop to make even a fair amount of money.

We consider the fact to be significant that these two important branches of agriculture in Ontario, to say nothing of other branches that could be named, are asking that their business be publicly investigated. It is certainly safe to assume that the profits which will be discovered will not be exorbitant. It is true that while farmers as a rule do not keep intricate sets of accounts, they know, nevertheless, whether they are going ahead or standing still, and we can certainly take it for granted that any business which is going ahead and profiting to an unfair degree will not be the first to ask for an open investigation of its affairs. In addition to the immediate and direct advantage to the farmer himself, the farm survey offers to agriculture at the present time one of the best opportunities for proving that farming to-day is not the extremely profitable occupation that it is commonly supposed to be by the thousands of people who live in our towns and cities and who know so little about it.

### Canada Needs Farmers.

In 1918, statistics tell us, 4,484 immigrants came to Canada from the British Isles, and that during the same year 40,194 persons came to Canada from the United States. Most of these latter people were farmers, and they brought into this country cash and effects amounting to \$7,351,647. In 1919 the number coming to Canada from the United States had increased to 52,064, and they brought with them goods and money amounting to \$18,419,406. The effect on immigration is to be seen, however, from the fact that in 1919 the number of new settlers who came to the Dominion from the British Isles was 57,251. So much for statistics. Explanations given, however, point out that these were principally soldiers' dependents, who came from the British Isles, and statements have been made recently by those who have had opportunities to make careful observations, that with respect to the United States a great many people formerly living in Canada have crossed the boundary line and helped to decrease the number of our people who are on the land. A considerable number of those coming into Canada from the United States are those who have been fortunate enough to dispose of their farms at very high prices, and they are now coming to Canada where land is comparatively cheap, but where opportunities for securing good land are still plentiful. Instead of a few thousand settlers coming to take up land in Canada, we need hundreds of thousands, and we need them from Anglo-Saxon families. Premier Drury recently made the remark that we need hundreds of thousands of British families in Canada—families with British ideals and traditions, who will assist Canadians in building up on the farms of Canada a strong, contented yeomanry. At the first Parliamentary session at Ottawa in 1919 it was declared the settled policy of the Dominion Government to encourage immigrants of the farming class, those who

## The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE  
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would become land owners in time, and who will help to build up the great primary agricultural industry, thereby restoring the lost balance between rural and urban populations. If Canada is to progress, if the agricultural products of Canada are to assume that volume in our total trade which should be expected, we must have this addition to our farming population. Nothing short of a strong, consistent policy of immigration and colonization can bring it about, and the sooner our Governments turn their earnest thought in this direction the better will Canadian agriculture be able to perform that part in the reconstruction work of the next twenty-five years that will be hers by force of circumstance.

We can, at least, look forward to mild weather when the House of Commons and Provincial Legislatures open. The atmosphere and air currents will be tempered by the warm air emitted from the various Houses.

### A Fit of the Blues.

BY SANDY FRASER.

I havena been feelin' ower weel for a while back, whatever the matter is. Jean says it's my liver that is out o' order, that's what makes me sae cranky an' hard to get along with. Be that as it may I find myself in the "blues" pretty often these days. I even wake up at night, sometimes, an' start worrying about the way things hae been going in the world durin' the last year or so. There must be somethin' gaein' wrang wi' my works somewhere, a'richt.

But yesterday I had a visit frae the preacher who has the oversight o' this community, along his ain particular lines, these lines being the moral an' spiritual, I suppose.

Jean thought it was the doctor I was needin' but I says to her, "Na, na, juist call the preacher up an' ask him to drap in sometimes when he's passin'. If I could get intae a wee bit o' an agrument wi' him I wad be feelin' better, I think," says I.

So, yesterday, when he came along I made up my mind that I was gaein' to contradict ilka statement he made.

"It's a fine day, Mr. Fraser," he said, when Jean had taken his coat an' hat an' had given him a chair by the fire. "Oh, I dinna ken," I replied, "It's pretty cauld. Didn't last night beat a'?" I had to get up about two o'clock to see what was the matter wi' the furnace an' it made me think o' emigratin' to some place where the winter is warmer than it is here and where there's less of it."

"Tut, tut", says the meenister, "The winters are

what mak' this country the great place it is. The people are hardy an' strong because of the six months discipline they get every year from November until April. The northern countries all produce a better an' mair vigorous type o' men than dae the countries further south."

"Seems tae me there's guid an' bad in all countries, wi' the bad leadin' by a handsome majority," I replied. "To my way o' thinkin' this auld warld is on its last legs. It seems tae be tryin' tae see if it canna break all records, these times, in gaein' to the de'il. Those o' us wha thought that the war was gaein' to mak' a change in humanity an' reform the warld over-night have noo to tak' a back seat an' let the ither fellow talk for a while. War seems tae be guid medicine juist sae long as the patient is gettin' his regular dose, but once the bottle's empty there's a relapse an' everything's all tae the bad again."

"I'm afraid," says the meenister, lookin' at me, "that you've been eatin' something that hasna agreed wi' you. I dinna look at things in that way at all. The war may no' hae done all that some people were expectin' of it, but it has its effect on the world juist the same. A year after is too soon to be judgin' o' that. It's impossible to get a guid view o' anything that is too close tae the eye. Wait till things settle doon a bit before ye pass judgment."

"Juist listen to me for a meenute," he went on. "I want to tak' ye to higher ground where ye'll be better able to see things as they look to a man that has been a guid many years on this auld earth and who has tried to dae a wee bit o' thinkin' as he went along. This is a reasonable warld, subject to laws that it's easy to see are working for oor welfare, and the one way to get at the truth in the matter o' oor relation to it an' everything connected wi' this life, is to study it in the light o' oor reason an' experience. They may no' be very good guides for a while but they're the best we've got, and they will get better the mair we use them."

Scientists an' men that pretend to know, tell us that this earth has been about one hundred million years in the making and that, wi' reasonable care, it should last for a least one hundred million years yet. If this is true, and there seems no good reason tae doubt it, the one conclusion we must come to, in regard to the human race, is that it is practically still in its infancy. We're juist beginnin' to touch on the possibilities that are in store for us. As ye might say, life is all before us. And at the same time we hear men saying that the world is gaein' to the devil. The tendency is to judge everything by the present. The only way to do, gin ye want to come anywhere near the truth, is to tak' a backward look o' say a hundred years, or better still, five hundred, an' see what manner o' changes hae taken place in that time. If we want to we can go back five or six thousand years to the beginnin' o' history.

"The first thing we'll notice is that there has been a change in ideals. The moral standards o' humanity hae been risin'. Tak' the one question o' human liberty. There was a time when almost half the world was in slavery. And the lives o' these slaves were in the hands o' their masters. One o' these men who lived in the Rome o' the old days had two thousand o' his slaves crucified and their crosses stood up along the public highway. And no one thought o' interferin'. He was within his rights, according to the time in which he lived.

"Where are the slave-holders to-day? There isn't one in any civilized country on earth. But it was only in the last century that the business saw its finish. You might almost say that we have been witnesses o' this great proof that the world is growin' better. Every man in our land to-day has the right to 'life, liberty and the pursuit of happiness.' And that little piece of paper called the Ballot has given him the power to say how and by whom, he shall be governed.

"Another proof o' the progress the world is makin' is to be found in the changed standing o' woman in society. There was a day when the only rights or liberties she had were those that her husband liked to give her. Now, almost everywhere she shares man's responsibilities and privileges and she has proved that it was her right. It is only the result o' the development o' common-sense on the earth.

"And we mustn't forget to compare the way the criminal of a few hundred years ago was treated with the way he is used to-day. We've all read something about the Spanish Inquisition and we know that Spain wasn't the only country whose ideas of justice were lower than the wild animals of the woods. To-day men are working on the idea of reformin' the criminal and making him a benefit to society instead of torturin' him to death.

"What have ye to say about this great fight for the prohibition of the drink? It shows the way the wind is blowing, if nothing else. Time was when the world stood for whiskey and all the degradation that went with it without blinkin' an eye. It's different now. And why? Just because our standards and ideals are higher than those that existed in the generations o' the past.

One thing more. What have ye seen in yer own short life o' the progress o' invention? In other words, in the development o' the imagination o' man. No two ways about it, the human brain is a more highly developed machine than it was at one stage o' the game. What's the use o' tryin' to name over the contrivances it had produced in the last five hundred years. We wouldn't finish the list in a week.

"And through all this and above it all there has been the steady growth o' character, which was the purpose an' object aimed at from the beginnin'. It's what we're all here for; the making o' the real man within us. It

may be a slow job but it's being done. I think ye can see that."

"Maybe I can, meenister," I replied. "Onyway I'm feelin' better than when ye come, sae there must be somethin' o' a tonic in yer doctrine, if naething else."

"It's mair than a tonic, Mr. Fraser," says he. "Ye will find it's a good thing to live on. Good-bye for now," he says, takin' up his hat.

"Good-bye," says I, "Come again."

### Nature's Diary.

A. BROOKER KLUGH, M.A.

THE ORIGIN OF CULTIVATED PLANTS.—IV.

The potato, *Solanum tuberosum*, is a native of Chili. Before any Europeans had come to America its culture had extended from Chili to New Granada, and by 1492 it was cultivated by the Aztecs of Mexico and by many Indian tribes north of Mexico. This plant, now regarded as one of our most important staples, was introduced into Europe in two places almost simultaneously, the Spaniards about 1580 taking it from Peru to Spain, whence it soon spread to Italy, and Sir Walter Raleigh taking it from Virginia to England in 1585. From the first botanical description of the potato, given by de l'Ecluse in 1601, it is evident that the plant has changed but little under the cultivation of three centuries except in the size of the tubers. The name "potato" is derived from the word "batata," the name of the sweet potato, and was adopted through the confusing of the two plants by the early explorers.

The sweet potato, *Batatas edulis*, belongs to the Convolvulus family, and the portion which is eaten is the enlarged root, and not a true tuber as in the case of the potato. This species is cultivated in nearly all countries within, or near, the tropics, and while thus widely distributed as a cultivated plant it is not known to occur anywhere at the present time in the wild state.

The beetroot, *Beta vulgaris*, grows wild all along the coast of the Mediterranean Sea, the Caspian Sea and in Persia. In the wild state the root is slender. It has been cultivated since about 400 B.C., and was used both for its root and leaves by the Greeks and Romans.

*Brassica campestris*, the ancestor of our very numerous varieties of turnips and swedes, and also of rape, is a native of temperate Europe, and was taken into cultivation in very early days, about the time, in fact, that the Aryan race spread into Europe.

Salsify, *Tragopogon porrifolium*, is a native of southeastern Europe and Algeria. It was used by the Greeks and Romans, but we have no record of its culture until the sixteenth century, when it was cultivated in the south of France.

The carrot and the parsnip are both natives of Europe and western Asia.

The radish, *Raphanus sativus*, is a native of western Asia, and has been in cultivation since the time of the ancient Egyptians.

*Brassica oleracea*, a wild plant of the Atlantic coast of Europe is the ancestor of the following cultivated plants:—the cabbage, in which the leaves do not expand but form a head; the cauliflower, in which the thickened and consolidated flower peduncles constitute the edible portion; kale, in which the expanded but tender leaves of the tall stem are the edible parts; Brussel's sprouts, with thick edible buds in the axils of the leaves, and Kohl-Rabi, in which the short, few-leaved stem becomes bulbous and edible. The numerous and very distinct forms which have arisen from this species is a good example of the great changes which may be induced by a long period of cultivation, since any of these forms would, if found wild, be considered as distinct species, or even as constituting distinct genera.

The onion, *Allium cepa*, which grows wild from Palestine to India, has been cultivated since very ancient times. It was grown by the ancient Egyptians, and a cultivated variety was held in such esteem by them that divine honors were rendered to it. The shallot is a form of this species which originated about the beginning of our era.

Chives, *Allium schoenoprasum*, has a very wide distribution, being found wild all over Europe, in Siberia, and in Canada, where its distribution is however local.

Celery, *Apium graveolens*, in its wild form, occurs from Sweden to Algeria, and into Asia as far east as India. It was cultivated, and the leaves were blanched, by the ancient Greeks.

Parsley is a native of southern Europe, from Spain to Turkey, and also of Algeria. It was brought into cultivation in the Middle Ages and was first grown in England in 1548.

Lettuce has been cultivated for some three thousand years, and appears to have originated from wild Prickly Lettuce, *Lactuca scariola*, which is a native of temperate and southern Europe and western Asia, and which is a well-known weed in waste places in Canada.

Spinach, *Spinacia oleracea*, is not known to occur in the wild state at the present time, but it has been cultivated in Persia for three thousand years or more, and our name is indirectly derived from the Persian "ispanaj," through the Arabic "sepanach." It was not introduced into Europe until the fifteenth century.

Chicory, *Cichorium intybus*, which is known chiefly as a weed in Canada, is a native of Europe and of Asia as far east as Beluchistan and Lake Baikal. In Europe it is used as a salad, as a vegetable, and as fodder, while the ground root is used as an adulterant of coffee.

(To be continued.)

## THE HORSE.

### Diseases of the Respiratory Organs.—VI.

#### PNEUMONIA.

Pneumonia, inflammation of the lungs, is a disease in which practically all the pulmonary substances are more or less involved. While in congestion of the lungs, the larger or functional blood vessels are congested, in pneumonia it is the smaller or nutrient vessels that suffer from congestion. One or both lungs may be affected. In the former case it is called "single pneumonia," in the latter "double pneumonia."

**Causes.**—The causes are largely the same as those of other respiratory troubles, viz., exposure to cold and wet, sudden chills, standing in a draft when heated, housing in ill-ventilated or cold, drafty stables, etc. Horses kept in ill-ventilated stables are rendered more susceptible to many diseases, especially of the respiratory organs. The condition may appear as a sequel to pulmonary congestion, or may be induced by irritating gases, or by foreign bodies entering the windpipe.

**Symptoms.**—The animal becomes dull, the pulse increased in both frequency and force, probably reaching 80 or more beats per minute, and strong. The mouth becomes hot, there is well-marked elevation of temperature, reaching 103 to 104, or even 106 degrees Fahr. There is usually a dry, dull cough, coldness of the extremities, and usually some degree of rigor (shivering). In some cases the disease is ushered in by a severe rigor succeeded by a hot stage; the mucous membranes are red and injected, that of the eye sometimes of a yellowish, rusty tinge. The patient seldom lies down, and if he should do so will soon rise again. If loose he may wander about in a dull, depressed manner, now and then eating a mouthful of feed. There is usually a tendency to constipation, the bowels are irritable, and will not tolerate drastic purgatives; the faeces are usually mixed with flakes of mucus. The respirations are usually increased in number, but not difficult in the early stages, but as the disease advances they become still more frequent and more or less labored. By placing the ear against the chest an altered and rather grating sound can be heard in the early stages. In this way the examiner, by listening with his ear at different parts of the ribs, can tell whether or not both lungs are affected, and whether the whole or only a part of a lung is involved. Later on the abnormal sound becomes altered to a somewhat moist sound, and (unless the progress of the disease be checked) still later there will be an absence of sound in different parts of the lung, or possibly the whole lung. This indicates that portions of or the whole lung have become consolidated, and no air is entering the tubes. Pneumonia is particularly dangerous during two stages, first during the early fever, which may destroy life by its intensity, and secondly, during the period of consolidation, which may prove fatal, practically by suffocation. A horse suffering from pneumonia seldom lies down, but this is a symptom of many chest affections. When respirations are very frequent the patient usually stands with his elbows turned outwards, and his toes turned inwards. If great prostration succeeds, the position of the limbs may be generally altered. He will then spread his feet apart and his elbows will turn inwards. The pulse is very variable; sometimes full and hard, and sometimes full and soft; at other times weak, irregular or intermittent.

**Treatment.**—The patient must be made as comfortable as possible in a stall (preferably a box stall) that is well ventilated, and allowed to stand in such a position that his head has access to pure air. Blood letting should not be practiced, but in the early stages if the pulse be full and strong, the administration of 12 to 15 drops of Fleming's tincture of aconite in a little cold water as a drench gives good results, but must, on no account, be given except when the pulse is both frequent and strong. Perspiration should be encouraged by warmer clothing and the administration of 2 to 3 oz. of liquor ammonia acetates in a little cold water as a drench every two to three hours for two or three doses. The advisability of applying counter-irritants to the chest is a point upon which practitioners differ. We have always thought that we got benefit from rubbing the breast and sides from the shoulder to the last rib, well with mustard mixed with equal parts of oil of turpentine and warm water and then clothing the parts well. This causes considerable distress for a few minutes, but good results usually follow. The distress is not so well marked when warm water alone is used. After a few hours the mustard should be brushed off, and, if no improvement be noticed the application may be repeated. The chest must be kept well clothed, but, if the weather be warm the croup should be left uncovered. It is good practice to hand rub and bandage the legs. The patient should be given 2 to 3 drams nitrate of potassium every 6 to 8 hours, either in cold water, or placed well back on the tongue out of a spoon. He should be allowed all the cold water he will drink. This should be given frequently in order to prevent the consumption of too great a quantity at once. The feed should be of a laxative and easily-digested nature. If constipation be noticed, he should be given about a pint of raw linseed oil, and injections of warm, soapy water per rectum. The administration of aloes or other drastic purgatives must be avoided.

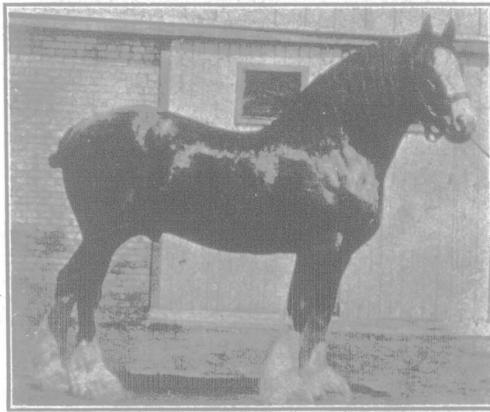
During convalescence care must be taken to keep him excluded from drafts and dampness, as a relapse is readily caused, and usually proves fatal. He should be given good hay and grain in moderate quantities, and given a little walking exercise under cover, if in cold weather. Should moderate diarrhoea or increased

secretion of urine be noticed, it should not be checked, as they are critical discharges by which effete materials in the blood are being eliminated from the body. Should the appetite be poor, it may be stimulated by the administration of tonics, as a tablespoonful 3 times daily of equal parts of powdered sulphate of iron, gentian, ginger, nux vomica and bicarbonate of soda.

The patient should not be worked or exposed for several days after a complete recovery has apparently resulted.

### Officers of the Standard-Bred Association.

The newly-elected officers of the Standard-Bred Association were omitted from the report of the annual meeting, which appeared in last week's issue. The officers are as follows: President, Sam McBride, Toronto; Vice-President, F. S. Scott, M.P., Galt; Secretary-Treasurer, John W. Brant, Ottawa. Directors: J. J. Burns, Toronto; George Pepper, Toronto; Charles Barret, Parkhill; Percy Clemmons, St. George; James Wetheral, Galt; T. H. Hassard, Markham; W. A. McCullough, Toronto; S. A. Proctor, Toronto; Thos. Bartrem, Toronto; O. B. Shepherd, Toronto; George McCall, Toronto, and J. M. Baldwin, Kilarney, Man.



Commodore.

A Clydesdale stallion sired by Baron o' Buchlyvie, and owned by T. J. Berry, Hensall, Ont.

### Feeds and the Feeding of Horses.

By DR. G. H. CONN.

It will not be our intention to go into details as to the scientific manner of feeding the work horse, but rather to outline those general principles of feeding the horse under normal conditions and also the proper methods of feeding those animals that require a special method of feeding. However the advantages and disadvantages of various feeding practices and the results to be accomplished will be given, with the idea of enabling the average feeder to maintain his animals in better flesh and to prevent many of the ailments that commonly result from improper feeding practices.

#### CONSTITUENTS OF ALL FEEDS.

For our purposes all feeds can be classed under one of the five following divisions: flesh forming, fat heat, energy producing, bone forming, fibrous or woody feeds and water. However, feeds cannot be closely and finely separated as they frequently contain more than the elements for any particular class as here given and in that case they are said to over-lap. However, they are classified in that group that is greatest in volume, and that will induce the desired digestive function.

The purpose of the flesh forming elements is for the building up of the body, or the inducing of growth. They are commonly spoken of as protein feeds and are of value chiefly in growing animals. Young animals that do not receive sufficient amounts of protein feed do not attain the usual size for their species and the growth is slow. If a protein feed is fed in too large amounts it produces a disturbance in the digestive operations and it is then spoken of as a "heating" feed.

**THE FAT AND ENERGY PRODUCING FEEDS.**—Contain the animal fats, starches and sugars and are classified as carbohydrates. The purpose of this class is to produce heat, fat and energy, and corn is a very good example of such a feed. This class assists in keeping the animals' temperature regulated and to produce enough energy for the performance of the necessary work without any loss or waste of the muscular tissue. Thus, the flesh producing class produces the strength of the muscles and organs and the fat producing feeds furnish the energy for the performance of the work.

Bone-forming elements are commonly spoken of as minerals or salts and are composed of salts of lime, soda and potash. They are particularly needed in young growing animals. They produce the necessary strength and firmness of the bones.

A large part of fibrous and woody feeds are indigestible and yet their most useful purpose is the furnishing of bulk, which is very essential in the ration of the horse.

Water is found in practically all feeds; from 10 to 12 per cent. in grains to as much as 90 per cent. in some of the roots.

#### WHAT IS A GOOD FEED.

A good feed for a working animal is one that contains those necessary food elements, that can be digested in sufficient amounts, to maintain the body temperature, satisfy the appetite and enable the animal to work without producing or inducing any irregularities in the digestive processes or the loss of any flesh. It is not at all likely that any one feed will meet the requirements in this respect, but a judicious combination of two or more will do so, and this combination is known as "a balanced ration."

It is doubtful if there ever was any species of animal, especially under domestication, that has been fed a wider variety of feeds than has the horse. Any grass or grain that is not poisonous has at sometime or other been used as a feed for the horse. Any vegetable feed that can be eaten by the domestic animals has been fed to horses successfully, and yet it is doubtful if there is another species of animal under domestication that requires as much attention to feeding for highly successful results, as does the horse.

#### THE COMMON FEEDS.

In the United States, the common feeds for the work horse are corn and oats and timothy or clover hay. It is quite true that many other feeds are fed at times, but the majority of the work animals receive the feed mentioned above. The correct amounts and combinations of the many grain, grasses and commercial feeds that are occasionally fed to horses, can be found in the leading books on feeds and feeding, but in passing we cannot urge too strongly the use of only good quality grain and hay, that is well matured and that is free from molds or mustiness that may endanger the animal's life. Horses are very susceptible to spoiled feeds and too much care cannot be exercised in selecting the feed.

It might be well to mention here that some of the grains cannot be fed successfully alone, but must be fed in combination with other grains; the most common of these are barley and wheat. With the grasses more or less danger from impaction is experienced in feeding alfalfa and in feeding Hungarian hay in large amounts over some little period of time the horses usually or at least often show a decided lameness and develop a profuse inflammation of the kindey and a rapid loss of flesh; in bad cases ulcers may be found upon the articulae surfaces of the joints.

Good hay should be of good color, either greenish or brownish, but never yellow; it should be sweet to the taste, have a pleasant odor and have a crisp feel to the touch. Hay should be made about midway between the flower stage and the seed stage and be well grown. It should not be coarse and woody. The quality and size of hay will vary according to the nature of the soil upon which it is grown. That from a poor soil being shorter and finer than that from a very rich soil. If hay is cut when it is too ripe it has not the feeding value due to the fact that it is more woody.

Hay that is dusty is either old, cut too late or when extra dry or was exposed to the sun for some little time after it was cut.

If hay is placed in the stack or mow before it is thoroughly dried out or cured, it often produces sufficient heat toward the center of the stack or mow that the hay becomes black or charred; this is known as "mowburnt hay." If it is not bad it simply produces a brown color and a pungent odor. Slightly mowburnt it does not detract from its value as a feed, but where the condition is at all pronounced, the hay is unfit for feed.

Musty and moldy hay is usually the result of some dampness or wetting of the hay after it has been placed in the stack or mow. If the dampness is not too great it simply turns musty, but if the dampness is increased it becomes moldy, having an unpleasant odor, a bitter taste which renders it dangerous as a feed for horses.

#### PREPARATION OF GRAIN FEEDS.

It is a very good practice in feeding oats that has been purchased upon the general market, to cleanse it before feeding; it may contain a large amount of foreign matter such as gravel, sticks, etc. If the number of animals is small a small hand sieve will work very well, but if large amounts are to be cleaned it can be best done by the use of a power cleaner.

Some grain becomes very hard with age, and in other cases due to conditions of animals' teeth it may become necessary to crush it; especially is this true of old corn which becomes very hard and flinty. Horses are apt to bolt the grain when it is crushed and it is advisable to mix it with chaff to prevent this.

Very old corn is sometimes soaked for horses, but due to the rapid fermentation that takes place it is a procedure that should receive very careful attention.

#### AMOUNT OF FEED FOR WORK HORSE.

This will vary considerably, but it is safe to say that it will vary from 28 to 34 pounds; about 1/2 of this being grain and the other hay or roughage. Horses that are idle but exercising in a paddock or corral will consume from 25 to 34 pounds of feed as follows: From 18 to 25 pounds of hay and from 7 to 9 pounds of grain. The above figures were approximately the average feed consumed by the work animals kept in the corrals of one of the large remount depots in the United States army during the late war. When less than 20 pounds of hay per horse was fed, the animals were hungry, as evidenced by their gnawing the fences and feed racks. Hay in this instance was kept before the animals at all times, or rather was fed but once each day; if hay could have been fed with several hours intervening no doubt the animals would have satisfied their appetite with less. Where work animals can and are stabled and are fed three times each day, they can be maintained on

from 20 to 24 pounds of about five or six pounds of which may be corn and the balance hay.

#### MANNER OF FEEDING.

If the horse was to receive his feed in the way that nature intended, and in the manner most suited for his best health, he would receive it often and in small amounts. The stomach of the horse is very small, holding but from three to four gallons. It was the natural habit of the horse to eat his feed often and in small quantities. It can be readily understood then that several feedings per day are better for the horse than only one or two. Under average conditions it is not practical to feed the horse more than three times each day, and where the details are carefully attended to this gives very good results. If it is possible and it is the intention to secure as much grain as possible in the shortest possible time, then five or six feedings per day are to be recommended.

Hay is usually best fed as follows to horses doing slow, heavy work: much the smaller portion of the daily allowance in the morning; none at the noon meal, and the balance at the evening meal.

#### WATER BEFORE FEEDING.

As we remarked above, the stomach of the horse is very small, and as we know that the horse drinks very rapidly, it can very readily be understood that if the horse drinks immediately following a meal that large quantities of the partly-mixed feed will be washed back into the intestines, and if it does not produce indigestion it will at least furnish more work for the intestines to do. Feed that is washed out of the stomach before it has had time to become thoroughly mixed with the digestive juices, will be incompletely digested and some of its nutriment will be lost.

If, however, the horse is not watered before feeding, it does not necessarily mean that it should not be watered until the next meal; it can be watered safely one hour or more after feeding.

#### FEED IN SMALL QUANTITIES.

While the stomach of the horse is quite small the intestines are quite large and are capable of slow digestion; if feed is given to the horse in too large quantities he frequently overloads the stomach, with the result that it becomes stretched or dilated and so does not pass the food into the intestines under favorable conditions. This will gradually weaken the digestive powers and will in time create a serious digestive disorder. It occasionally happens that when a horse that has developed a dilated stomach due to consuming too large quantities of feed at one feeding, will be killed from a rupture of the stomach, which may result from a fermentation of the contents of the stomach while overloaded.

#### REST AFTER FEEDING.

Just after the horse has finished the meal the bowels and stomach will be distended with food; the stomach lying as it does near the heart and lungs with only the diaphragm or nistriff (which is a thin muscular curtain) between them, it is plain that a pressing forward on this curtain, prevents free normal expansion of the lungs and normal working of the heart. This fact accounts for the short, labored breathing often seen in horses directly after a full meal.

#### BAD HABITS AND DIGESTIVE TROUBLE.

Just as with people this is natural with some horses. Others acquire it from being near to other horses, that can steal their feed, or near enough that they can steal their neighbor's; this will induce a horse to eat fast enough to keep his neighbor from stealing his feed, or if he finished his first, he can help himself to his neighbor's. This is a bad habit, as it imposes extra work upon the digestive tract. To prevent this the grain can be mixed with chaff, or it can be fed in a wide, shallow manger. Bars may be placed across the manger parallel with each other and just wide enough apart that the animal can get its mouth between them. A few large, round stones may be placed in the manger.

If such horses scour, it is advisable to have the corn ground and fed with bran. Water should not be withheld. This is more often due to a nervous condition and is usually associated with a high-strung, nervous individual or one that has a loose disconnected conformation; we often speaking of such horses as "being washy."

One of the best methods of feeding crib biters is by the use of a stall with four blank walls, and then feed them on the floor. A popular method and one generally used is the use of a wide strap buckled tightly about the neck. Some men employ the hollow bit, but it inconveniences the horse considerably and is not as suitable as the strap.

#### FOUNDERED HORSES.

Founder horses require careful attention to their feeding. The feed should be carefully regulated according to the work they are doing, and should always be carefully reduced during idleness, even though it be for a short time. The same procedure must be practiced with horses that have had "crick in the back," and "lymphangitis" or "elephant leg."

#### WIND-BROKEN AND OLD HORSES.

If they are not too badly affected they can be used fairly successfully if the bulk of their feed is kept down to the minimum, and they are not put to work upon a full stomach. The smallest possible amount of roughage should be fed. The same practice will give best results with horses that have the heaves.

Horses that are quite thin should be brought to full feed gradually; it is dangerous to put them on full feed

suddenly, as they frequently overtax the digestive organs. Old horses require much more stimulating feeds than do younger horses, and can usually be fed more grain than a younger horse.

#### THE USE OF PASTURE.

There can be no doubt in our minds but that the hard-working horse that is fed continually on dry hard feeds, thoroughly enjoys and derives a goodly amount of benefit from a feed of grass. It is a common practice among some farmers to turn their horses to grass immediately at the close of day without first feeding them grain. This practice is not to be recommended.



A. A. MacMillan

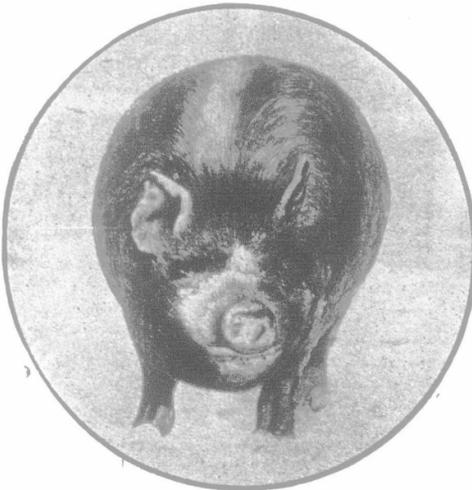
Chief of Sheep and Goat Division, Ottawa, Ont.

#### QUANTITY AND QUALITY OF WATER.

The amount of water that the horse will drink depends upon the work the animal is doing and the temperature. The average is about eight gallons and the maximum about fifteen; it is rarely that the animal will drink less than five gallons. The water should be fresh, pure and cool, and free from any color, odor or taste; horses relish their drinking water cool.

#### TIME OF WATERING.

Ordinarily during the cold months horses will drink but twice each day, and likewise while at grass; when at work they should be watered at least three times each day, and during hot weather four or more times. They



A Berkshire of The Old School.

should be watered before they are fed, but not sooner than one hour after feeding. Animals may be allowed to drink when hot and sweaty, but should be kept moving until they are cooled sufficiently to prevent any dangers from chilling. Too many horses should not be allowed at the trough at one time, and they should be given plenty of time. Horses will invariably lift their head from the trough after taking a few swallows; this is for the purpose of getting the wind, and should not be mistaken by the inexperienced as an indication that the animal has finished drinking.

C. F. McKenzie, the field man chosen by the Provincial and Dominion Department of Agriculture, to promote the scrub-bull campaign, is at work in the counties chosen by those in charge, as the most suitable to focus attention on for the present. Mr. McKenzie is a good judge of live stock, and will undoubtedly convince many that the sire in use is a losing proposition.

## LIVE STOCK.

The character of an animal is to a large extent indicated in the head.

The breed quality and character is a better indicator of what the animal is really worth than is the price paid.

The calves and pigs may advisedly be turned out in the barnyard to play during the moderate weather when the sun is shining.

Which will be the first county to proclaim to the world that "no scrub sire is used within our borders?" It is an aim well worth working to attain.

In Halton County breeders are giving pure-bred sires as prizes in an inter-township stock-judging competition. Breeders in other counties might well simulate this example.

Some stockmen say that the progeny of pure-bred bulls of good character and quality are worth double what the progeny of the scrub sire is worth at the same age. They are not far wrong.

The reports by the secretaries of the various breed associations at the live-stock meetings the first week in February show a substantial increase in registrations and transfers. Progress in a good line is a favorable sign.

If you want those calves to be hornless, clip the hair from the place where the horns appear and apply caustic potash. Be careful not to have the caustic too wet, as it may burn the skin surrounding the spot, leaving a nasty scar.

When the hair is coming off the cattle in patches, examine for lice or eczema. A mixture of sulphur and hebeore or cement and hebeore dusted into the hair will destroy lice. Washing with a mild disinfectant will tend to get rid of both troubles.

While only one or two breed associations in Canada have publicity men at work at present, practically every cattle breed organization discussed the scheme at their annual meeting. Competition between breed societies will result in rapid spread of pure-bred stock.

The spirited bidding and high prices paid for Short-horns at the Dryden-Miller sale show that many have faith in the breed, and are not afraid of the future so long as they have good stuff. The average of \$1,660 for 68 head is the highest attained by any breed in Canada.

### A. A. MacMillan Heads Sheep and Goat Division.

Recently A. A. MacMillan was appointed Chief of the Sheep and Goat Division, of the Live-Stock Branch, Ottawa. Mr. MacMillan has had rather a wide experience since he graduated from the Ontario Agricultural College. For a time he was connected with the Live-Stock Department, at Macdonald College, Quebec, and did excellent work among the sheep breeders of that Province. His efforts were chiefly centred on encouraging the farmers to grade up their flocks through the use of better bred rams. Special attention was also directed to the fitting of lambs for market, and in the grading of wool. The results of this work are quite marked, and the sheep breeders have been greatly benefited financially owing to the increased prices received for the better grade stock. Ram sales were held in various districts as a means of disseminating good flock headers and also furnishing a market for those who had rams to sell. Mr. MacMillan was also on the Live-Stock Department of the Manitoba Agricultural College, and it was from that position that he was chosen to head the Sheep and Goat Division, at Ottawa.

### The Scrub Bull Campaign.

The first official shot in the scrub-bull campaign was fired in Orangeville, on January 31. This campaign has been talked about for some months, and definite plans have been made to acquaint the public, and especially the indifferent farmer, with the disadvantages of using scrub sires. Professor Toole, of the Ontario Agricultural College, was the chief speaker at the meeting held in Orangeville, where, despite the extremely low temperature, between fifty and sixty farmers gathered in the Town Hall. Professor Toole, who has given considerable time to a study of the detrimental effects of the scrub on the live-stock industry, presented facts and figures to prove the loss which a breeder suffered by not using the best sires available. One has but to go to the stock yards and note the large numbers of poor quality animals marketed, and then compare the price with that received for those of higher quality in order to be convinced that it pays to feed the best animals available. Our live-stock industry is suffering at the present time because of the large percentage of animals marketed grading low. One of the best ways to obtain improvement is to use a high-quality sire.

C. F. McKenzie, the field man in this campaign, was present at the meeting, getting acquainted with the

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breeders in that vicinity. Dufferin County, of which Orangeville is the County town, is one of the districts selected on which to concentrate the efforts. H. A. Dorrance, the Agricultural Representative, is assisting in the campaign in this county, and it will not be his fault if Dufferin is not the first district to be free from the scrub-bull menace.

## Live-Stock Breeders the Guests of the C. N. E.

When the live-stock breeders were in annual convention at Toronto, during the first week of February, they were the guests of the directors and management of the Canadian National Exhibition at a banquet held in the Prince George Hotel, on the evening of February 5. It was an elaborate affair, and was a splendid treat to the four hundred present. During the evening the banqueters were kept enlivened by music and song. Many of the old-time songs, led by an entertainer, were sung between courses by the guests. These were interspersed by solos, instrumental numbers, and the feats of a magician.

T. A. Russell, President of the C. N. E., ably performed the task of toastmaster. He referred to the magnificent growth of the exhibition, and particularly to the success of last year. The motto "Work and prosper" has been adopted as the slogan for the 1920 exhibition, and all were agreed that it was apt and catchy. Honorable Duncan Marshall, Minister of Agriculture for Alberta, was the speaker of the evening, and, in his characteristic oratorical style, held the crowd for well on to an hour. At the beginning of his address he was in a reminiscent mood and related many incidents relative to the settling of the new country and leading up to the present high development of the live-stock industry. The speaker dwelt some considerable time on the future of the live-stock industry of the Dominion, outlining what were, in his opinion, the fundamental principles of successful live-stock husbandry.

There were several short, pithy addresses by men who have been prominent in Canadian national and live-stock affairs. Several reels of moving pictures were also put on the screen to the enjoyment of those present. A banquet of this kind brings together the breeders and exhibitors of all classes of live stock, giving them an opportunity of getting better acquainted with one another.

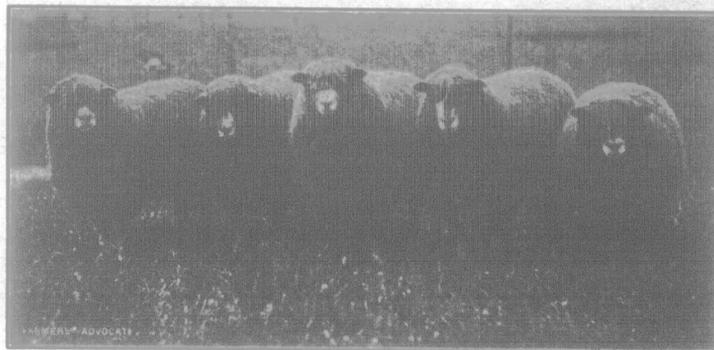
## A Good Word For The Pig.

BY ALPHA.

In a variety of ways the pig acquired a bad name and it sticks to him like glue in cold weather. Even the magic wand of the packing house which converts him into fifty-cent breakfast bacon or sugar-cured ham, alluringly presented in magazine "ads," fails to divest him entirely of the old aroma. It clings like a relic of days and conditions when our forebears teamed loads of giant carcasses fifteen miles to market and gleefully pocketed \$3 per cwt, dressed weight. Nowadays we barely grow enthusiastic over \$20 per hundred pounds, alive and kicking, delivered at the nearest railway siding. Feed and labor eat the heart out of the check before we assign the residue to the tax collectors. In Canada, no branch of live-stock farming shows more marked improvement than the bacon-hog industry. No matter what ecclesiastical pessimists may think about their world growing worse, the pig knows that his little world has grown better, compared with the months and years he used to wallow in muck and mire, until the impurities of a life-time disappeared in the scalding barrel. Now, it is a short life and clean, if not a merry one. Although he was "the gentlemint that paid the rint," he put up with so much abuse and filth in the past that to-day he revels in the new order with independent indifference. He scarcely seems to manifest any hoggish elation even when his owner is handed a sheaf of red ribbons at the national show. But when five-year-old Susie comes in with her new frock begrimed with mother earth it's "Oh, you dirty little pig," or when her hungry brother makes a raid on an especially fine brand of Maw's raspberry turn-over it's "Johnny, now don't make a pig of yourself." For sanitary reasons, Moses appears to have given the pre-historic pig a shove on his unsavory career by classifying him as "unclean," and directing the children of Israel not to eat his flesh nor touch his carcass. Later on one of the Greater Prophets scored the unrighteous with those who "eat swine's flesh and broth of abominable things." In New Testament times a bunch of 2,000 of them in which Evil Spirits took refuge as a last resort, rushed over a precipice and were chucked in the sea to the dismay of their owners.

However, the march of human knowledge has changed things. Breeders have modernized the pig, and prophets have arisen to take his name off the edible Black List, and put his product on the fashionable bill-of-fare. Yet, "pigs is pigs," and the name remains taboo. So it is refreshing to have a real somebody take up the cudgels for the pig. This has been done with rare insight and clearness in a chapter of a recent English work by W. H. Hudson, a distinguished naturalist and man of letters to whom beasts are as human beings. He is no mere sentimentalist, however, slopping over about animals, but an acute observer of long experience. As a preliminary to his justification of the pig he falls foul of the canine in a passage entitled "The Great Dog Superstition," which will hardly be cheerful reading to My Lady, who for lack of something better, fondles pampered lap dogs and pugs, but sniffs

up her nose at pigs. Whew! He admits that the dog has useful traits, developed in him by man, and we use him because we have him. For all that, however, he is of jackal descent and retains yet many of the bickering, bullying, cowardly, carrion-loving and other disgusting habits of his gowlish ancestor. He might have added further to his indictment by a reference to his bloody propensity in sheep worrying, which put many Canadian farmers out of this once flourishing branch of animal husbandry, now happily again reviving. To conclude, Mr. Hudson regards the dog as of rather small and non-progressive intelligence. He has been over-rated, and the pig under-rated. Not excepting the elephant, the pig is one of the most intelligent of animals. He is not cringing like the dog, devil-may-care like the goat nor hostile like the goose. Really he is of very democratic disposition, and in his attitude towards man, taking things for granted—or if you will, "for granted." Cleanly in habits, if he has half a chance, Mr. Hudson says it really makes him sick to see pigs quartered belly deep in mire. Many pig ailments arise from this very cause, and probably the habit of wallowing in dirty water when their blood is heated by excessive carbonaceous feeding, is because no cleaner bath is available. If encouraged they will be found very fond of tid bits, can indulge in a sort of talk and relish having their backs scratched the right way, something like other folks. That their eating habits should be commendable has support on the score of heredity, for on one side at any rate, their pedigree runs back to forest animals living on roots and nuts, which may account for the long snouts of the Tamworth. One may conclude from Mr. Hudson's observations that every honest and candid mind ought to be wholeheartedly ashamed of the scandalous way in which the pig has been regarded and treated by man. There is no animal more intelligent or cleaner or more self-respecting, and yet some people persist in treating him as if he liked dirt better than anything else and had no character to lose. Three cheers for the pig!



Typey Lincoln Rams.

## Ontario Cattle Breeders Are Out After the Scrub Bull.

President John Gardhouse called the meeting of the Ontario cattle breeders to order, and referred to the work which the organization had in hand for the coming year. The scrub bull campaign which the cattle breeders' association were instrumental in having inaugurated is financially supported by both the Provincial and Dominion Departments of Agriculture. The President referred to the damage the scrub was doing to the cattle industry, and hoped that the users of such could be shown the error of their way and induced to use sires of higher quality, showing breed, character and type. A field man has been secured in the person of C. F. McKenzie, and the intention is to concentrate the efforts upon a few counties for the present, although the agitation for better quality will be kept up throughout the entire Province.

W. R. Reek, Assistant Live-Stock Commissioner pointed out that a recent survey indicated that fully forty-seven per cent. of bulls used would come under the category of scrub or grade. Ontario was characterized as the breeding ground for good stock, as the further east the more the poor-quality sires predominated. The speaker explained the manner in which the two departments of agriculture were co-operating with the cattle breeders' organization as the hub from which activities radiated. Mr. Reek mentioned that one big factor was to get breeders to think what quality breeding stock means to themselves and to their community.

Prof. Toole believed that individual work would count for much in the campaign as the man whom it was desirable to reach seldom attended agricultural meetings. The value of good blood and quality in commercial herds must be demonstrated said the speaker. One plan would be for breeders to exchange good bulls rather than send them to the block when it was desirable to remove them from the herd to prevent in-breeding. Breeders were also advised to be careful in the quality of stock which they distributed. A. G. Farrow, F. B. Mallory, D. O. Bull, Jas. Douglas, Jas. Bowman and other prominent breeders were strongly in favor of eliminating the scrub and some of them were in favor of selling good bulls to neighbors at a lower price than was being asked a stranger in order to promote better stock in the neighborhood. Mr. Douglas believed that some breeders of pure-breds were using as poor judgment in selecting herd sires as was the average farmer. Those interested in the live-stock industry should be en-

thusiastic in the work undertaken, and might well be missionaries in their neighborhood to reason with their neighbors regarding the inadvisability of using low-grade sires, was the opinion expressed by Mr. Flatt.

The officers elected, together with the directors appointed by the various associations, are as follows: President, John Gardhouse, Weston; Vice-President, W. H. Cherry, Hagersville; Secretary-Treasurer, R. W. Wade, Parliament Buildings, Toronto. Executive: the above officers and the following two directors, D. O. Bull, Brampton; John McKee, Norwich. Directors: Aberdeen-Angus, G. C. Channon, Oakwood; Jas. Bowman, Guelph; Hereford, L. O. Clifford, Oshawa; H. D. Smith, Ancaster; Shorthorn, Jas. Douglas, Caledonia; F. W. Scott, Highgate; A. G. Farrow, Oakville; W. A. Dryden, Brooklin; W. A. Wallace, Kars; John Gardhouse, Weston; Wm. Waldie, Stratford; R. R. Wheaton, Thorndale; Holstein, B. R. Leavens, Bloomfield; W. H. Cherry, Hagersville; W. E. Thompson, Woodstock; D. Caughill, St. Thomas; R. S. Stevenson, Ancaster; C. N. Hilliker, Burgessville; J. W. Richardson, Caledonia; F. Lee, Springford; J. E. Brethour, Burford; Ayrshire, John McKee and Alex. Hume, Campbellford; Jersey, D. O. Bull and H. A. Dolson, Cheltenham.

At a meeting held on Friday afternoon the scrub-bull campaign was discussed very fully. C. F. Bailey, Agricultural Commissioner, read the agreement that had been prepared between the Provincial and Federal Governments, and this was approved. According to the plan of campaign, an executive committee from the Ontario Cattle Breeders' Association was necessary, and it was decided that this committee should consist of one representative from each of the six cattle breed associations, two from the executive of the Ontario Cattle Breeders' Association, and one representative from each of the Provincial and Federal Governments. This gives a committee of ten, as follows: Shorthorn, John Gardhouse, Weston; Angus, Jas. Bowman, Guelph; Hereford, H. D. Smith, Ancaster; Holstein, R. S. Stevenson, Ancaster; Ayrshire, Alex. Hume, Campbellford; Jersey, D. O. Bull, Brampton; Ontario Cattle Breeders' Executive, W. H. Cherry, Hagersville and John McKee, Norwich; Provincial Government, R. W. Wade, Parliament Buildings, Toronto; Federal Government, W. R. Reek, Live-Stock Branch, Ottawa.

In connection with the remuneration and expenses of those attending meetings of this central committee, it was decided that while the cause was a good one and directors should expect to sacrifice something, yet it was very important to have a full attendance at every meeting called. Consequently, it was decided that the remuneration be five dollars per day and expenses. The matter of recommending speakers to take part in the campaign in various counties was left with the Ontario Cattle Breeders' committee, as named above. Similarly, the matter of selecting bull buyers who would assist farmers in making purchases, if desired, was left with this committee. Some discussion developed when the question of counties in which the campaign is to be started was brought up. Heretofore the Counties of Lambton, Dufferin, Wentworth, Halton, Prince Edward, Grenville and Carleton had been tentatively decided upon. Some of the directors present, however, thought that the work of the fieldman, C. F. McKenzie, should be practically concentrated in one county, and Halton County was named as the county which could most easily be cleaned-up. The idea was put forward that it would be a great object lesson for other counties if one county in the Province could be pointed to as being without a single scrub bull. R. W. Wade pointed out, however, that to carry this out to its logical conclusion might mean a waste of time, in as much as ten per cent. of the farmers in that county could keep the campaign going on for three years after the other ninety per cent. had transferred from scrubs to pure-breds. The counties as named above were suggested and decided upon as centres of special effort by the committee, although other counties may begin campaigns and get assistance if they desire. Mr. Wade got the approval of the committee to have printed 12,000 application forms for beef as well as dairy bulls that are for sale, the idea being to have pure-bred breeders fill out these forms and forward them to the Cattle Breeders' Committee so that it would be possible to tell an intending purchaser where he can secure a bull. It is hoped that when any of these bulls are sold the owner will notify the Committee also, so that this application for sale can be struck out. Other application forms are to be printed and filled out by purchasers.

The question of the health of the bulls was brought up, and Mr. Reek, of the Live-Stock Branch, said that all of the bulls in the bull exchanges maintained by the Federal Live-Stock Branch would be tested for tuberculosis, but he could not say whether they would be given the sixty-day re-test. He looked upon an individual purchase outside of the bull exchange as something over which the Federal Department could have no control, but in this case it was decided that the speakers at meetings, and those assisting farmers to purchase bulls, should strongly advise in every case that bulls be bought subject to the tuberculin test.

## THE FARM.

### A New National Policy.

EDITOR "THE FARMER'S ADVOCATE":

The position taken by "The Farmer's Advocate" in the last issue for January on behalf of a Thrift Campaign in Canada must commend itself to every one who has any real concern for the economic future of the country which now faces mounting obligations in all directions, and a national public debt of \$2,676,635,724.77! The language used in the article was none too strong, and it is hoped the warning will effectually reach the consciousness of the reckless spenders who need it most. The war, which destroyed ten million lives, instead of having a sobering effect on the minds of many people, has been followed in America, at least, by an orgy of unparalleled extravagance. Hard experience, as a rule, has ingrained thrift in the fibre of rural people, and not only is it their own security but one of these days may prove a greatly needed steady safeguard to the country generally. The non-production, destruction and waste of fifty bloody months has brought millions to actual starvation, and even Canada may yet find it imperative to retrace its steps to simpler living. Under right conditions, work is most wholesome, and much that passes for needed recreation has degenerated into a costly and energy-wasting craze for amusement. Henry Ford, who has shown himself possessed of some sound ideas, declares that the cure for the present ills of the world is just work, more productive work. Farmers are well aware of the relation that intelligent labor bears to the success of their own industry. But in urban centres especially it needs to be reiterated that every dollar squandered in needless luxuries, every strike disorder, and mere wage-boosting directly or indirectly enhances the cost of production and of living. It is a process of people trying to lift themselves by their own boot straps. As a writer in "World's Work" lately pointed out, the safe road to industrial prosperity and supplies of capital necessary for increased facilities is by having a margin of production over consumption. Unless people produce more they cannot have more. And if individual returns are not husbanded, how are maturing obligations to be met? "Thrift" seems such a simple thing that it may not appeal to doctrinaires or empirics who have cure-alls to prescribe for ailments growing out of the war, but also with roots half a century old. Any individual, public or private, can practice it and it is comprehensive enough for statesmen and Governments. According to Webster and other word experts it embraces within its scope first, "Industry and Labor;" second, "Economic management and frugality," and third, "Vigorous growth like that of a healthy plant." That offers a sufficient program to keep a good many people busy. "Reconstruction" is a fine mouthful of words that politicians love to roll off their tongues, but Thrift is something everybody can inaugurate without the aid of a Royal Commission or another bunch of \$6,000 officials, and it will make a solid foundation for a new national policy—when it comes. Give "The Farmer's Advocate" proposal a trial.

Middlesex Co., Ont.

W. T.

### How a Teacher Views Township Boards.

EDITOR "THE FARMER'S ADVOCATE":

In your issue of January 29 you publish a letter from Lorne Davidson, stating his objections to township boards. Mr. Davidson is probably a trustee in his own section, and a conscientious supporter of all that is conducive to better education; but he is certainly not very familiar with average conditions in the rural schools of Peel County.

Does he realize how many rural school teachers are looking forward to the township board as the dawn of a better day? Mr. Davidson's warning against the rule of "petty Kaisers" is timely, but not in his own light. "Petty Kaisers" (if you will pardon my borrowing his distasteful epithet) have ruled long enough. The world-to-day is demanding better things—changes which will in all probability raise the tax rate. But if paying a few properly-qualified men—or women—to take time to look after our schools and paying, to teachers, salaries sufficient to keep them in our rural school districts will make for better education, then the tax rate should be a minor question.

With too many rural school trustees economy has become a little god. Everything in connection with the school from the teacher's salary to the smallest article of equipment is measured up in the light of that immortal tax bill, until the teacher rues the day when she has to ask for a box of chalk.

We are looking forward to better things. They cannot come too soon.

Peel Co., Ont.

RURAL SCHOOL TEACHER.

### Use of Wide Sleigh Would Improve Winter Roads.

EDITOR "THE FARMER'S ADVOCATE":

In regard to the four-foot sleigh, it is my contention that we will never have good roads in the winter until we have wider sleighs. With the present width, a team weighing 2,800 or 3,000 pounds has not sufficient room to travel. I would like to see an Act put through the Legislature right away to have manufacturers cease making any more such hand-sleighs as we are now using.

Parry Sound District.

W. BROWN.

### Rest Rooms.

EDITOR "THE FARMER'S ADVOCATE":

In a recent issue of the "Advocate" there was an article on rest rooms and an invitation for those having experience to contribute, so we thought our experience might help a little. This is the first year that we have had a rest room in Huntsville, so it is in the trying-out stage. At different times Women's Institute branches talked of one, and a Women's Institute member brought it before a meeting of the town Board of Trade, with the result that two men and three Institute women were appointed as a committee to look after the matter. At the district annual Women's Institute meeting one member from each branch was appointed as a rest-room representative, but the committee already appointed was left as managing committee. Since the opening the managing has been left practically in the hands of the two Institute women, who live in the town.

At the beginning ten business men of the town each gave one dollar. Later one man gave \$15. The Institute branches in the district gave from their funds, one \$5; three \$10; and four \$15. Over \$40 was taken in from the sale of tags on Show Day.

There are two rooms, one reserved for ladies only, and a key to admit to a toilet. With the rooms go a large table, a small stove, and a dozen chairs. An appeal for furniture was made and a secretaire, two chairs, some pictures, and small mirrors were given. The rent is \$7.50 per month. Some extra furnishings were bought, such as blinds, curtains, a second-hand couch, small tables, rocking chair, and some smaller articles. During the summer the rooms were open all the time, but to save expense there was no caretaker. Now we pay \$5 per month to a woman to look after the fire and keep the rooms tidy. Other cleaning has been extra.

The advantages of such a place should appeal to all. Some of our difficulties have been trouble in finding a suitable caretaker, getting wood when first needed in the fall, the ever-present persons who will abuse a privilege and do not properly care for the toilet, carry away small articles and commit disgusting offences about the place. These were done more by young townspeople than by those from the country, but at the same time those whom it should benefit most lack the interest one would expect.

We think the idea is such as could be planned for any town, where stables, storing room, rest room, etc., are all in connection, and where there could be caretakers for both outside and in always at hand. I believe it is a real need of the farming districts, and the U. F. O. and W. I. should provide them as soon as possible.

A READER.

### Advantages of Wide Sleighs.

EDITOR "THE FARMER'S ADVOCATE":

In your issue of February 5, I noticed an article on the width of sleighs. I think that four feet between the runners would be a great improvement on the narrow sleighs. I cannot understand why the sleigh was ever made narrower than a wagon; maybe it was because they could go along a narrow road through the bush. Here, in Lambton County, we have our roads well graded so that the water will run off the centre of the road, which leaves the crown a few inches higher than the wheel track. Now take the narrow sleigh on a well-graded road, it is next to impossible to keep it from sloughing, and if a man has a load of hay or any high load on he is very lucky if he gets to the end of his journey without upsetting. If the sleighs were wider there would not be so many upsets, because each runner would run farther over the top of the grade or crown. Some people say if the manufacturers made the sleighs wider, or if the Government passed a law against making the sleighs narrow, they would have to buy new sleighs and cutters because the old ones would not track. I do not believe it would make much difference after the road was travelled a few times. Another argument in favor of wider sleighs is that it would facilitate the running of automobiles during the winter.

Lambton Co., Ontario.

G. McDONALD.

### CANADA'S YOUNG FARMERS AND FUTURE LEADERS.

#### How We Handle Our Stockers.

EDITOR "THE FARMER'S ADVOCATE":

The farmers in this section of the Province raise and dispose of a large number of beef cattle every year. Some raise their own, while others buy at different stages of growth. We have found, by experience, that we can buy cheaper than we can raise them. I will, therefore, try to give you some idea how we buy, feed and sell our stockers.

In the fall we buy twenty or thirty yearlings, weighing between six and eight hundred pounds, and of any of the beef breeds. We pay particular attention to conformation, always choosing steers that are comparatively wide, round and deep ribbed. We find that the most forcible factors in determining the profits from this work is the skill of the purchaser in selecting animals that will make good feeders, and then buying them at a proper price.

As winter approaches the cattle are allowed to run in the barnyard at night, and later are introduced to their winter quarters, which is the basement of a barn

90 by 35 feet, with a cement wall on three sides and a boarded front. The cattle enter by a door 5 feet wide, opening to the south, which is never shut unless during an excessively cold snap. There are two long mangers running lengthwise in the centre. The feed is put into one end of these from above, and then carried along inside of the wide mangers.

During the winter our cattle receive all the corn stalks they will clean up morning and night, with wheat or oat straw in the middle of the day. They do not receive any roots or ensilage, but toward spring when their appetite for corn is failing, we substitute hay for it. Long after the new grass appears they will come to the barnyard for their feed of hay. They have, at all times, access to a spring creek which remains open all winter. Much time is saved in cleaning the stable, which, with us, is made an annual job. The cattle come out in the spring in a healthy growing condition, ready to make rapid gains on the early pasture found on the hillsides common to the pasture land in this part.

In June or July they are sold. The buyers are on the job, and there is a great deal of competition among them. We usually both buy and sell by the lump system. We should possibly, to receive the most, ship our cattle as we could fill a car, but we are so inexperienced in this line that we feel safer to let the more experienced buyers sell them for us. Some people prefer selling by the pound. I think that would be the best where the scales were not more than three or four miles away. In our case the shipping points are ten and seven miles away. In driving the cattle that far they lose a great deal, especially if the day is warm. We can usually estimate our cattle within a few pounds and then by studying the markets we can set our price.

Northumberland Co.

HOWARD A. JAMIESON.

NOTE.—We are very glad for Mr. Jamieson's letter, and hope to receive more letters of this practical nature from readers of this department. Mr. Jamieson expresses a hesitancy that is very common when he says that when it comes to marketing his stocker cattle "we are so inexperienced in this line that we feel safer to let the more experienced buyers sell them for us." Now that farmers have representatives of their own on the Toronto market, we believe Mr. Jamieson and others in his position could do no better than consign to the Live-Stock Department of the U. F. O. Co-operative Co., and go to Toronto with the stock—Editor.

### Make the Literary Society Worth While.

EDITOR "THE FARMER'S ADVOCATE":

Regarding the question, "Have you ever worked in a literary society; do you consider it worth while?" I might say, having worked in one for three or four years and having observed the results of the society's work, I consider it is worth while, providing you work with a definite object in view.

If meetings are held just so the young people of the community may have somewhere to go and some kind of program is put on once a week "just so we'll have a meeting," I don't believe much will be accomplished. If you aim at training in leadership and executive work, training in public speaking, intellectual improvement which comes from the study of books and real good fun from well-planned social evenings, a great deal may be accomplished.

In a certain ordinary farming community, with not a great many young people, for three or four years we had a society which had these aims in view. We had a simple organization. A committee of three, appointed each month, shared with the executive the responsibility for the meetings for the following month and planned the meetings several weeks ahead. This gave training to many in executive work. In our meetings we tried to avoid having certain of our more active members entertain the rest of the society for the winter. Recognizing the fact that those who took part received the greatest benefit, and aiming at the greatest good to the greatest number, we tried to get the whole society working. We had a rule which was made partly in fun, but which was fortunately taken up seriously by the members, that if one were asked to take a certain part he should do so or get a substitute. There were few substitutes. Of course, we knew our members and asked those with the gift of song to sing, and those with the gift of speaking to speak; everyone excelled in something, if it were only in pouring tea or serving cake on social evenings.

Once a month we had a lecture from an outside speaker—doctors, teachers, agricultural representatives and prominent farmers gave splendid talks. The doctors' subjects varied from Christopher Columbus to tuberculosis. During the first year of the war one gave a talk on "Care of the sick and wounded in modern warfare." He lectured for an hour or more, and the young people were so interested they asked questions for another half hour.

One of the best evenings we had was one on potato growing, with a prominent gardener leading the discussion; not a very literary subject, but educational. Sometimes we had joint meetings with the Farmer's Club with a man from the Department in to lecture. At Christmas two or three students home from O.A.C. gave an account of their experiences and studies there, and mentioned the fact that students who had worked in a literary society at home had the advantage in similar college activities, and in the course which they had to take in public speaking and debate.

In our monthly debates we tried to get new debaters

started and judges trained by having two short debates in one evening. One evening the girls debated on "Resolved that a farmer makes a better husband than a business man," and the boys on "Resolved that a business girl makes a better wife than a home girl." With three on each side and three judges each time we had eighteen take-part. Of course, we had more serious debates on such subjects as "Intensive versus Extensive Farming" and "Ontario versus the Northwest Provinces," and current topics, and occasionally we had debates with other societies.

For our literary meetings we took the study of an author, his life, works and readings from his works, Canadian poets, prose writers and biographies. The school teachers helped a good deal with these meetings.

On our social evenings we played every good game we ever heard of. Some favorites were: Progressive debate, in which we sat in a large circle, girls and boys alternately, and a referee in the centre gave out subjects for two-minute debates, humorous subjects usually. Every two minutes the boys moved on to the next partner, and when they had all made the circle took a vote on which girl debated best. With everyone debating at the same time, there is no lack of conversation. Another good game was "Who Am I?" in which each had the name of some noted person pinned to their back and guessed his identity by questioning his neighbors, the questions being answered by "yes" or "no." We often used guessing games, guessing names of flowers, guessing names of songs from a few bars played, advertisements from pictures cut from magazines and so forth. And always we had lunch.

Occasionally we had an evening of impromptu speaking. If a member were called upon he was expected to at least go up and announce his subject and make one or two remarks on it. When we organized not one-third of the members had ever attempted speaking in public. At the end of the first winter practically all had tried it and several developed into good speakers and have found use for it.

During the last two or three years of the war we had no young people's society. A number of the boys were overseas and the girls were busy. This year we did not organize but the Library Board (we started a Government library six years ago in connection with the literary society, and it has been growing ever since), began conducting educational meetings.

Before Christmas we had a lecture an evening on current events, an evening of book reviews and a social evening. Current events could profitably be taken up once a month. For book reviews we had five members review books from the library. As it was a stormy evening with small attendance we just met around the stove, but it was one of the best meetings we had, so we decided that small attendance was no drawback. For social evening we had an authors' match, naming authors and books and a pencil game of illustrating names of books. Having our public library in the same hall in which we held our meetings helped both the library and the young people's society.

It would be a fine thing to have community singing at every meeting if it is possible to get a good leader. I shall be glad if any of these suggestions are helpful in other communities, either for work in literary societies or farmer's clubs.

Lambton Co., Ont.

E. M. C.

NOTE.—E. M. C. has made many splendid suggestions and we feel sure other readers will be helped a great deal by them.—Editor.

## AUTOMOBILES, FARM MACHINERY AND FARM MOTORS.

### Avoid Accidents From Boiler Explosions.

A correspondent from Pittsburg Township, Frontenac County, who sends us the accompanying view, writes as follows: "Enclosed please find view taken of a wreck of what was a few hours before a large, prosperous cheese factory, which was blown up by a boiler explosion, in July last, and in which two young men lost their lives. The explosion, which was heard for miles, occurred about seven o'clock on Saturday evening, after the milk had been delivered. The boiler-house and main factory were completely demolished, only the curing-room being left standing. The factory, which is the Central Cheese Factory at Atkinson has not yet been rebuilt."

The accompanying illustration, together with the brief explanation given by our correspondent, enable us to visualize this and many other accidents which occur every year from boiler explosions. A tea kettle over the fire and filled with water is really a boiler of small proportions. When fuel is burned beneath the kettle the heat is transferred to the bottom of the kettle, or boiler, and thence to the water inside. Warm water is lighter than cold water, so that a movement is set up within the kettle by which the water that has been heated rises toward the top and other colder water takes its place. By the time this action has continued until the water in the kettle has been raised to a temperature of 212 degrees F., it will have reached the boiling point and will throw off steam. The reason why this temperature must be reached before steam can escape is that the pressure of the atmosphere, being equal to 14.7 pounds per square inch, bears upon the surface of the water so hard that a heat of 212 degrees F. is necessary before the pressure of steam, as a result of the heat applied, can overcome it. Thus, if the kettle were up on a high mountain top, where the atmospheric pressure

is not so great, boiling would occur at a lower temperature.

Boilers are of many different types, depending upon whether they are stationary, portable, locomotive, marine, horizontal or vertical. It is essential that in every boiler there be a safety valve, so that the steam may be reduced before too high pressure has been reached. Of the two common types of valves, the spring-topped valve is generally used on traction engines and the better class of boilers. They have the advantage of acting more quickly, as well as being more reliable. Then, too, they will allow the pressure to fall about five pounds before closing, if they are properly constructed, while the ball and lever valve allows the pressure to fall only very slightly. Boiler horse-power by test is reckoned to be equivalent to evaporating thirty pounds of water at 130 degrees F., under a pressure of seventy pounds gauge. Calculated on the basis of heating surface, which consists of the entire area of those parts of the surface which have fire on one side and water on the other, the common rating of boiler horse-power is fourteen square feet per horse-power. This, however, varies somewhat with the style of the boiler. Sometimes, too, it is considered that from one-third to one-half square feet of grate surface is equivalent to one horse-power.

All present-day boilers are made of mild steel plate. This is a tough ingot metal with a tensile strength of about 55,000 to 60,000 pounds. All welded rods and



The Result of a Boiler Explosion.

stays should be of wrought iron. Boiler rivets are either of wrought iron or mild steel. The rods from which they are made should, when cold, bend around a rod of their own diameter, and when warm should bend double without a fracture. Cast-iron can be used for those parts which are not subject to extremes in temperature, such as couplings, elbows, etc.

The greatest destruction from the explosion of boilers is due to unequal expansion, which develops the greatest strain. When handling a boiler, one should always be careful that the safety valve is inspected often for stoppage, etc. It should be placed in a pipe by itself and should be set to read the same as the steam gauge. The gauge should be set by another gauge known to be correct, after which the safety valve may be set according to the gauge on the boiler. To keep the gauge working right it should be taken off every night and placed where it will not freeze, and in the morning the safety valve should be examined for leakages or stoppages. One should always examine also the water glass, and see that the cocks above and below it are open and free from stoppage. Before firing up, a new man should always determine the level of the water in the boiler as compared with the water column. If it is a stationary boiler, take off the man-hole cover and fill until the water has reached the lowest limit in the glass. Fill again until the proper height has been reached in the boiler, and then note the level in the glass. If the engine is a traction or portable one it should set level. It is very important before firing up to see that there is plenty of water.

The fire should not be cleaned out oftener than necessary. Should the water happen to get below the danger line in the boiler, the fire should immediately be covered with ashes, dirt, or even fresh coal, and then drawn as soon as it can be done without increasing the heat. Never draw the fire, start the feed pump, start or stop the engine, or open the safety valve until the fire has cooled sufficiently. Authorities have stated that one-tenth inch of scale on the boiler plate will require fifteen per cent. more fuel. This scale is a non-conductor of heat, and consequently the fuse must be kept hotter in order to heat the water when this scale is present. It is essential that a boiler be kept clean both inside and out, and while there are wide variations from all set periods of cleaning, the traction boiler should usually be cleaned once a week. Fire tubes should be cleaned at least once a day, and sometimes oftener. This can be done by means of a scraper or a steam jet. Scraping should always be done before firing up in the morning. We quote the following paragraph regarding imperfections in boilers from "Farm Machinery and Farm Motors."

"A blister in a boiler is identical with a blister on the hand. On account of imperfect material or dirt, the metal will separate and one part will swell. Wherever there is a blister it is best to cut this part out and patch. If the blister is around the fire, a new half sheet should be put in. A boiler is likely to bag if dirty, or if a quantity of oil has found its way into it. The

oil will stick in one place and keep the water away. Then the fire will overheat this place and the inside pressure force it out. In forcing out the place it breaks the oil scales and allows the water to run in and cool it off. Sometimes it is best to put in a new half sheet where a bag is formed, but often it can be repaired by heating the place and driving it back. Cracks sometimes form in the flue sheet because the flues are expanded too much. They are often formed in riveting. Whenever a crack is discovered it can be mended by drilling a hole in the end of the crack and putting in a rivet. This keeps the crack from getting larger; then the crack can be filled in. In laying up a boiler, always clean it thoroughly. Scrape and wash it inside and out, and then paint the outside with black asphaltum or graphite and oil."

## THE DAIRY.

### Eighth Annual Meeting of the Southern Counties Ayrshire Club.

On Wednesday, January 28, the Southern Counties Ayrshire Breeders' Club held their eighth annual meeting at Tillsonburg. The late arrival of trains cut down somewhat the time at the disposal of the meeting, but a satisfactory amount of business was done nevertheless. Among other things it was decided to include the Counties of Wentworth and Lincoln in the district covered by the Club. It was considered very doubtful whether a spring sale would be held, because it seemed as though very few members would have any surplus stock to dispose of. The matter of sending a few choice animals, however, to the national sale in the United States next June was discussed, and the Secretary was instructed to secure full particulars and furnish the same to all members by circular. An inspector was appointed to inspect any stock consigned to the American sale. The annual field day of the Club will be held at Lynedock in June, and the Secretary was instructed to secure if possible Professor Wade Toole, O.A.C., Guelph, and Professor H. Barton, Macdonald College, Quebec, as speakers. The officers of the Club elected for the ensuing year are as follows: President, J. L. Stansell, Straffordville; Vice-President, R. J. A. Smith, Hatchley; Secretary-Treasurer, John McKee, Directors: J. A. Morrison, Mt. Elgin; A. S. Turner, Ryckman's Corners; H. McPherson, Norwich; F. H. Harris, Mt. Elgin; Geo. Apel, Mitchell; Auditor, E. Burpee Palmer, Norwich.

### Comparing Methods of Marketing Dairy Products.

L. A. Gibson, Dairy Commissioner for Manitoba, gives a brief comparison, in the following paragraphs, of the different methods of marketing dairy products as practiced in Canada. One should be careful, however, in making use of these comparisons that the figures used are applicable to one's own locality.

"The question is asked: How do the different methods of disposing of milk and its products compare as to profits? The different methods of marketing dairy products usually practiced in Canada are: 1. Selling the milk for domestic use; 2. Selling sweet cream for table use or ice cream making; 3. Supplying cream for butter-making in creameries; 4. Making dairy butter on the farm; 5. Cheese making. As the market prices of dairy products vary from month to month, I will use present Winnipeg prices for comparisons.

"MILK PRICES.—The price paid the farmer to-day for milk in Winnipeg is \$3.85 per 100 pounds on the basis of 3.6 per cent. fat, milk delivered. The cost of delivering this milk depends upon the length of the haul, but it would probably average 25 cents per 100 pounds, plus 10 cents drayage, which would leave the farmer \$3.50 per 100 pounds of milk at shipping point.

"The producer of market milk has certain costs to meet other than those sustained by those who sell the product to creameries in the form of butter-fat. Those who produce milk for shipping have an investment in equipment, such as milk cans and cooling apparatus, and many have extra hauling trips over and above those producing cream.

"CREAM FOR BUTTER FACTORIES.—The price of No. 1 cream to-day for butter-making is 66 cents per pound butter-fat delivered, and it costs an average of 2 cents per pound fat to deliver this.

"100 pounds of 3.6 per cent. milk will give 3.6 pounds of fat, which at 64 cents, is \$2.30 per 100 pounds of milk. If we are to compare this with milk selling, we must add to this \$2.30, the value of the skim-milk for feeding purposes, which, according to Prof. Farrington's latest experiments, is 50 cents per 100 pounds. A number of practical feeders place a higher value on it.

"SWEET CREAM FOR DOMESTIC USE.—This usually sells for 5 cents per pound fat more than cream for butter-making, and there is generally a shortage of this class of cream. The Winnipeg market price for sweet cream to-day is 70 cents per pound fat, less 2 cents per pound fat express. Multiplying 3.6 (pounds butter-fat in the cream thus sold) by 68 cents gives us \$2.44; and this plus 42.8 cents (value of skim-milk) equals \$2.86 per 100 pounds of milk if sold in the shape of sweet cream.

"DAIRY BUTTER.—100 pounds of 3.6 per cent. milk, if made into dairy butter on the farm, will make from 4¼ to 4½ pounds of butter (more or less depending

upon the over-run, which really means the amount of butter made over and above the fat). The amount of over-run is determined by different conditions, such as exhaustiveness in the churning, amount of salt, water and casein added.

"The value of 100 pounds of 3.6 per cent. milk when manufactured under this method depends upon the market and the method of disposal. Each dairy butter-maker will know what price he is receiving for his butter. There is considerable extra labor involved in making dairy butter, and this must be charged against it. An export trade cannot be built up through dairy butter on account of lack of uniformity. The dairy butter-maker, of course, has the skim-milk for use at home.

"CHEESE.—100 pounds of 3.6 per cent. milk, if manufactured under cheese, will make 9.39 pounds, and, providing the wholesale price of cheese is 25 cents, we have this result: 45 cents multiplied by 9.39 equals \$2.34. Off this will have to come the manufacturing charges.

"The Dominion and Provincial minimum standards for milk are 3.25 per cent. fat and 8.50 per cent. solids not fat, and the minimum for table cream is 18 per cent. fat."

The average composition of normal milk is:

	Per Cent.
Water.....	87.17
Butter-fat.....	3.69
Casein.....	3.02
Albumen.....	0.53
Sugar.....	4.88
Ash.....	0.71
	100.00

The average composition of butter is about as follows:

	Per Cent.
Fat.....	81.00
Water.....	15.00
Salt.....	3.00
Curdy matter.....	1.00
	100.00

### January Holstein Records.

During the month of January the official tests of seventy-two cows and heifers were accepted for entry in the Holstein Record of Merit. Riverdale Rose, leader in the mature class of twenty-six animals, is the outstanding cow for this period. Her record of 35.34 lbs. butter from 738.8 lbs. milk in seven days stands well above any other record for the month. Next to her comes Mechthilde Christmas Gift, with 29.26 lbs. butter from 650.1 lbs. milk. Both cows are five years old. The best of four senior four-year-olds is Annie Ladoga Canary, with 29.47 lbs. butter from 600 lbs. of milk. There were only two junior four-year-olds, led by Lady Jane of Crystal Spring with 20.38 lbs. butter. Nine senior three-year-olds were led by Dora Fayne Posch with 26.05 lbs. butter in seven days and 61.57 lbs. in fourteen days. Donview Lady Echo leads a class of fifteen senior two-year-olds, with 22.68 lbs. butter from 413.9 lbs. milk. In the class for records made at least eight months after calving, Calamity Snow Mechthilde has a record of 23.84 lbs. butter from 490.5 lbs. milk, which gives her second place in Canada only to Jemima Johanna of Riverside.

The semi-official records in the Record of Performance work show the wonderful record of Zarilda Clothilde 3rd De Kol, the cow that at the age of eight years made a record of 1,155 lbs. butter from 33,145 lbs. milk. This cow, we understand, has recently been sold to a well-known and wealthy Holstein breeder in the United States. In the four-year-old class we have the excellent record of Calamity Snow Pontiac, with 1,060 lbs. butter from 25,338 lbs. milk. Nothing startling occurs in either the two-year-old or three-year-old classes. Of these two classes only one three-year-old and five two-year-olds made over 500 lbs. butter. There are five entries in the former class, and thirteen in the latter.

### Peel County Milk and Cream Producers Meet.

The Town Hall, Brampton, was well filled at the annual meeting of the Peel County Milk and Cream Producers' Association on Saturday, February 7. The Association was in good condition financially, having a balance of \$278.07, notwithstanding a falling off in membership during the year. The Honorable Manning W. Doherty, Minister of Agriculture, and former President of the Association, was present and delivered a good address. The Minister said that never was there a time in the history of this country when farmers should support farmers' organizations as now. The dairy industry will play a very important part in meeting the share of the national debt which agriculture will be called upon to pay. With regard to the price of milk, the Minister said that we must have figures to show the consumers that the price of milk has not been raised excessively. He believed in the fairness of the city people when the facts are placed before them.

The membership fee of the Association was raised to \$2.00 and it was decided to affiliate with the Ontario Milk and Cream Producers' Association. Professor A. Leitch, O.A.C., spoke regarding the cost of producing milk, and said that a higher milk yield per cow is the greatest single factor tending to reduce the cost of

production. The speaker said, in brief, that it does not matter how well you organize or how well you feed, you cannot overcome the disadvantage of a cow that yields less than 4,000 lbs. of milk per year. The consumer should not be asked to pay the bills of such slackers. While better feeding usually pays, it is a more expensive way of increasing the milk flow than better breeding. The use of a grade or scrub sire was condemned.

Professor Harcourt, O.A.C., presented some interesting figures to prove that milk is still being neglected as a food. He said that in spite of the fact that milk is the cheapest form of animal fat, and that it offers by far the cheapest form of protein at present prices, it is still considered a luxury by many consumers, and is the first supply to be cut down when the household is forced to economize. One gets a third more protein with milk at fifteen cents a quart than from beef at forty-five cents a pound, and about one-half more fat per dollar expended. In addition to this, milk is rich in carbohydrates which protect the fat, and these, therefore, are very valuable. In addition, milk is very palatable and easily digested, so that with meat at forty-five cents per pound, milk should be worth thirty to thirty-five cents per quart.

The officers elected for the ensuing year are as follows: President, Robert McCulloch, Snelgrove; Vice-President, W. J. Sanderson, Malton; Secretary-Treasurer, J. A. Carroll, Department of Agriculture, Brampton; Executive Committee, H. A. Dolson, Norval; W. Findlay, Norval; A. Monkman, Brampton; and Wismer Hall, Churchville.

## HORTICULTURE.

### Commercial Varieties of Apples.

By W. T. MACOUN.

#### PART III—EARLY WINTER VARIETIES.

It was difficult to know where to place some of the varieties mentioned in this group, whether to put them here or among the winter sorts. The varieties put in this group are those which remain in good condition in most apple districts from November until February.

The two outstanding early winter varieties to-day are the McIntosh and Jonathan. There are, doubtless, more trees of Jonathan planted than of McIntosh, but McIntosh is an apple which we believe is rapidly overtaking the Jonathan in quantity of fruit produced, and, as the McIntosh is a Canadian apple, we are naturally proud of the high place it is taking.

The first tree of the McIntosh apple was found along a road by John McIntosh, Dundela, Ont., in 1796. He planted it out in his orchard, and from that tree have come the thousands of trees growing in Canada and the United States to-day. It succeeds well over a very wide area in Canada and the United States, but is not so popular near the Atlantic and Pacific Coasts where the air is relatively moist as it is too difficult to control the apple scab in such places. The good points of this apple are hardness of tree, a regular bearing habit, productive without being over productive, fruit of good size, very attractive in color, very good in quality, and, while not very suitable for packing in barrels, makes an excellent box fruit, which command a very high price. Very large plantings of McIntosh have been made in recent years in most of the Eastern States, and in the Northwestern States, Ontario and Quebec, and in some parts of the Maritime Provinces, and in the upper country in British Columbia. It is better in quality than the Jonathan, which may be considered its rival, although Jonathan has still the lead for quantity of fruit available.

Although the Jonathan originated in the East, it is the Middle West, West and Northwestern States which have made it famous, and it has been planted more extensively, perhaps, than any other variety in British Columbia. In the Eastern States and in Eastern Canada the fruit is not large enough, as a rule, and is not much planted. It is an early and heavy bearer, and the fruit is very handsome, being of a deep but lively red with patches of yellow often showing, which adds to its beauty. It is a seedling of the Esopus Spitzenburg, and, like that variety, has a high flavor. At present Western grown fruit of this variety meets a ready sale in the cities and towns of Eastern Canada and the United States early in the winter when offered for sale in boxes.

The Province of Quebec is noted for its Fameuse, and, until the McIntosh became well known, was more largely planted, but, while the Fameuse is a fine apple, it is rapidly giving place, where it was once grown, to the McIntosh. The Fameuse is still considered a leading apple in the States of Maine, Vermont, and New York, and in parts of Ontario, where it is known as the Snow. It has not been a favorite near the coast.

Rhode Island Greening is one of the most important early winter apples though we know that in Nova Scotia it keeps until near spring. It is one of the most highly thought of apples in the Eastern States, and in the State of New York comes second only to Baldwin in importance. It is also very popular in the warmer parts of Ontario, and, as we know, is very much grown in the Annapolis Valley. It is essentially an Eastern apple and because of its excellence both for cooking and eating will, no doubt, continue for some time to be one of the best sorts to plant.

The Tompkins King is a well known early winter apple and one of the handsomest in appearance and best in quality. This is a rather shy bearer in most places where it is grown, which is its main fault, but I

have noticed that in Nova Scotia in the East and Vancouver Island on the West it is much more productive than in the interior, and thus seems particularly suitable for coastal conditions. It is only in Connecticut and New York States in the United States that it seems to be regarded as a popular commercial variety. It is now very little planted in Ontario, and is more popular in Nova Scotia than in any other part of Canada.

The Grimes succeeds very well over a large area and is one of the best early winter apples. It is a leading variety in the Middle Western States, in the Northwestern States, and to some extent in the Eastern States, and is one of the popular varieties in Virginia. It is not planted much in Eastern Canada, but does very well in British Columbia, particularly in the Okanagan. While it is a yellow apple and not so attractive in appearance as the red sorts, where it is well known it is in much demand owing to its very good quality.

The Wagner is, we know, regarded as a winter apple in Nova Scotia, but in most places where it is grown it does not keep well past mid-winter. It is considered a leading apple in Massachusetts but in no other State is it mentioned as being an important variety. It has been planted to some extent in the Northwestern States and in British Columbia, but the tree has been found tenderer than Jonathan, it is not as good a shipper as Jonathan; hence Jonathan is a more profitable variety as a filler. It has been planted to some extent as a filler in Ontario, and, as we know, is largely grown as a winter apple in the Annapolis Valley. It is a very early and heavy bearer and on this account makes a good filler. The fruit is handsome in appearance and good in quality, but a rather poor shipper in most places on account of its tender flesh.

The seven varieties already referred to, namely, McIntosh, Jonathan, Fameuse, Rhode Island Greening, Tompkins King, Grimes and Wagener are, perhaps, the most noted of the twenty-one included with the early winter sorts.

Two other well known sorts, though popular over a relatively limited area, are Ribston and Hubbardston.

Ribston is an important variety in Nova Scotia in the Annapolis and Cornwallis Valleys and is grown to a limited extent in other parts of the Maritime Provinces; it is planted to some extent in Ontario though it is not an important variety here. It succeeds well in the Lower Mainland of British Columbia and on Vancouver Island, but in none of the United States is it mentioned as an important variety. On account of its being an English variety and well known there, the Nova Scotians are able to find a good market for this variety in England.

The Hubbardston is growing in popularity, although it is not widely planted. It is one of the important varieties in the State of New York and is highly regarded in Western Ontario. It resembles the Ribston somewhat in outward appearance, and is of good quality and in season in November and December in Ontario.

Delicious has become a noted apple in a comparatively short time. It was well advertised by the introducers, and its remarkably tender flesh, and mild but high flavor have made it a favorite with most people who have eaten it. As grown in the Northwestern States and in British Columbia it is a very handsome apple of large size and very good quality. Some of the Eastern and Southern States now mentioning it as one of the leading or promising varieties are Maine, New Jersey, Georgia, New Mexico and Virginia, and, no doubt, it will soon be called promising in other districts. Where the season is relatively short and cool it does not develop as well as in those parts where the season is long and warm, and unless it is highly colored and well developed it does not compare favorably with other varieties more suited to the conditions. While the season of Delicious is early winter it keeps well in cold storage until the following summer. In some places Delicious is subject to water core and to the naturally tender flesh becoming too soft. The Delicious has not proved hardy at Ottawa.

The Yellow Bellflower, or Bishop Pippin as it is known in the Maritime Provinces, is, perhaps, more important in the apple districts of California than in any other part of America. There it is a popular autumn apple. It is mentioned as one of the leading apples in New Mexico, so that it is known far from the Maritime Provinces. It is still regarded as one of the leading apples in New York State.

The Ortlely belongs to the Bellflower group and is grown to a considerable extent in the Northwestern States.

The Winter Banana is one of the newer winter apples which deserves mention. It is handsome in appearance and very good in quality, but, as it shows bruises readily, it is not now being planted extensively as a commercial apple. It has been planted to a considerable extent in the Northwestern States and in British Columbia. It is not now mentioned as a leading variety in any of the United States.

Westfield Seek No Further is a popular variety over a limited area. It is very productive and of good quality, and the tree is hardier than some of the other early winter apples. It is inclined to run rather small unless well grown. It is still considered one of the important apples in New York State, and is well thought of along Lake Ontario in the Province of Ontario.

Sutton Beauty has not increased in popularity as rapidly as one might expect, to judge by its handsome appearance and good quality. Vermont is the only State which lists it as an important variety, although it has been planted fairly extensively in New York State and, doubtless, in other Eastern States.

Wolf River has been planted instead of Alexander where a large red cooking apple is wanted. It resembles

Alexander very much but keeps better. This variety is planted to some extent in the colder parts of Canada where there are commercial orchards, and in Minnesota and Wisconsin especially in the United States.

Cox's Orange Pippin. This delicious English variety is grown to a limited extent only in America. It is succeeding well in parts of British Columbia, and in the warmer parts of Nova Scotia. It is not very productive, as a rule.

King David is one of the newer apples which has come into notice mainly in the Northwestern States and in British Columbia. It is dark red in color, of striking appearance, and good quality. It is not mentioned as promising in any of the Eastern States.

Opalescent. This is a large, handsome red apple of recent introduction. The tree is a good bearer. Young trees seen in Nova Scotia in 1919 were bearing heavily. The flesh of the fruit is, however, coarse. It lacks juice, and although well flavored is not a high-class apple.

Scarlet Pippin, a handsome Fameuse seedling, keeping better than Fameuse, is planted to a limited extent in Ontario.

Milwaukee is a winter apple of the Oldenburg type, and is useful as an early and heavy bearing hardy variety.

Hibernian is, perhaps, the hardest apple planted in America and is useful in the coldest parts. It is not desirable where other sorts succeed as the quality is low.

Two promising early winter seedlings of Northern Spy originated at Ottawa are Ascot and Rocket.

(To be continued.)

## FARM BULLETIN.

### Canadian Produce Association in Convention.

The program of the eighth annual convention of the Canadian Produce Association was filled with many items directly or indirectly of interest to producers. The convention occupied two days, February 10 and 11, and was held in the Royal Connaught Hotel, Hamilton, the Vice-President, H. B. Gray, Montreal, presiding in the absence of the President, E. J. Smith, Brockville. Most of the matters of more direct interest to readers of "The Farmer's Advocate" were discussed on the second day. Neither the Honorable Manning W. Doherty nor Professor W. H. Graham, O.A.C., Guelph, were able to be present on Tuesday, as was anticipated. F. C. Elford, Dominion Poultry Husbandman, discussed the "Possibilities of Production," on Tuesday, and pointed out that there is opportunity to increase the poultry population of Canada very markedly beyond the stage which we have reached at present. On Wednesday morning, W. A. Brown, Chief of the Poultry Division, Department of Agriculture, Ottawa, addressed the convention on the subject of "Increasing Consumption of Eggs at Home and Abroad." The speaker delivered one of the most thoughtful and informative addresses along lines of poultry production that we have ever listened to. Introducing his subject, the speaker said: "Commercially, eggs have become an important factor in the business of the world. During the late pre-war years the world's egg production increased rapidly, Great Britain alone in 1913 imported eggs from fifty-five different countries, while Germany in the volume of her imports was a close second."

The speaker said that world-wide consumption of eggs has also increased, and presented authoritative figures as to the imports of eggs into Great Britain from various countries and over a period of about sixty years. In 1913 Great Britain imported 215,799,500 dozens of eggs, of which 114,532,750 dozens came from Russia, more than 42,500,000 from Denmark, and only 19,500 dozens from Canada. Discussing the effect of the war on production, Mr. Brown said: "The English poultryman is talking of the day when England will be self-supporting in eggs. Holland and Denmark are rapidly re-stocking their farms, France is taking up poultry-keeping as never before, Italy is gripped with the financial advantages of poultry-keeping, Palestine, it is said, bids fair to become a second Egypt, Roumania has already again placed eggs on the British market this past fall. No one knows what the outcome in Russia may be. Mesopotamia is mentioned as a possible source of large supply, China has a vast surplus, while Australia, South Africa, Argentine, Brazil and the North African colonies are looking for an export outlet for their product. The United States with their vast consuming population has a surplus, while the potential possibilities of production in Canada have only been touched." Continuing, Mr. Brown discussed ways and means of increasing consumption, and pointed out that when eggs are laid they are one of nature's most uniform products and cannot be improved by handling, but, because most merchants buy eggs in order to attract trade, they are bought rather indiscriminately and without regard to quality. Our problem is that we have too large a volume of low-grade eggs, and these eggs greatly retard consumption. Canada produces roughly 165,000,000 dozen eggs and consumes nearly all she produces, the per capita consumption being between three and four eggs per week. If every person ate one egg a day, Canada would need to produce another 100,000,000 dozen eggs. Referring to the possibilities of Canadian eggs on foreign markets, the speaker said: "Only the thin edge of the wedge has been inserted into the possibilities of advertising the Canadian product. It is easy to advertise Canada in Great Britain at the present time. The name "Canada" stands high in the esteem of the British people, and

anything Canadian, backed by quality, is in brisk demand. Canada seems actually closer, nearer in actual distance, to Britain than ever before, and Canadians should capitalize every opportunity to establish a place for Canadian products at the present time." At the conclusion of this address, one delegate made the statement that the Danish exporters apply borax or boracic acid as a preservative even to fresh eggs intended for export. This has a tendency to keep the shell "alive." This delegate also said that the borax in the cases would prevent wet fillers and also the odor of eggs in cold storage.

One of the most contentious and most important items before the convention was a consideration of the proposed regulations respecting the grading and marking of eggs. These regulations have been drawn up for some time, but never enforced, and were presented to the produce merchants in order to secure their views. These regulations provide that eggs shall be classified, candled and graded in such a manner as is described in detail. About sixty-five per cent. of the proposals made by the Poultry Division, Ottawa, were accepted by the produce merchants. Two of the regulations as recommended by the convention are given herewith, although they are but a very small portion of all of those submitted. The first one reads as follows: "Every case containing eggs that is shipped or delivered, or sold to retailers within Canada, in shipments in case lots of thirty dozen or more, shall be marked on both ends with the name of the class and grade of the eggs contained therein, and with the name of the country of origin when other than domestic products. The letters in such markings on the cases specified in this section shall be block letters not less than one and one-quarter inches in height." The other regulation,

viewpoint in connection with the past, present and future of the cheese and butter industry. He dealt with the use of pure-bred sires, the educational campaign being carried on by the Government, and thought that work was being carried on along the right line. He favored the establishment of demonstration farms, and hoped the Minister of Agriculture would establish them in practically every county. He thought these farms ought to be worked on an actual profit basis. He thought that unless the British Government was willing to pay part of the delivery and exchange cost on cheese, our export would be more or less stopped and prices reduced. W. W. Moore, Assistant Chief of the Dairy and Cold Storage Division, Ottawa, reviewed the question of markets for dairy products, and emphasized, as he did at the Western Ontario Dairymen's Convention, the strong influence on the situation of the exchange problem. The fact that Denmark can ship her butter to the United States, receive payment in German currency, and then take this currency which is discounted here at the rate of ninety-five per cent., and buy German-manufactured goods from the Germans themselves, places Denmark in a very favorable position. In 1919, Canada shipped 18½ million pounds of cheese to Belgium, 2,300,000 pounds of cheese to France, and 5½ million pounds of cheese to the United States for export. "Europe," said Mr. Moore, "will provide a good market for Canadian dairy products in 1920, if the exchange situation will permit us to take advantage of it."

#### Resolutions.

The following three resolutions are the most important of those passed during the convention:

"Resolved that this Association met in annual convention, strongly recommend that our Federal Parliament enact such further legislation as will permit the importation into Canada, and the manufacture in Canada of oleomargarine, beyond period ending August 31st, 1920, as now specified on our statute books, and that copy of this resolution be forwarded by the President of our Association to the Hon. Dr. Tolmie, Minister of Agriculture, Ottawa, accompanied by a special letter giving full and complete details.

"Resolved that inasmuch as Great Britain is the logical export market for Canadian eggs, poultry and dairy products, combined with the fact that Canadian farm products have already acquired such a favorable reputation on the British market, that we, the Canadian Produce Association, assembled in Hamilton, at our annual convention, place ourselves on record as emphasizing to the Federal Government the urgent need of the immediate appointment of a Canadian Poultry and Dairy Products Expert in England for the year 1920. The duties of this Canadian representative would, in our estimation, be—

"(a) To visit all present and prospective purchasers of Canadian eggs, poultry and dairy products, and explain to them Canada's ability to supply.

"(b) To keep Canadian exporters fully advised as to market conditions in Great Britain.

"(c) To report upon and follow up all shipments of Canadian eggs, poultry and dairy products, and report upon their condition upon arrival as far as this would be possible.

"Resolved that inasmuch as the poultry industry which has now become one of the largest in Canada, aggregating the grand sum total of one hundred and twenty million dollars annual production, that we, the Canadian Produce Association now assembled in annual convention, place ourselves on record as emphasizing to the Federal Government the urgent need of an educational campaign, for and to the consumer, so that the proper food value of poultry products, especially eggs, might become better known, and that our executive in making this request offer at the same time all the support and co-operation that our Association could render in such a campaign."

#### OFFICERS.

The following officers were elected for the ensuing year: President, H. R. Gray, Montreal; First Vice-President, F. F. White, Toronto; Second Vice-President, Richard Gray, Montreal; Secretary-Treasurer, Jas. T. Madden, Toronto. Directors: R. B. Colwell, Halifax; J. Emond, Quebec; A. E. Bailey, Belleville; R. J. McLean, Toronto; H. B. Clemes, Toronto; J. J. Fee, Toronto; H. H. Fearman, Hamilton; A. A. Pomeroy, Charlottetown; W. J. Skinner, Forest; A. A. McKergow, Montreal; A. W. Bayman, Ottawa; J. Wilson, Montreal; M. Lemon, Owen Sound; A. P. Slade, Vancouver; A. W. Atherton, St. Thomas; T. G. Anderson, Listowel; J. A. Kennedy, St. John, N.B.; H. Johnston, Lindsay; C. M. Thacker, Montreal; A. E. Silverwood, London; A. Vaillancourt, Montreal; E. J. Smith, Brockville.

#### Onion and Potato Conference.

A Dominion conference of delegates from all associations interested in the growing and marketing of onions and potatoes will be held at the Chateau Laurier, Ottawa, February 24 and 25, under the auspices of the Fruit Branch of the Federal Department of Agriculture.

Widespread interest was taken last week in the attitude adopted by the farmers of Saskatchewan at their annual meeting in regard to politics. The Provincial Legislature is composed largely of farmers and considerable significance was attached to the decision of the Saskatchewan Grain Growers not to enter the provincial field. Nevertheless, the executive committee were authorized to draft a provincial platform and submit it to the locals preparatory to a final decision at the next annual convention.



H. R. Gray.

President Canadian Produce Association.

which is somewhat altered from its original form, reads as follows: "Cases containing Canadian eggs in lots of twenty-five cases or more, intended for export out of Canada, shall not be shipped or delivered until they have been inspected and marked by an inspector and certificate issued. Where eggs are intended for shipment or delivery within Canada, in case lots of one hundred cases or more, inspection and marking shall be optional between buyer and seller." It is not decided, of course, as to just what these regulations will finally appear like when they are published in the Canada Gazette and brought into force. The object is to improve the quality of eggs marketed in Canada.

J. H. Scott, Government Grader, Toronto, and Joseph Burgess, Chief Grader, Dairy Division, Ottawa, discussed the improvement in the quality of creamery butter. Mr. Scott said that on the whole there is no question but that Ontario butter last year was poorer than for some years previous. This was partially due to an insufficient supply of ice, but on the other hand the hot weather is not the cause of Ontario's poor butter. Three outstanding defects were named as follows: First, flavors arising from cream that is too old; second, excess free moisture; and third, the character of the package used. The causes of these defects were said to be first, the rising market of the past few years; second, a keen competition that led buyers to neglect quality, and that encouraged creamerymen to take in poor-quality cream; and third, the lack of a satisfactory system of grading and marketing. Mr. Burgess reviewed the results of the Dominion educational butter-scoring contest, which has been referred to at length in recent reports of dairy conventions in these columns. James Donaldson, Atwood, delivered a very stirring speech in connection with the cheese situation, pointing out the difficulties that confront Great Britain at the present time, and prevent her from paying Canadian producers a higher price. His remarks were quite similar to those he delivered at the Dairymen's Association of Western Ontario Convention, in London, recently.

G. A. Gillespie, Peterboro, discussed the producer's

# Toronto, Montreal, Buffalo, and Other Leading Markets

Week Ending February 12.

Receipts and Market Tops.

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

	CATTLE						CALVES					
	Receipts			Top Price Good Steers (1,000-1,200)			Receipts			Top Price Good Calves		
	Week Ending Feb. 12	Same Week 1919	Week Ending Feb. 5	Week Ending Feb. 12	Same Week 1919	Week Ending Feb. 5	Week Ending Feb. 12	Same Week 1919	Week Ending Feb. 5	Week Ending Feb. 12	Same Week 1919	Week Ending Feb. 5
Toronto (U. S. Y.)	2,950	8,654	4,859	\$13.25	\$16.50	\$13.75	590	405	666	\$23.00	\$17.00	\$23.00
Montreal (Pt. St. Chas.)	459	761	652	13.25	12.40	13.25	262	383	195	22.00	16.00	19.00
Montreal (East End)	882	485	1,275	13.25	12.40	13.25	419	290	240	22.00	16.00	19.00
Winnipeg	2,320	2,564	2,482	12.00	15.00	13.00	74	55	96	13.00	11.00	14.00
Calgary	1,371	2,263	1,440	12.00	16.00	11.50	86	—	56	9.50	—	10.00
Edmonton	1,406	1,445	1,094	11.50	13.50	11.50	150	70	80	12.00	11.00	12.00

	HOGS						SHEEP					
	Receipts			Top Price Selects			Receipts			Top Price Good Lambs		
	Week Ending Feb. 12	Same Week 1919	Week Ending Feb. 5	Week Ending Feb. 12	Same Week 1919	Week Ending Feb. 5	Week Ending Feb. 12	Same Week 1919	Week Ending Feb. 5	Week Ending Feb. 12	Same Week 1919	Week Ending Feb. 5
Toronto (U. S. Y.)	5,351	5,761	8,620	\$19.50	\$17.75	\$19.55	595	2,131	1,298	\$20.00	\$16.25	\$20.00
Montreal (Pt. St. Chas.)	1,248	1,360	913	19.75	17.25	20.75	115	239	195	17.00	17.25	16.50
Montreal (East End)	1,237	471	584	19.75	17.25	20.75	337	204	231	17.00	17.25	16.50
Winnipeg	4,273	9,550	4,266	20.00	17.00	20.50	436	75	749	—	15.25	16.00
Calgary	1,204	3,648	831	21.00	17.15	21.00	774	44	1,415	—	13.50	15.50
Edmonton	495	995	817	20.25	15.25	20.25	44	115	—	—	13.00	—

## Market Comments.

### Toronto (Union Stock Yards).

A lethargic cattle trade, with a distinct downward trend in prices was a feature of last week's live-stock market. Owing to the drop in foreign exchange and the curtailment of purchases on overseas account, the cattle trade was in a more or less paralyzed condition. Local packers standing aloof until they are able to obtain their bearings, and with the American markets on very uncertain footing, speculators catering to that trade, were not operating, consequently last week's market was the lowest in the past year's trading. Receipts for the week totalled three thousand head, a number that, under normal conditions, would scarcely have supplied the local fresh meat trade, but with a liberal supply of fairly high priced meats on hand, packers bought very sparingly of last week's cattle supply, hoping, in the meantime to liquidate at least a portion of their higher priced holdings. Monday's receipts totalled fifteen hundred head, and prices broke about 50 cents per hundred from the previous week's close, and even at the decline trade was very slow. Wednesday's market showed a little more activity, but slight appreciation in values occurred, while numerous loads of cattle were unsold at the close of Thursday's trade. The bulk of the cattle offered were from medium to common quality, few of choice grading being on sale. A few heavy cattle were on the market and one load averaging twelve hundred and thirty pounds sold at \$13.85, thereby topping the week's trading, while a few other sales were made at \$13.50 per hundred. For steers of ten hundred to twelve hundred pounds a pair weighing ten hundred and fifty pounds sold at \$13.50, with a load of eleven hundred pounds at \$12.75, and other sales at \$11.50 to \$12.50 per hundred. A pair of extra good heifers sold on Monday at \$13.25, with the best loads of steers and heifers selling at \$11.50 to \$12.50, a load averaging nine hundred pounds selling at \$12.25. The bulk of the handy-weight steers and heifers were of medium quality and sold at \$9.00 to \$11.00 per hundred. The cow trade was fairly active and real fat cows averaging twelve hundred to fourteen hundred pounds were taken at \$11.00 to \$12.00, with good cows at \$10.00 to \$10.75, and medium quality at \$7.00 to \$9.00. Best quality in bulls sold up to \$11.00, with common bulls ranging from \$7.00 to \$9.00 per hundred. Canners and cutters were unchanged. The stocker and feeder trade was in a comatose condition, few sales being made. Good feeders are quotable at \$10.00 to \$10.75, and good stockers at \$9.00 to \$10.00. Milch cows and springers were in slow demand, but good milkers are quotable up to \$165.00 each with straight loads of fair quality realizing from \$130.00 to \$140.00 each. The calf trade was more active, and \$23.00 was paid for one choice calf, the bulk of the good calves selling from \$18.00 to \$22.00, with common quality from \$10.00 to \$15.00. Lambs and sheep receipts were comparatively light, and the market was unchanged. Choice lambs sold up to

CLASSIFICATION	No.	TORONTO			MONTREAL (Pt. St. Charles)			
		Avg. Price	Price Range Bulk Sales	Top Price	No.	Avg. Price	Price Range Bulk Sales	Top Price
STEERS heavy finished	17	\$13.00	\$12.50-\$13.50	\$14.25	—	—	—	—
STEERS 1,000-1,200 good	152	12.37	11.50-13.00	13.25	12	\$12.25	\$12.00	\$13.25
STEERS 700-1,000 good	602	11.50	11.00-12.25	12.75	77	11.50	11.00-12.00	12.00
STEERS 700-1,000 common	236	8.35	7.75-9.50	10.25	73	10.00	8.50-10.50	10.75
HEIFERS good	494	11.50	11.00-12.00	12.75	15	10.75	10.00-11.50	11.50
HEIFERS fair	196	9.50	9.00-10.00	10.25	15	9.50	9.00-10.00	10.00
HEIFERS common	20	7.89	7.25-8.50	9.00	54	8.25	7.50-9.00	9.00
COWS good	133	9.92	9.50-11.00	12.00	29	9.75	9.50	11.50
COWS common	410	7.28	6.75-8.50	9.50	76	8.00	7.00-9.00	9.25
BULLS good	51	10.10	9.50-10.50	11.00	7	10.00	10.00	11.00
BULLS common	40	8.00	7.00-8.50	10.00	24	8.25	7.50-9.00	9.00
CANNERS & CUTTERS	214	5.64	5.25-6.00	6.25	46	6.00	5.50-6.50	6.50
OXEN	—	—	—	—	25	8.50	8.00-9.00	9.00
CALVES veal	554	15.86	14.00-20.00	23.00	170	18.00	17.00-20.00	22.00
CALVES grass	36	7.45	6.00-9.00	9.00	92	8.15	8.00-8.25	8.50
STOCKERS 450-800 good	188	9.60	8.75-10.00	10.00	—	—	—	—
STOCKERS 450-800 fair	121	8.18	7.00-8.50	9.50	—	—	—	—
FEEDERS 800-1,100 good	75	10.64	10.00-11.00	11.00	—	—	—	—
FEEDERS 800-1,100 fair	1	—	—	—	—	—	—	—
HOGS (fed and watered) selects	4,892	19.00	18.25-19.50	19.50	973	19.50	19.75	19.75
HOGS (fed and watered) heavies	—	—	—	—	23	—	—	—
HOGS (fed and watered) lights	317	16.86	16.25-17.50	17.50	222	19.25	19.75	19.75
HOGS (fed and watered) sows	139	14.92	13.25-16.50	16.50	25	15.50	15.75	15.75
HOGS (fed and watered) stags	3	—	—	—	5	—	—	—
LAMBS good	403	18.53	17.50-20.00	20.00	12	16.75	16.50-17.00	17.00
LAMBS common	41	16.00	15.00-17.00	17.50	41	16.00	15.50-16.50	16.50
SHEEP heavy	141	10.62	10.00-12.00	12.00	22	11.60	11.50	12.00
SHEEP common	10	5.30	4.00-7.00	7.00	40	9.90	10.00	10.00

\$20.00 per hundred, most of the transactions occurring at \$18.50 to \$19.50 per hundred, with light sheep at \$10 to \$12, and heavy sheep at \$8 to \$10.00. The hog market developed a weaker tendency, and \$1.00 per hundred was taken off hog values. Monday's hogs sold at \$19.50 per hundred, but for the balance of the week \$18.25 to \$18.50 was the prevailing quotation. Lights sold at \$16.25 to \$16.50, and sows at \$13.25 to \$15.25. Of the disposition from the Yards for the week ending February 5, Canadian packing houses purchased 258 calves, 3,325 butcher cattle, 10,170 hogs and 878 lambs. Local butchers purchased 379 calves, 467 butcher cattle and 272 lambs. Canadian shipments were made up of 12 calves, 227 stockers and 79 feeders. Shipments to United States points consisted of 35 calves, 368 butcher cattle, 70 stockers, 177 feeders and 69 lambs. The total receipts from January 1 to February 5, inclusive, were 31,494 cattle, 3,811 calves, 41,919 hogs and 11,067 sheep; compared with 32,536 cattle, 3,128 calves, 40,356 hogs and 16,322 sheep received during the corresponding period of 1919.

**Montreal.** The receipts for the week on the two markets amounted to thirteen hundred and twenty-one cattle, six hundred and eighty-one calves, four hundred and fifty-two sheep and twenty-four hundred and eighty-five hogs. The market was very slow and it was difficult to dispose of cattle. Prices for all grades of cattle except those of the most common quality were variously reported at from 50c. to \$1.00 lower than on the previous week. A few loads were reshipped to country points, owing to the unsatisfactory prices offered. The better grades of cattle were the hardest to sell. With one or two exceptions all sales were made for \$12 per hundred or under. A few choice heifers, and some good steers, making in all twelve head, averaging nine hundred and seventy pounds were sold for \$12. One straight load of steers from Western Ontario averaging about ten hundred and fifty pounds was sold for \$12. Cattle received from Winnipeg weighing up to eleven hundred pounds were sold for \$11.00. Fairly good and fairly light butcher steers and heifers from \$10 to \$11, thin steers and heifers weighing from six hundred pounds up sold from \$7.75 to \$8.50. Good heifers were sold for \$11.50,

and a few choice young cows brought the same figure. Heifers were sold from this price down to \$7 for young, thin stock. The most common price for good cows was \$9.50 per hundred. Canners brought \$5.50 and cutters around \$6.50. Three or four good bulls of beef breeds brought \$11. Good heavy bulls were \$9.50 to \$10, small bulls from \$7.00 to \$8.00. Grass calves brought \$8 to \$8.25 in most cases. Two choice milk-fed calves averaging one hundred and thirty pounds were sold for 22c. per pound. Good veal calves were from \$18 to \$20 per hundred, and common veal calves down to \$15. The best sheep were sold at \$11.50 and \$12 per hundred. Prices for sheep ranged from \$9 to \$12. The most common price being \$10. There were no choice lambs. Lambs sold generally for \$16.50 with \$17 for the best offered. Hogs were delivered, in the earlier part of the week at \$20.50 and \$20.25, weighed off cars, on account of former contracts. Sales during the week were made first at \$20 and latter at \$19 per hundred, weighed off cars. Sows were \$4 less than selects. Lights have of late been weighed up with the rest of the shipment. This week a few small

Markets

Department of Agriculture, Live Markets Intelligence Division

Price Good Calves

Table with columns: Same Week, Week Ending, 1919, Feb. 5, 1920, Feb. 5. Rows show prices for various calf categories.

Price Good Lambs

Table with columns: Same Week, Week Ending, 1919, Feb. 5, 1920, Feb. 5. Rows show prices for various lamb categories.

REAL (Charles) Price Range Bulk Sales Top Price

Table with columns: Price Range, Top Price. Rows show price ranges for various livestock categories.

Young cows brought... Heifers were sold... Prices for sheep... Lamb sales generally... for the best offered.

lots were graded out, and sold for \$2 less than selects.

Pt. St. CHARLES.—Of the disposition from the Yards for the week ending February 5, Canadian packing houses and local butchers purchased 195 calves, 57 bulls, 538 butcher cattle, 913 hogs and 195 lambs. Canadian shipments were made up of 8 milch cows. There were no shipments to United States points during the week.

The total receipts from January 1 to February 5, inclusive were 3,683 cattle, 1,134 calves, 5,296 hogs and 4,212 sheep; compared with 4,796 cattle, 1,276 calves, 6,225 hogs and 4,249 sheep, received during the corresponding period of 1919.

EAST END.—Of the disposition from the Yards for the week ending February 5, Canadian packing houses and local butchers purchased 229 calves, 1,219 butcher cattle, 584 hogs and 23 lambs. Shipments to United States points consisted of 11 calves, 56 butcher cattle and 208 lambs.

The total receipts from January 1 to February 5, inclusive, were 5,632 cattle, 1,387 calves, 3,708 hogs and 3,031 sheep; compared with 5,930 cattle, 833 calves, 3,894 hogs and 4,517 sheep, received during the corresponding period of 1919.

Buffalo.

Cattle.—The market last week, especially on butchering grades, was the most unsatisfactory that has been witnessed for a long time back. Receipts totaled 145 loads, and of this number 38 cars were Canadians. On shipping steers, of which there were 25 loads, the market on the choice kinds ruled about steady, but half to two-thirds fat steers sold a full quarter lower. Native shipping steers ranged from \$12.50 to \$15.50, and top for Canadians was \$12.50. On butchering grades prices opened a quarter to fifty cents lower, and late sales were regarded fully a dollar under the week before. Few handy butchering steers sold above \$12, and a pretty good killing kind had to sell around \$10 to \$10.50. Top for heifers was \$11, and the outside quotation for best cows was \$10. Good butchering heifers, kinds that sold the previous week up around \$10.50; were hard to sell above \$9.50, and toward the end of the week bids on these kinds were made down around \$8.50. Canners were off 75 cents to a dollar, these selling down to \$5 to \$5.25. Bulls showed a drop of 25 to 50 cents, little trading was done on stockers and feeders, most of these going for kill, and only the best fresh cows and springers sold at anything like satisfactory prices, medium and common kinds going for beef. With Lent starting this week, the demand, no doubt, will continue light, and it will take only a moderate supply to satisfy buyers' wants. Offerings the past week were 4,025 head, as compared with 4,225 head the week before, and as against 7,850 head for the same week a year ago. Quotations:

Shipping Steers, Natives.—Very choice heavy, \$14.50 to \$15.50; best heavy, over 1,300, \$13.50 to \$14.25; fair, over 1,300 \$12.50 to \$13; best, 1,200 to 1,300, \$13.50 to \$14; good, 1,200 to 1,300, \$12.50 to \$13.50; plain, \$11.50 to \$12.

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

Butchering Steers.—Yearlings, fair to prime, \$13 to \$14; choice heavy, \$12.50 to \$12.75; best handy, \$11.50 to \$12.50; fair to good, \$10.50 to \$11; light and common, \$9 to \$10.

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

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

Hogs.—Last week showed the widest range in prices for several years back. Demand for heavy hogs was very indifferent, and as a result these grades had to sell at a big discount from the lighter weights, which were in keen demand from the east. Monday heavy hogs sold from \$15.50 to \$16, and the heavy grades brought from \$16.25 to \$16.50, with a few Yorkers, lights and pigs selling up to \$16.75. Tuesday's spread was from \$15.40 to \$17.15, and

Wednesday the range was still wider, being from \$15 to \$18. Thursday good hogs were steady, with light grades 15 to 25 cents lower, and Friday light hogs again sold lower, with heavies steady. The first day of the week showed heavies selling from \$15.50 to \$16.25, bulk of the good mixed grades moved at \$16.75, and Yorkers, lights and pigs brought \$17, few \$17.25. Roughts sold around \$14, and stags \$10.50 down. Receipts for the past week were 17,300 head, as compared with 27,048 head for the week before, and 26,000 head for the same week a year ago.

Sheep and Lambs.—Record-breaking prices were paid for lambs last week, and the market on sheep was higher than any previous time this year. Monday best lambs sold at \$22, few \$22.15, and by Thursday choice lambs reached up to \$22.75, with one load \$22.85. Friday prices were a quarter lower, top being \$22.60, with bulk selling at \$22.50. Cull lambs sold well, bringing up to \$21, yearling wethers reached \$20, wether sheep made \$16, with some two-year-olds up to \$17, and ewes went from \$14.50 down. Receipts for the past week were 21,800 head, as compared with 22,830 head for the week before, and 23,000 head for the same week a year ago.

Calves.—Market was active all of last week, and a good clearance was had from day to day, prices ruling higher as the week advanced. Monday tops sold at \$21.50, and by Friday best lots reached up to \$24.50. Cull grades made \$18, but most of the throwouts sold downward from \$17. Wednesday some top Canadian veals sold at \$23, and Thursday some from across the river moved at \$22.50. The past week's receipts were 3,550 head, being against 4,157 head for the week before, and 4,300 head for the same week a year ago.

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Toronto Produce.

Receipts of live stock at the Union Stock Yards, West Toronto, on Monday, February 16, numbered 85 cars, 1,186 cattle, 299 calves, 1,069 hogs, 330 sheep and lambs. The light receipts caused an active market. Steers and heifers were 50 to 75 cents higher; best load, \$13.75 for 19 head, average weight 1,150 pounds each. A few head sold at \$14. Cows and bulls were steady. Calves and sheep were also steady. Lambs strong and fifty cents higher; top, \$21.50. Hogs, \$18.25 to \$18.50, fed and watered.

Breadstuffs.

Manitoba Wheat.—(In store, Ft. William)—No. 1 northern, \$2.80; No. 2 northern, \$2.77; No. 3 northern, \$2.73.

Manitoba Oats.—(In store, Fort William)—No. 2 C. W., 99¢; No. 3 C. W., 90¢; extra No. 1 feed, 90¢; No. 1 feed, 87¢; No. 2 feed, 85¢.

Manitoba Barley.—(In store, Fort William)—No. 3 C. W., \$1.70; No. 4, C. W., \$1.40; rejected, \$1.30; feed, \$1.30.

American Corn (prompt shipment)—No. 3 yellow, \$1.85, track, Toronto; No. 4 yellow, \$1.82, track, Toronto.

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

Ontario Wheat (f.o.b. shipping points, according to freights)—No. 1 winter, per car lot, \$2 to \$2.01; No. 2 winter, per car lot, \$1.98 to \$2.01; No. 3 winter, per car lot, \$1.92 to \$1.93; No. 1 spring, per car lot, \$2.02 to \$2.08; No. 2 spring, per car lot, \$1.98 to \$2.05; No. 3 spring, per car lot, \$1.95 to \$2.01.

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

Barley (according to freights outside)—Malting, \$1.75 to \$1.77.

Buckwheat (according to freights outside)—No. 2, \$1.45 to \$1.48.

Rye (according to freights outside)—No. 2, \$1.77 to \$1.80.

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

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

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

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

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

Hides and Skins.

Hides (f.o.b. country points)—Beef hides, 28c. to 29c.; flat cured, 26c. to 28c.; part-cured green or frozen hides, 24c. to 26c.; deacon or bob calf, \$2.50 to \$3;

horse hides, country take-off, \$10 to \$12; No. 2, \$7 to \$9; No. 1 sheep skins, \$2.50 to \$4; yearling lambs, \$1.75 to \$2.50; horse hair, farmer's stock, 38c. to 40c. per lb.

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

Farm Produce.

Butter.—Trade in butter is rather unsettled, with a tendency toward still lower prices. Fresh-made creamery squares selling at 69c. to 72c. per lb.; cut solids at 64c. to 66c. per lb.; solids at 60c. to 65c. per lb.; and choice dairy at 60c. to 65c. per lb.

Eggs.—Eggs were a weak trade, with the bulk of the new-laid coming from U. S. points, and still lower prices are predicted. New-laid are now selling at 76c. to 78c. per dozen wholesale; No. 1 cold storage at 64c. per dozen.

Cheese.—The market is very firm. The old variety selling at 34c. to 36c. per lb., with the new bringing 32c. to 34c. per lb., wholesale.

Poultry.—Trade has been very sluggish in poultry, and receipts rather light, with prices showing a declining tendency. Turkeys, ducks and geese are practically off the market.

Poultry prices being paid to producer: Chickens, per lb., alive, 30c.; dressed, 32c. Chickens, milk-fed, per lb., alive, 25c. to 27c.; dressed, 33c. to 36c. Ducks, per lb., alive, 30c.; dressed, 40c. Hens, under 4 lbs., per lb., alive, 25c.; dressed, 28c. Hens, from 4 and 5 lbs., per lb., alive, 28c.; dressed, 28c. Hens, over 5 lbs., per lb., alive 30c. to 33c.; dressed, 28c. to 30c. Geese, per lb., alive, 19c.; dressed, 26c. Turkeys, per lb., alive, 35c.; dressed, 45c. Guinea hens, per pair, alive, \$1.25; dressed, \$1.50.

Seeds.

Following are the prices that wholesalers were paying for alsike and clover at country points:

Alsike.—No. 1 fancy, per bushel, \$33 to \$34; No. 1, \$32 to \$33; No. 2, choice, \$31 to \$32; No. 3, \$29 to \$30.

Red Clover.—No. 1 fancy, per bushel, \$36 to \$37; Canadian No. 1, \$18.50 to \$19.50; No. 2, \$31 to \$32; No. 3, \$29 to \$30.

Montreal.

Horses.—Dealers say that the heavy snows of the past week or so have had the effect of causing a better demand for horses, the theory being that more are needed to do the same work and that the heavy snow militates against the operation of autos and trucks. Prices of horses were steady at \$250 to \$300 each for those weighing 1,500 to 1,600 lbs.; \$200 to \$250 for light draft, weighing 1,400 to 1,500 lbs.; \$125 to \$175 each for light horses; \$75 to \$100 each for culls and \$175 to \$250 for fine saddle and carriage horses.

Dressed Hogs.—Country dressed hogs, light weights were fractionally lower in price, being quoted at 25c. to 25½¢ per lb. while heavies were a cent under this price.

Poultry.—The market for turkeys was fairly active and weather was favorable for consumption. Prices were steady, being 49c. to 50c. per lb. for choice and 47c. to 48c. for good. Geese were 26c. to 30c. per lb. and ducks 40c. while chickens were 33c. to 35c. per lb. for choice and down to 28c. for ordinary.

Potatoes.—A good deal has been said of the likelihood of lower prices for potatoes, especially if the weather should continue mild. So far, there seems to be a good demand for Quebec white potatoes at \$3.50 per bag of 90 lbs., track and at \$4 ex-store.

Honey and Maple Syrup.—Nominal prices were \$1.50 per gal. tin of maple syrup and 35c. per lb. for sugar. Pound sections of white clover comb honey were 25c. to 30c. and white strained was 22c. to 25c. per lb., dark being 20c. to 22c., in 30-lb. tins.

Eggs.—The market for eggs is showing easiness and new laid were offering at 75c., with selects at 60c. to 62c., No. 1 stock being 53c. to 54c. and lower grades 45c. to 50c. per doz.

Butter.—Butter was perhaps a shade easier in price though the market was not at all easy. Finest grass creamery was 64c. to 65c. per lb. and fine grass creamery was 62½¢ to 63½¢ per lb. Current makes were quoted at 58c. to 60c. and finest dairy was 55c. to 56c. per lb.

Cheese.—Finest makes of cheese were quoted at 31c. to 32c. per lb.

Grain.—Oats were firm in price, being \$1.13 per bus. for No. 2 Canadian western oats, ex-store, No. 3 being \$1.09, No. 2 feed \$1.05, tough No. 2, \$1.09.

Flour.—Manitoba spring wheat, government standard, was quoted steady at \$13.25 per bbl., jute bags, ex-track, less 10c. per bbl., for spot cash. Blended flour was \$12.50 per bbl. and Ontario winter wheat flour \$11.25 per bbl., in jute, ex-track. White corn flour was steady at \$10 to \$10.10, rye flour being \$9.50.

Millfeed.—Bran was quoted at \$45.25 per ton and shorts at \$52.25, including bags, with 25c. off for spot cash, and smaller lots than car lots were \$1.50 to \$2 more. Pure barley meal was selling at \$75 to \$76 per ton and mixed grain mouille at \$73 to \$75 per ton.

Baled hay.—Carlots of No. 2 timothy hay were quoted at \$26, No. 3 being \$25 and clover and clover mixed at \$23 to \$24 per ton.

Seeds.—The market is rather uncertain and very firm. Timothy seed was 17c. to 20c. per lb., f.o.b., Montreal, red clover being 65c. to 76c., sweet clover 35c. to 40c., alsike 63c. to 68c. and alfalfa 55c. to 60c. per lb.

Hides.—The market was steady, cow and steer hides being 35c. per lb., bulls 27c., calves 35c., kips 45c. per lb., and lambs \$4.10 each and horsehides \$11 each.

Chicago.

Hogs.—Heavy, \$14.25 to \$14.75; medium, \$14.65 to \$15.25; light, \$14.85 to \$15.40; heavy packing sows, smooth, \$13.40 to \$13.85; packing cows, rough, \$12.75 to \$13.40; pigs, \$13.50 to \$14.75.

Cattle.—Compared with a week ago, beef steers mostly steady to strong. Choice heavy, 25c. to 50c. lower. She-stock steady to weak; canners and bulls big quarter lower; calves, 50c. to 75c. lower; feeders, 25c. to 50c. lower.

Sheep.—Compared with a week ago, medium to best fat lambs, 25c. to 50c. higher; others steady. Choice handy yearlings, 25c. higher; others and sheep mostly steady.

Victory Bonds.

Following were the values of Victory Bonds on the Toronto market, Saturday, February 14: Victory Bonds maturing 1922, 99½ to 100½; Victory Bonds maturing 1923, 99½ to 100½; Victory Bonds maturing 1927, 101½ to 101½; Victory Bonds maturing 1933, 102½ to 102½; Victory Bonds maturing 1937, 104½ to 104½.

Gossip.

Spruce Glen Shorthorns.

J. McPherson & Sons, whose advertisement appears elsewhere in this issue, have a herd of eighty Shorthorns from which to select foundation stock and herd headers. The farm is in Grey County, five miles from the village of Dundalk. Messrs. McPherson started this herd twenty-eight years ago, and has been very careful about the quality of sires used. There are twelve young bulls in the offering at the present time, and a few good heifers, sired by Royal Red Blood, a son of Imp. Blood Royal, and out of Imp. Red Rose and Nonpareil Ramsden. The mature cows in the herd are of good size, and many of them are good milkers. A richly-bred Duchess of Gloster bull has recently been purchased to head the herd. Stock from this herd have won prizes at the Fat Stock Shows at Toronto, Guelph and Ottawa. Breeders who contemplate purchasing foundation stock, or who wish to secure a herd header of good quality, should communicate with Messrs. McPherson, Dundalk.

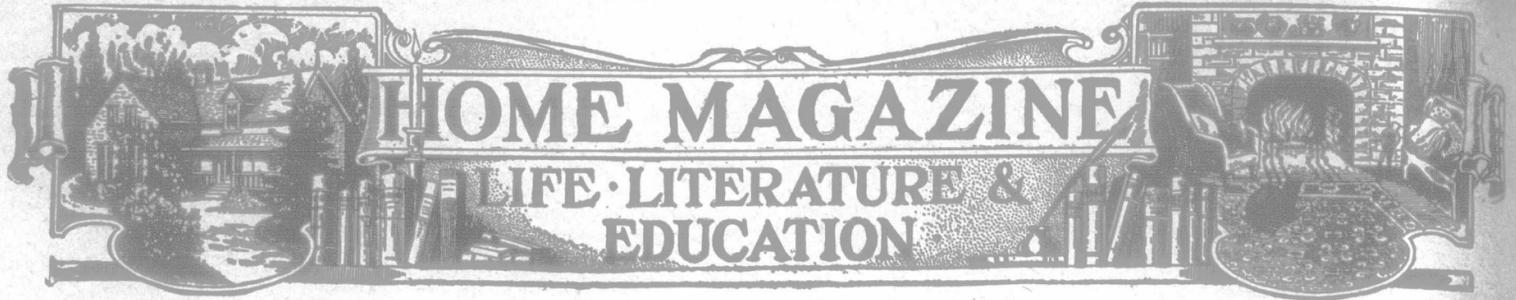
Questions and Answers.

Miscellaneous.

Treating Wood.

What is a good preparation to treat wood with which is to be used in a silo? E. S. H.

Ans.—Creosote is the material frequently used. It may be put on with a brush, or the wood dipped in it. The amount that it will take, will depend on the condition and kind of lumber.



"God Almighty first planted a garden."  
—Francis Bacon.

### The Garden Folk in Convention.

FROM start to finish "Forward" seemed to be the slogan of the horticulturists as expressed by the delegates to the Fourteenth Annual Convention of the Horticultural Association of Ontario, which met in Foresters' Hall, College St., Toronto, during Feb. 5-6.

Mr. Hartry, of Seaford, the President, opened the sessions by a neat little speech in which he congratulated the Society on its present membership of 20,000; pointed out the duty, still remaining in this time of reconstruction, to keep up production "even to an extra bushel of potatoes or corn;" and dwelt upon the particular joy, which only the skilled horticulturist can know, in grafting and pollenization to hybridize. When the horticulturist can do this, he understands "what it is to be a co-worker with the author of all beautiful things." Mr. Hartry also foreshadowed one of the outstanding questions of the Convention by referring to a number of complaints that had been sent to him regarding the mutilation of trees by the hydro and telephone companies.

The report of the Secretary and Editor, Mr. J. Lockie Wilson, placed the number of active societies now doing work in Ontario at 100, following that statement by one that will be interesting to the farmer garden-lovers who may read this: viz., that 10 new rural societies (the first purely rural, we understand) were organized in 1919, and that already 10 applications have been received for the organization of new ones during 1920. . . . A considerable portion of the Secretary's report was devoted to matters of the Association, which are here passed over as purely of a business nature, then tribute was paid in honor of the late W. P. Ross, of Picton, who died during the year. Mr. Ross was noted, in horticultural circles, for his success in growing tropical plants in Ontario. In closing Mr. Wilson brought up another matter that proved to be of outstanding interest during the Convention—the proposal, already afoot, to secure a plot, or plots, of ground for experimental work in horticulture. For assistance in this and other ambitions of the Association, he looked hopefully to the new Government, the majority of whose members, he said, are exceedingly interested in horticultural work, the Cabinet being composed almost wholly of men who all their lives have been successfully engaged in growing crops of field and garden.

The discussion on the Secretary's report was opened, in the absence of Mr. Burgoyne, of St. Catharines, by Rev. Dr. A. H. Scott, of Perth, who was most optimistic regarding the outlook of the work of the organization.

### "How We Increased Our Membership."

The branch at Weston, near Toronto, is one of the "booming" societies of the Province, hence it was with especial interest that the members of the other societies listened to the very crisp and practical address on "How we increased our membership," given by Rev. W. M. McKay, of that place, who promises to follow in the footsteps of Rev. Dr. Scott as one of the enthusiastic parson horticulturists of Canada. In 1917 Weston had a membership of 150; in 1918 it had increased to 450; and during 1919 the membership had run up to 1,741! The machinery accounting for this rapid increase was chiefly made up of enthusiastic "committees of three," who went out

with the slogan "Stop, look, loosen" as their watchword. This somewhat cryptic motto was explained by Mr. McKay: "Stop"—to deliberate on the field, its scope and possibilities. Everyone was to be interested. What the society had to offer was to be held up and the past record of the society's work shown as an example, especially the war-work and children's gardens. Patriotic options were to be offered, one for helping to replant the orchards of France and Belgium, the other the planting of memorial trees. Also a "bargain-counter" laden with options for securing roots, etc., was to be presented, and a scheme for future civic improvement.—All of which was carried out per schedule.

"Look":—The committee had faith in its goods and recognized its second duty—to give like vision to the public. To do this prizes for a whirlwind campaign were arranged, and teams formed, headed by two of the most popular ladies and two men as captains. The campaign was begun at the mass meeting in the town hall, where addresses were given. "Loosen":—Everybody was induced to "loosen;" the campaign became the uppermost topic of the day. Its close found almost everybody a member, and its last feature was a banquet, at which the prizes were presented by Mr. Roadhouse, Deputy Minister of Agriculture. In short, the idea of Big Business, as connected with horticulture, had seized the imagination of the people and so every difficulty was overcome.

### Burdocks, Thistles and Other Weeds.

A motion brought in by Mr. Glassford, Chatham, providing that a committee be appointed to consider legislation to compel citizens to care for their boulevards and keep the nuisance of burdocks and thistles down, met with favorable discussion, and Mr. Hartry pointed out that there is already a law regarding cleaning up; if a property owner refuses to clean up his property the council can send a man to do the work and charge it up to the owner. (Just here may be an opportune place to say—although it was not mentioned by the Convention—that seeing to the cutting of noxious weeds along country roadsides is one of the duties of the pathmasters, a duty too often disregarded. Also notice can be given by the township council to any farmer to cut down a patch of noxious weeds on his property. If he refuses to do so the council can send a man and charge the expense in taxes).

The Committee of Resolutions appointed to consider this and subsequent matters was composed of Mr. Glassford, Mr. Baker, of Lindsay; Mr. Buck, of Ottawa; Mr. McKay, of Weston; Mr. Saunders, of London, and Mr. Dockray, of Toronto.

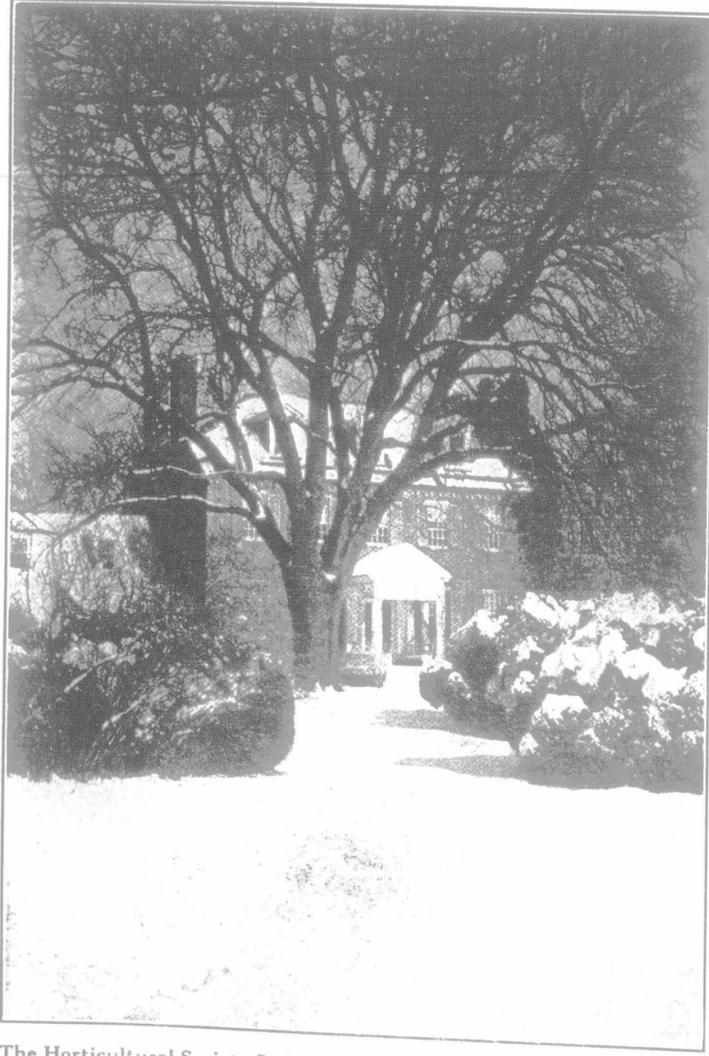
### "Horticultural Education."

The appeal of Mr. W. E. Groves, Hamilton, for Horticultural Education, was based on the great need in Canada, for men thoroughly trained in garden and orchard work. "Terrible crimes," against

the plant world, he noted, are being continually perpetrated by men who do not understand growing and pruning. More training is needed, alike for the small gardener who adds to the resources of the world in a small way and by his own efforts, and for the professional gardener who works for himself or others on a large scale. So far it has been the rule to grow the easiest things and import the rest, but of late the price of imported fruits, bulbs, etc., has been almost prohibitive; conditions will not improve until our exports more nearly balance our imports;—home production is imperative. Mr. Groves thought we should not have to send our horticultural students to Cornell and elsewhere outside of our own country. It was his opinion that the equipment at Guelph for horticultural work is "farical" and that there should be something far more advanced and definite at that institution. Ontario should have more arboretums and botanic gardens, as well as more parks and playgrounds. Every district should have its lecture courses and its home-training grounds, because horticulture, though separate from agriculture is necessary to home life. Also he suggested the formation of a Canadian Council of Horticulture. All work with growing things, from that of "the man who makes two blades of grass grow where one grew before," up through the mazes of purely horticultural venture, the speaker characterized as the "greatest and most God-given, God-blest work on earth except preaching the gospel." In closing he referred to the fact that our source of supply for many roots, seeds, etc., from the old lands has been largely cut off by the war. Home production, for this reason alone, must be greatly extended.

A most animated discussion followed this address. . . . Prof. Macoun of the Central Exp. Farm, Ottawa, agreed that present conditions should be changed. Trained gardeners from the Old Country in Canada to-day are being paid less than \$1,200 a year. This Association should show the Government that a trained gardener is worth as much as a plumber or a carpenter; he really needs a much broader training. The men at the Experimental Farms and at the O.A.C. should be well trained, but at the present time who would want to become educated to be a gardener? . . . Mr. Hunt, of the O.A.C., Guelph, said he hoped the Association would help the Committee in doing something in regard to the matter. Horticulture should be given a better chance; it should not be merged with agriculture. . . . Rev. Dr. Scott, of Perth, also thought the time had come when machinery should be set in order to carry out the suggestions outlined in Mr. Grove's address. . . . Mr. Gilchrist, of Toronto, said, "I am a gardener. If I were to start life again I would be a gardener. We work from daylight to dark, and that is our pleasure." He noted that there is no school in Canada to-day teaching practical gardening—to do it well and quickly as it may be done.

The President, Mr. Hartry, remarked that he had visited Guelph last year and had thought the equipment insufficient. It was his opinion that many plants might do better grown at home instead of imported; e. g., climbing and other roses "do better when we start them ourselves." . . . Mr. T. D. Dockray, Toronto, thought there is a fine opportunity right here in Ontario to start commercial growing of flowers. He had seen in the United States 50 acres of peonies and a whole carload of blossoms sent from one place to an exhibition. At that exhibition Miss Blacklock, of Ontario, with her 6 acres of ground, had taken first and second prize in one of the biggest classes. (Applause). . . . Mr. Hartry here interpolated that we can grow as good gladioli here as any-



The Horticultural Society Seeks to Preserve Stately Giants Such as This.  
From Garden Magazine.

where on earth; someone else gave the information that this year for the first time a catalogue had been sent out advertising sweet peas grown in British Columbia; and Mr. J. Lockie Wilson noted that very often gardeners trained in the Old Country, who came into his office, said they could not find work that paid in this country.

#### "Round Table" Luncheon.

A very pleasant feature of the Horticultural Association's Convention is the "Round Table" luncheon, served in the building, and giving chance for conversation as well as "three-minute" speeches. At the luncheon on Feb. 5, Mr. W. E. Saunders, London, Ont., introduced the subject of bird protection, in which everybody should be interested from a financial as well as the aesthetic standpoint. Every bird, he said, except the "rat" of the bird world, the English sparrow, helps to keep down insects. One trouble the birds have is that we are too Bolshevistic in regard to them; we have a "Liberty League" that allows us to take a gun on the first of June and go into the country. We can't kill insect-eating birds by law, but what is the gun for? Nothing is in season to kill except crows and blackbirds. Boys go out and kill valuable birds, the property of the state. Later in the Convention a resolution would be brought in referring to the matter. . . . Rev. Dr. Scott jocularly referred to his interesting place with a lady on his right who belonged to a society that had had the greatest percentage of increase during the year and another on his left who had been born in Kirkcubright but had had the privilege of promoting the first Horticultural Society between the St. Lawrence and the Arctic ocean. We shall continue to get bulbs from Holland, he said, but we are going to grow our own roses. We're going to have "made in Canada" in Horticulture. . . . Short speeches recording experiences of various societies were also made by Mr. Moffat, of Weston, Mrs. Hilborn, of Kitchener, Mrs. G. M. Lyons, of Weston, Mr. Brown, of Kingsville and others. Miss Blacklock, Meadowvale, heartily approved of a "school for gardeners." Mr. Jack Miner, the famous "bird man" of Kingsville told a story of pioneer gardening in that locality. "Show me a person that does not love birds, flowers, music and children," he said, "and I'll show you one I have too much business to have much to do with," and then he burst into a rollicking song that set everyone smiling. Mr. Mabee, Port Credit, had been impressed with the statement that the horticulturist has a mission next to that of the church; since going to the country to live he had learned how the love for beautiful things helps in love for good things. . . . Mr. Geo. A. Putnam, of the Dept. of Agriculture, noted the connection of the Women's Institute in some places with horticultural work; Dr. Bennett, of St. Thomas, favored the formation of committees to popularize certain kinds of flowers such as the peony, gladiolus and iris; then after a vote of thanks to the ladies who had provided and assisted at the luncheon, the party repaired upstairs for the afternoon session.

#### Tuberous Begonias.

Tuberous begonias, gorgeous in coloring, especially useful in that they may be grown indoors or out, were dealt with by the President, Mr. Hartry. Begonias are of three classes, Rex, Fibrous Rooted and Tuberous. The "Rex" species have little bloom but beautiful foliage, are good only for house decoration, but are especially advisable for that since they do well with little or no direct sunlight, although they demand heat, fresh air and a rich loam with some sand mixed with it. They are the better of liquid manure once a week. They may be propagated by placing a leaf flat in sand, covering the stem and keeping the sand moist. . . . The fibrous-rooted species are grand for winter bloom, and may be easily multiplied by slips and cuttings. . . . The tuberous-rooted kinds are summer-flowering, but no plant is more gorgeous from the middle of June to snowfall. The single and double-flowering kinds are both splendid and good for cut flowers, keeping well in a shallow dish of water for 3 or 4 days in a cool place. The bulbs should be started in March or April; a good way is to place them on moss in a dish, seeing that the bulbs are right side up, then cover with more moss, keeping the whole

moist. When the lower moss is permeated with roots and the plants are 2 or 3 inches high, transfer without disturbance into boxes of rich soil. Keep where the sun will not shine and set out about the 15th of June. The bed should consist of good garden soil, leaf mould, well-rotted manure and some sand. Set the bulbs 16 inches apart each way and water with rain water. The best position is where they will get morning or evening sun. When they begin to bloom give liquid manure once a week, and when frost comes take up, pot in sand and keep over winter in a moist cellar. (To be continued.)

#### Treatment of Influenza.

"MEDICUS."

"AN ounce of prevention is worth a pound of cure." The best treatment of influenza is prevention, and this, by the way, is the field of greatest usefulness for the medical profession.

If you are in doubt whether you have the "Flu" or not, go to bed and send for your doctor. You can't "wear it off," you can wear it—on. If you go to bed you are more or less isolated from your friends and are not nearly so liable to spread the disease. Rest in bed will increase your fighting powers, your resistance to the disease, because after all, you cure yourself. Nature is our best doctor, and is our best guide if we know her laws and are willing to obey them.

Next in importance to rest in bed is eating. If you have a fever you should eat more than if you have no fever. If your "Lizzie" gets hot, if the water in the radiator begins to boil, it requires more gasoline to keep going, and so it is with the body. The hotter the engine, the more fuel, the higher the fever the more food. We have been trained "to feed a cold and starve a fever." Now, we say feed a cold and feed a fever. Professor Coleman of Bellevue Hospital, New York, feeds his typhoid fever patients twice as much every day as the average man takes. The deaths from typhoid there have lessened, the disease is less severe, and his patients recover weighing as much if not more than they did before they were sick. Is this not a wonderful contrast to the days when we gave our patients "three pints of milk in 24 hours"? In influenza, as in typhoid, pneumonia and other infectious (catching) diseases, it is

very essential that the patient be fed liberally. The diet should consist largely of carbohydrates (sugar and starch). Don't spare the candy or chocolates. Use sugar wherever possible. Sweeten the lemonade "good and sweet." Starch can be given as rice, tapioca, cornstarch, bread, potatoes. If you give soup, add flour, or rice or crackers. Encourage free use of water. Water has many advantages. It washes off the tongue and so allows the patient to taste better and so to relish his food more. He is more willing to eat. It also has a very beneficial effect on the stomach. "Drink and grow fat." If you drink a lot of water,

medicine known that will "break it up." It can't be done. Avoid whiskey. It is actually dangerous to take in such a serious disease as influenza. The only justification for its use is in cases where the patient cannot be persuaded to eat. Even then it may do more harm than good.

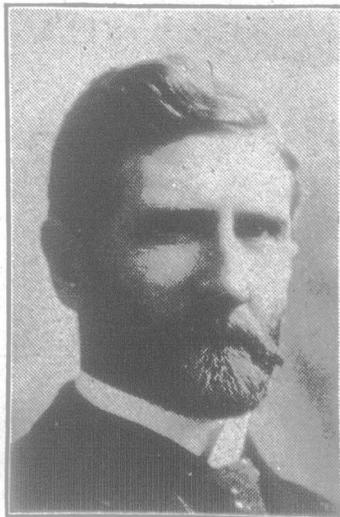
If you cannot persuade your patient to eat and if you cannot get any whiskey, buy some milk of sugar at the drug store. This sugar is not very sweet, and so you can give a large amount of it in lemonade without your patient noticing the taste of the sugar; you can give 4 to 8 ounces daily to advantage. In that way you can give your patient a large amount of nourishment and avoid the need of using whiskey.

Put your patient in the sunniest part of the house. We little value the beneficial effect of sunshine. It is the best antiseptic and cheapest that we have. It will kill the germs of "Flu." It is the best antidote for "the blues." It is the best stimulant we have to make the patient a better fighter. An attractive flower has a psychological effect that should not be overlooked.

Destroy all the discharges from the nose or throat, because they have the germs that spread the disease. Burn the cloths. Train your patient not to talk directly into your face, and thus give you the "Flu." It is well to sterilize the dishes after he has used them. Above all things, wash your hands before you eat.

#### Summary.

1. Go to bed, and stay there until you are well over it.
2. Eat, eat, eat, especially sugar, candy, starches.
3. Avoid patent medicines, and above all avoid alcohol. It is actually dangerous to take.
4. Pick out a sunny room and make up your mind to put up a good fight.



Mr. J. Lockie Wilson, Secretary and Editor, is always on the platform at the horticultural conventions.

you will eat more and so you really do grow fat. What is true of the well person is true also of the sick patient. Water also aids in the excretion of the poisons of the disease. Give at least 1 to 2 quarts a day.

A mild laxative—2 teaspoonsful of Epsom salts at the beginning of the disease may be helpful, but avoid over-purgation. It is distressing to the patient and "weakening."

Avoid patent medicines. There is no

#### Among the Books

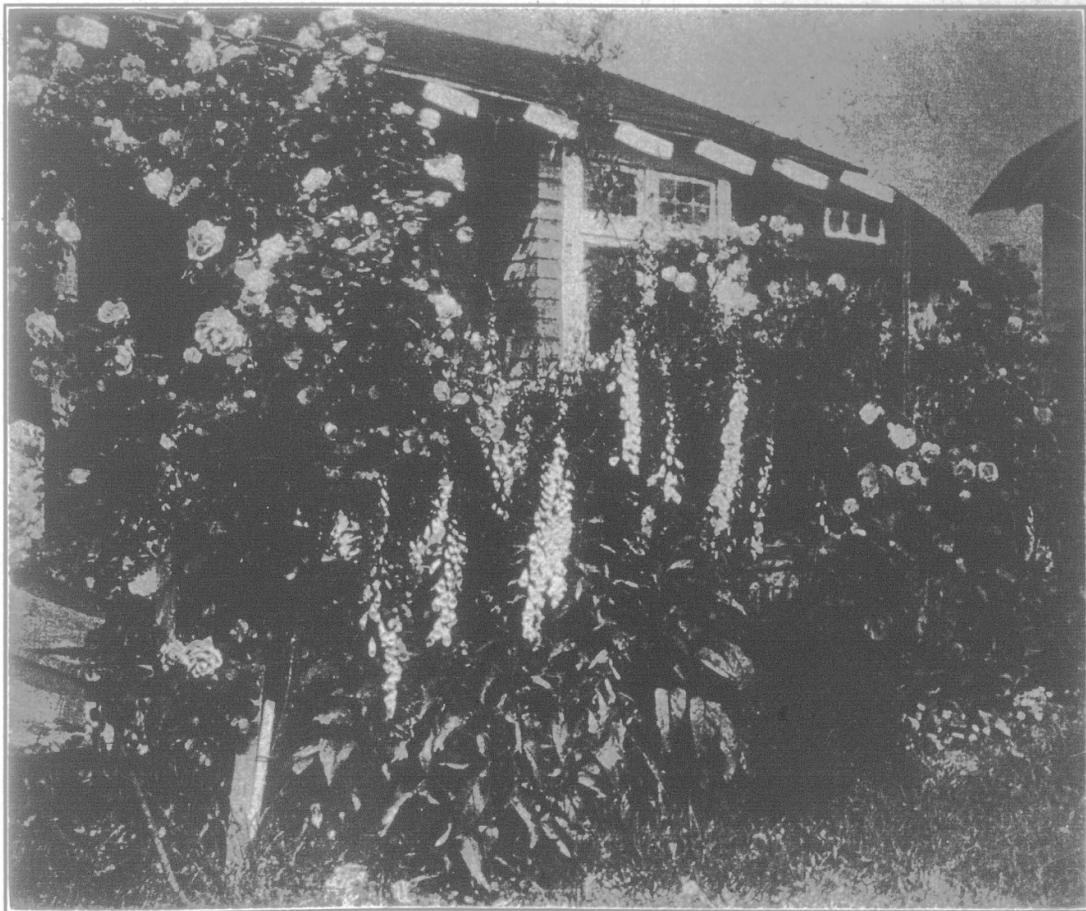
##### "Winter Studies and Summer Rambles."

BY MRS. JAMESON.

(Continued.)

Chatham to Mackinaw (18:7).

AT Chatham Mrs. Jameson left the jolts and jars of the wagon and proceeded by boat down the Thames.



Any Farm Home, Without Much Trouble, Can Have a Tangle of Beauty Such as This.

# Since I Discovered the Great Sweetener



"In the making of cakes, muffins and delicate tea biscuits, I find that the use of CROWN BRAND Syrup not only supplies the requisite sweetening, but it brings out the flavor of the blended ingredients, and, more than anything else, brings a lasting freshness of flavor. Since I discovered 'The Great Sweetener' my cakes are more palatable and digestible. They don't dry out so rapidly, don't crack nor get stale. And then, CROWN BRAND Syrup is so reasonably priced."

"'The Great Sweetener,' as I have learned to call CROWN BRAND Syrup, is a great help in the preparation of pie fillings, icings, etc. Mixing meat, for instance, gains in mellowness, body and flavor, besides gaining in keeping qualities. Puddings are more palatable, lighter and more digestible—because Corn Syrup is already partially digested by its wonderful process of manufacture. Then, when you are icing a cake, think of the smoothness and the softness your icing receives by using CROWN BRAND, without the cloying sweetness and hardness from using sugar alone."

"The food value of candy is very high, but so is the price of sugar! CROWN BRAND Syrup is invaluable in making candy, and it is so reasonably priced! CROWN BRAND candies are softer; they can be better pulled, and because of this are more delightful. A candy that melts in the mouth is much more delightful than a hard, brittle piece of cloying sweetness. Think of soft, pliable, mouth-watering caramels, butter scotch or toffee, and you will need no further urging for using 'The Great Sweetener.'"

**T**HOUGH at the time it seemed nothing short of disaster, it really was a fortunate thing that I ran out of sugar—because it led to my great discovery. I used to think of Corn Syrup only as a spread for bread or griddle cakes. That I could ever use it for baking and cake-making never entered my head—until Mary came "over the New Year."

Mary is one of those resourceful women who are never flustered or taken unawares. When I broke the tragic news that I had barely enough sugar for the tea and coffee, and that the family would shortly be clamoring for their cake and the children rioting for their candy, and all the stores shut up and so on—Mary calmly led the way into the pantry. "Why what about my old friend CROWN BRAND?" pointing to the familiar blue and yellow tin on the shelf.

So began a new era in my baking experience. I will always be grateful to Mary for coming to the rescue. She proved the general utility of CROWN BRAND Corn Syrup in kitchen economy as "The Great Sweetener" in cake baking, in the making of hot breads, muffins, cookies, etc. She showed me how to prepare sauces that are mellow, smoother, more digestible, more appetizing. She explained the wonderful process of making CROWN BRAND Syrup from golden corn, how it was partially digested in the can, adding to its nutritional value enormously, and how its use as an ingredient enhances the value of all foods.

When I marvelled at her knowledge, she laughed and said: "What's a poor body to do without ingenuity in these days of the higher cost of everything? What a blessing it is that people of moderate means can obtain all kinds of appetizing desserts, the cost of which without 'The Great Sweetener' might be prohibitive, and then," she added insinuatingly, "it is so reasonably priced."

If you have not yet discovered "The Great Sweetener," if you have used CROWN BRAND Syrup only as a spread for daily bread or to sweeten griddle cakes and hot breads, try it now for baking. It will help you to save sugar money and to improve the nutritional value and digestive qualities of the foods you serve. You will be amazed—you will be delighted. The economy of CROWN BRAND is not the real reason of its popularity. It's good; that's the BIG reason.

## FREE

Cook Book of CROWN BRAND SYRUP Recipes

All housewives anxious to reduce the high cost of baking should get this booklet. Free by mail or at your grocer's. Tells how to use "The Great Sweetener" for candy-making, cake-baking, icings, pie-fillings, puddings, sauces, desserts, etc.

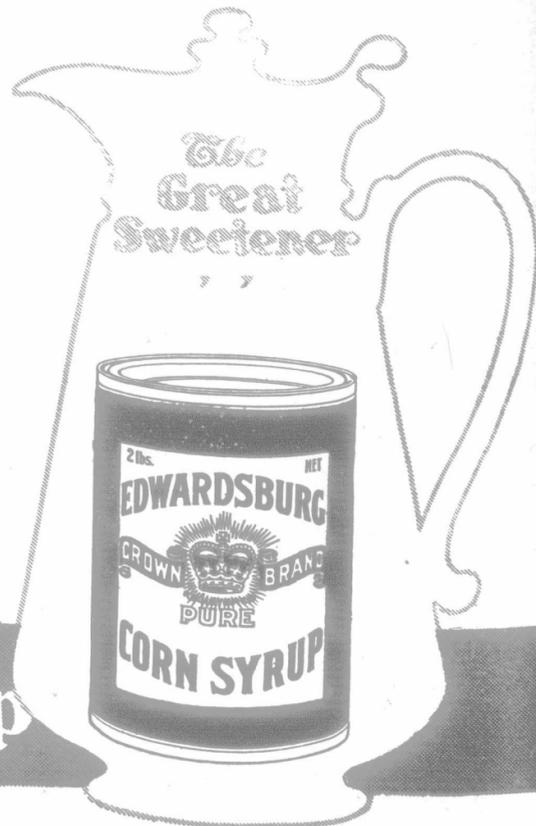
SALES GARMONEY

THE CANADA STARCH CO. LIMITED  
MONTREAL

Makers of "LILY WHITE" CORN SYRUP for Preserving, BENSON'S CORN STARCH for Dainty Desserts, "MAZOLA," the Wonderful Oil for Cooking, Baking and Salads

AT YOUR GROCER'S—IN 2, 5 and 10-LB. TINS

# Crown Brand syrup



Of the account of that journey we shall quote but one paragraph:

"We stopped half-way down the river to take in wood. Opposite to the landing place stood an extensive farm-house, in better condition than any I had yet seen; and under the boughs of an enormous tree, which threw an ample and grateful shade around, our boat was moored. Two Indian boys, about seven or eight years old, were shooting with bows and arrows at a mark stuck up against the huge trunk of the tree. They wore cotton shirts, with a crimson belt round the waist ornamented with beads, such as is commonly worn by the Canadian Indians; one had a gay handkerchief knotted round his head, from beneath which his long, black hair hung in matted elf locks on his shoulders. The elegant forms, free movements, and haughty indifference of these Indian boys, were contrasted with the figures of some little dirty, ragged Canadians, who stood staring upon us with their hands in their pockets. An Indian hunter and his wife, the father and mother of the boys, were standing by, and at the feet of the man a dead deer lay on the grass. The steward of the boat was bargaining with the squaw for some venison, while the hunter stood leaning on his rifle, haughty and silent. At the window of the farm-house sat a well-dressed female, engaged in needlework. After looking up at me once or twice as I stood upon the deck gazing on this picture—just such a one as Sir Edwin Landseer would have delighted to paint—the lady invited me into her house. Everything within it and around it spoke riches and substantial plenty; she showed me her garden, abounding in roses, and an extensive orchard in which stood two Indian wigwams. She told me that every year families of Chippewa hunters came down from the shore of Lake Huron, and encamped in her orchard without asking permission. They were perfectly inoffensive, and had never been known to meddle with her poultry or injure her trees. 'They are,' said she, 'an honest, excellent people; but I must shut the gates of my orchard upon them to-night—for this bargain with your steward will not conclude without whiskey, and I shall have them all *sore morte* before tomorrow morning.' . . . I passed half an hour in pleasant conversation with this lady, who had been born, educated and married in the very house in which she now resided. She spoke English well and fluently, but with a foreign accent, and her deportment was frank and easy, with that sort of graceful courtesy which seems inherent in the French manner. On parting, she presented me with a large bouquet of roses, which has proved a great delight."

In Detroit Mrs. Jameson was delayed for two weeks through illness,—but we shall pass over that part of her narrative, further than to say that she found it a very fine and flourishing place, her one objection being that the fashionable ladies were "too much dressed for good taste."

Upon July 19th (1837) she found herself once more on board a steamer, the "Thomas Jefferson," this time directly en route for Mackinaw. Her note on the now beautiful resort, Bois Blanc, will be read with interest by those who, in recent years, have visited it: "We passed a large and beautifully green island, formerly called Snake Island, from the immense number of rattlesnakes which infested it. These were destroyed by turning large herds of swine upon it, and it is now, in compliment to its last conquerors and possessors, the swinish multitude, called Hog Island. This was the scene of some most horrid Indian atrocities during the Pontiac war. A large party of British prisoners, surprised while they were coming up to relieve Detroit, were brought over here, almost within sight of their friends in the fort and put to death with all the unutterable accompaniments of savage ferocity. . . . I have been told that since this war the custom of torturing persons to death has fallen gradually into disuse among the Indian tribes of these regions, and even along the whole frontier of the States an instance has not been known within these forty years."

Of the trip up the St. Clair River, she says: "The shores on either side, though low and bounded always by the line of forest, were broken into bays and little promontories, or diversified by islands, richly wooded, and of every variety of

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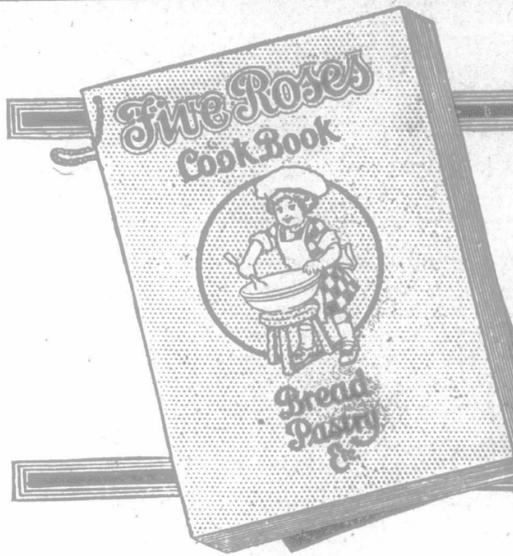
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form. The bateaux of the Canadians, or the canoes of the Indians, were perpetually seen gliding among these winding channels, or shooting across the river from side to side, as if playing at hide-and-seek among the leafy recesses. Now and then a beautiful schooner, with white sails relieved against the green masses of foliage, passed us, gracefully curtseying and sliding along. Innumerable flocks of wild fowl were sporting among the reedy islets, and here and there the great black loon was seen diving and dipping, or skimming over the waters."

Among the passengers on board was General Brady, the famous American soldier, but Mrs. Jameson had no opportunity of meeting him; but contented herself with reading the story of Henry, "the Ulysses of these parts," as told in Mrs. Lee's book, "The Travels and Adventures of Alexander Henry."

On June 20 she writes: "Before I went down to my rest yesterday evening I beheld a strange and beautiful scene. The night was coming on, the moon had risen round and full, like an enormous globe of fire, we were still in the channel of the river, when to the right I saw a crowd of Indians on a projecting point of land—Hurons from near Amherstburg. They were encamping for the night, some hauling up their canoes, some building up their wigwams; there were numerous fires blazing amid the thick foliage, and the dusky figures of the Indians were seen glancing to and fro, and I heard loud laughs and shouts as our huge steamer swept past them. In another moment all was dark; the whole had vanished like a scene in a melodrama. I rubbed my eyes, and began to think I was already dreaming."



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# Five Reasons

R. R. No. 5,  
Auburn, Ont., Nov. 29, 1919.

The Renfrew Machinery Co., Ltd.,  
Renfrew, Ontario.

Dear Sirs,-

Last June I bought a Happy Farmer Tractor from you. I have used it plowing. This summer was very dry. It pulled the three Cockshutt Plows in sod when it was so dry that the points were wearing out in 2½ hours run.

One of my horses got kicked, and I drew out measure with the tractor into fresh plowed land and double disced same land.

We have ground about 200 bushels of grain with a 10" Maple Leaf grinder, which was easy work for the tractor.

I have put in two days on the road grading. The man that was running the grader said it was better than horses for you did not have to stop to give it its wind and when it came to a heavy pull it went at the same rate, did not have to go faster to get through it.

We threshed about 1500 bushels of grain with the tractor. Our separator is a George White & Sons, London, with a 36" cylinder fully equipped. We thought before we started to thresh that we could thresh it as quick as we threw it into the mow other years. We found out that the tractor could handle more than the separator would look after.

Yours truly,  
(Signed) A. E. McIlwain.

**4** Labor is scarce, horse feed is high, but the tractor will build new roads for less money, with less labor, in less time than can be done with horses. The tractor breaks up hard road surfaces with a rooter where eight horses could not do the work. The Happy Farmer travels twice as fast as horses and cuts a strip five times as wide, so in the same time it really performs ten times as much work as eight horses and does it better. For hauling road materials and grading the Happy Farmer gives excellent results. Many farmers save their horses from the heavy road work by using a Happy Farmer Tractor.

- No. 1
- No. 2
- No. 3
- No. 4
- No. 5

**1** Plowing hard, dry soil is hard work on horses. It's tiring on both men and beasts. The Happy Farmer Tractor is built to meet such conditions. On a farm in Alberta the Happy Farmer pulled along three plows 8½ inches deep through dry, heavy subsoil and sod.

**2** The wheels of the Happy Farmer Tractor are wide enough to permit of work such as this. 88 per cent. of the weight is carried by the big wheels and as the tractor weighs only 3,700 lbs. users have had great success with it on newly plowed ground.

**3** The Happy Farmer Tractor is an ideal power plant not only for plowing, pulling binders, hay loaders, etc., but for threshing, filling silos, shelling corn, grinding feed, cutting wood and all other belt work. "I have been using a 12-24 Happy Farmer Tractor for a year and a half," one farmer recently wrote to a neighbor. "The Tractor gives me both portable and stationary power and saves me money and labor. One man can do the work of about three men and 12 horses and the tractor never gets tired in the heat of the day."

**5** Another Ontario farmer has had a Happy Farmer Tractor for nearly two years and says—"Some days we thresh more than 2,000 bushels of oats per day. The Happy Farmer is large enough to do any power farming job on the farm, while it is small enough to be economical on fuel and light in weight."

## Simple and Dependable

The Happy Farmer Tractor runs with little attention, except to see that the fuel and oil tanks are full. When you have a big job to do you will be grateful for its simplicity and dependability. It has only two-thirds the number of parts found on an ordinary tractor, and all the parts are in easy reach.

## 100% Reserve Strength

Every part of it is designed to take care of 100% more than the normal strain in case of emergency. When you need it the Happy Farmer can buckle down and develop much more power than its normal rating. You can count on it to be bigger

than the job you give it. With its 12-24 horse power, it is the tractor that gives you maximum value for every dollar you invest.

## Low Up-Keep Cost

The Happy Farmer holds the official record for low fuel consumption per acre and for non-stop efficiency. You will find the slow speed two-cylinder motor the most perfect kerosene-burning motor ever produced. It guarantees 24 horse power on the belt and 12 on the draw-bar. With such power the Happy Farmer can work hour after hour under a heavy load in the hottest and dustiest of weather. It does not heat—does not smoke—and because it has only two cylinders it burns kerosene more efficiently and requires less care and attention than a high speed four-cylinder type.

You will need a Happy Farmer tractor more and more. See our dealer or write us.

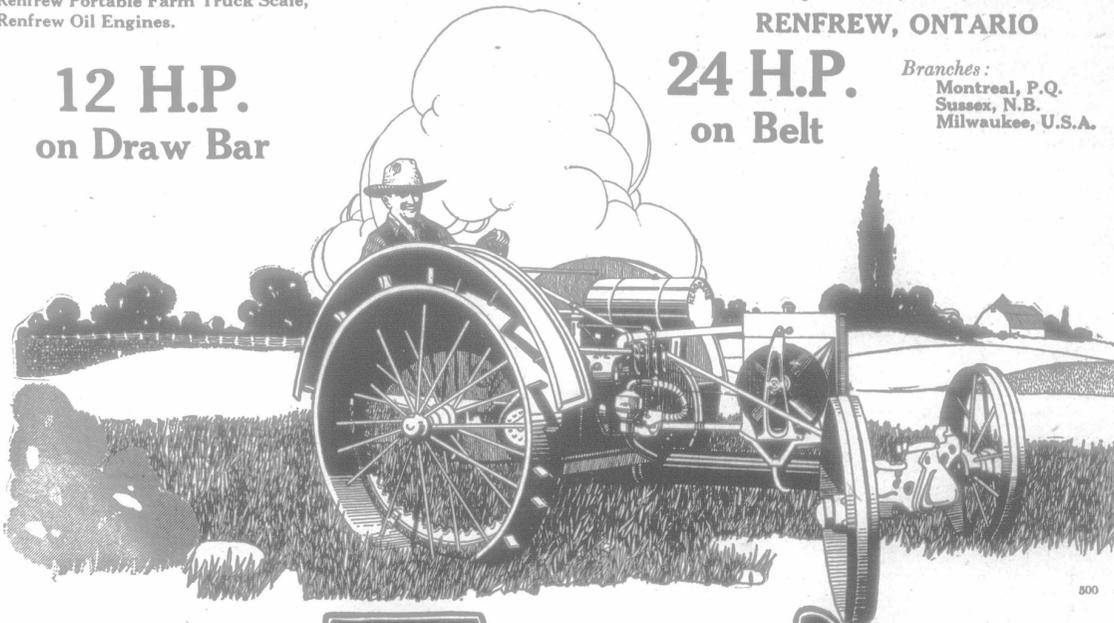
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Al Jolson, Fun King

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Fully launched in'o Lake Huron, she describes the scene along the Michigan shore: "Along the whole horizon was nothing visible but the dark omnipresent pines," adding, however, that the Americans had built a lighthouse on a little island near Thunder Bay. "A situation more terrific in its solitude you cannot imagine than that of the keeper of this lonely tower, among rocks, tempests, and savages. All their provisions come from a distance of at least 100 miles, and a long course of stormy weather would place them in danger of starvation."

### Mackinaw.

The landing at Mackinaw she pictures thus: "The next morning, at earliest dawn, I was awakened by an unusual noise and movement on board, and putting out my head to inquire the cause, was informed that we had arrived at the Island of Mackinaw. . . . I dressed in all haste and ran up to the deck, and there a scene burst on my enchanted gaze, such as I never had imagined, such as I wish I could place before you in words, but I despair, unless words were of light, and lustrous hues, and breathing music. However, here is the picture as well as I can paint it. We were lying in a tiny bay, crescent-shaped, of which the two horns or extremities were formed by long narrow promontories projecting into the lake. On the east, the whole sky was flushed with a deep amber glow, flecked with softest shades of rose-color—the same intense splendor being reflected in the lake; and upon the extremity of the point, between the glory above and the glory below, stood the little misionary church, its light spire and belfry defined against the sky. On the opposite of the heavens hung the moon, waxing paler and paler, and melting away, as it seemed, before the splendor of the rising day. Immediately in front rose the abrupt and picturesque heights of the island, robed in richest foliage, and crowned by the lines of the little fortress, snow-white, and gleaming in the morning light. At the base of these cliffs, all along the shore, immediately on the edge of the lake, which, transparent and unruffled, reflected every form as in a mirror, an encampment of Indian wigwams extended far as my eye could reach on either side. Even while I looked, the inmates were beginning to bestir themselves, and the dusky figures were seen emerging into sight from their picturesque dormitories, and stood gazing on us with folded arms, or were busied about their canoes, of which some hundreds lay along the beach. . . . O how passing lovely it was! how wondrously beautiful and strange! I cannot tell how long I may have stood, lost—absolutely lost, and fearing to wink my eyes, lest the spell should dissolve, and all should vanish away like some air-wrought phantasy, some dream out of fairyland,—when the good Bishop of Michigan came up to me, and with a smiling benevolence waked me out of my ecstatic trance."

At Mackinaw Mrs. Jameson was the guest of Mr. and Mrs. Schoolcraft, Mr. Schoolcraft then being the American agent to the Indians at that point. His wife, a half-Indian girl, was the sister of Mrs. MacMurray, of Sault Ste. Marie, whom Mrs. Jameson had met—and fallen in love with—at Toronto.

Mrs. Schoolcraft proved not less attractive. "I am charmed with Mrs. Schoolcraft," she writes. "When able to appear (she was ill) she received me with true lady-like simplicity. The damp, tremulous hand, the soft, plaintive voice, the touching expression of her countenance, told too painfully of resigned and habitual suffering. Mrs. Schoolcraft's features are more decidedly Indian than those of her sister, Mrs. MacMurray. Her accent is slightly foreign—her choice of language pure and remarkably elegant. In the course of an hour's talk, all my sympathies were enlisted in her behalf, and I thought that I perceived that she, on her part, was inclined to return these benignant feelings. I promised myself to repay her hospitality by all the attention and gratitude in my power. . . . There are a thousand quiet ways in which woman may be kind and useful to her sister woman."

At Mackinaw the writer came into much closer touch with the Indians than any place hitherto, and some of her descriptions are very graphic,—this, for instance:



## COOKERY COLUMN

### COCOA PIE

- 4 tablespoons Cowan Cocoa
- 3 tablespoons cornstarch or 1/2 cup flour
- 1 1/2 cups hot milk
- 1 tablespoon butter
- 2 eggs
- 3/4 teaspoon salt
- 1 teaspoon vanilla

1. Heat milk.
2. Mix cornstarch, sugar, salt and cocoa.
3. Add gradually to hot milk.
4. Cook over hot water 45 minutes.
5. Beat egg yolks slightly, add and cook a few minutes longer.
6. Fill baked crust cover with meringue made of beaten whites and two table-spoons icing sugar.
7. Brown in oven.



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COOKERY COLUMN

COCOA PIE

4 spoons Cowan Cocoa  
2 spoons cornstarch or  
1 cup flour  
1 cup hot milk  
1 spoon butter

1 spoon salt  
1 spoon vanilla

1 cup milk.  
1 cup cornstarch, sugar, salt  
1 cup cocoa.  
Gradually to hot milk  
1 cup over hot water 45  
minutes.  
1 egg yolks slightly  
beaten and cook a few min-  
utes longer.  
Baked crust cover with  
icing made of beaten  
eggs and two table-  
spoons icing sugar.  
Bake in oven.



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"There was another group which amused me exceedingly: it was a large family, and, compared with some others, they were certainly people of distinction and substance, rich in beads, blankets and brass kettles; they had two wigwams and two canoes. But I must begin by making you understand the construction of a wigwam—such, at least, as those which now crowded the shore.

"Eight or twelve long poles are stuck in the ground in a circle, meeting at a point at the top, where they are all fastened together. The skeleton thus erected is covered over, thatched in some sort with mats, or large pieces of birch bark, beginning at the bottom and leaving an opening at the top for the emission of smoke: there is a door about four feet high, before which a skin or blanket is suspended. As to the canoes, they are uniformly of birch bark, exceedingly light, and most elegant in shape, varying in size from 18 to 36 feet in length, and from a foot and a half to four feet in width. The family I have above mentioned were preparing to embark, and were dismantling their wigwams and packing up their goods, not at all discomposed by my vicinity, as I sat on a bank watching the whole process with no little interest. The most striking personage in this group was a very old man, seated on a log of wood, close upon the edge of the water; his head was quite bald, excepting a few gray hairs which were gathered in a tuft at the top, and decorated with a single feather—I think an eagle's feather; his blanket of scarlet cloth was so arranged as to fall round his limbs in graceful folds, leaving his chest and shoulders exposed; he held a green umbrella over his head (a gift or purchase from some white trader) and in the other hand a long pipe—and he smoked away, never stirring, nor taking the slightest interest in anything which was going on.

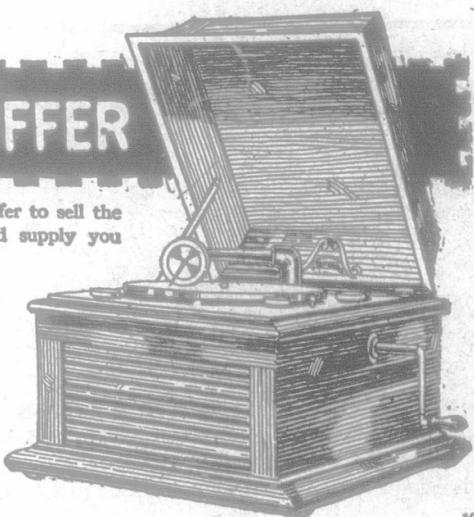
"When all was arranged, and the canoes afloat, the poles of the wigwams were first placed at the bottom, then the mats and bundles, which served apparently to sit on, and the kettles and chests were stowed in the middle; the old man was assisted by the others into the largest canoe; women, children and dogs followed; the young men stood in the stern with their paddles as steersmen; the women and boys squatted down, each with a paddle,—with all this weight the elegant, buoyant little canoes scarcely sank an inch deeper in the water—and in this guise away they glided with surprising swiftness over the sparkling waves, directing their course eastwards for the Manitoulin Islands, where I hope to see them again."

A day or so later she writes: "When I left my room this morning, I remained for some time in the parlour, looking over the Wisconsin Gazette. I was reading a most pathetic and serious address from the new settlers in Wisconsin to the down-east girls, who are invited to go to the relief of these hapless hard-working bachelors in the back-woods. They are promised affluence and love,—the 'picking and choosing among the finest young fellows in the world,' who were ready to fall at their feet, and make the most adoring and the most obedient of husbands! Well, I was enjoying this comical effusion and thinking that women must certainly be at a premium in these parts, when suddenly the windows were darkened, and looking up I beheld a crowd of faces, dusky, painted, wild, grotesque—with flashing eyes and white teeth, staring in upon me. I quickly threw down the paper and hastened out. The porch, the little lawn, the garden walks, were crowded with Indians, the elder chiefs sitting on the ground or leaning silently against the pillars; the young men, women and boys, lounging and peeping about, with eager and animated looks, but all perfectly well conducted, and their voices low and pleasing to the ear. They were chiefly Ottawas and Pottowattomies, two tribes which 'call brother,' that is, claim relationship, and are usually in alliance. The Ottawa I soon distinguished by the decency of his dress and the handkerchief knotted round the head—a custom borrowed from the early French settlers; the Pottowattomie by the more savage finery of his costume, his tall figure, and a sort of swagger in his gait. The dandyism of some of these Pottowattomie warriors is inexpressibly amusing and grotesque; I defy all Regent Street and Bond Street to go beyond them in the exhibition of self-decoration and self-complacency. One of these

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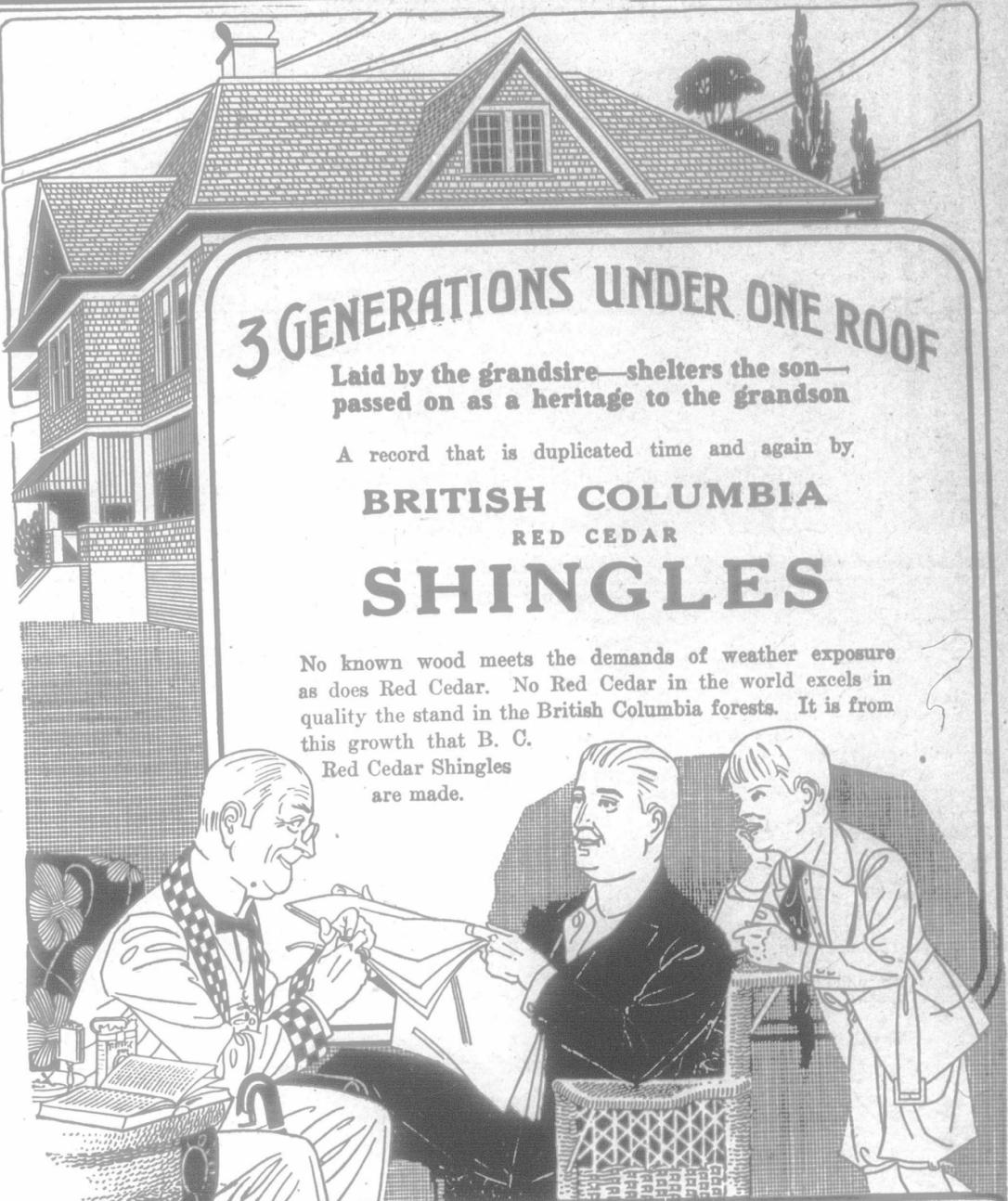
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ADDRESS

exquisites, whom I distinguished as Beau Brummel, was not, indeed, much indebted to a tailor, seeing he had neither a coat nor anything else that gentlemen are accustomed to wear; but then his face was most artistically painted, the upper half of it being vermilion, with a black circle round one eye, and a white circle round the other; the lower half of a bright green, except the tip of his nose, which was also vermilion. His leggings of scarlet cloth were embroidered down the sides, and decorated with tufts of hair. The band, or garter, which confines the leggings, is always an especial bit of finery; and his were gorgeous, all embroidered with gay beads, and strings and tassels of the liveliest colours hanging down to his ankle. His moccasins were also beautifully worked with porcupine quills; he had armlets and bracelets of silver, and round his head a silver band stuck with tufts of moose-hair, dyed blue and red; and conspicuous above all, the eagle feather in his hair, showing he was a warrior and had taken a scalp—i.e., killed his man.

"Over his shoulders hung a blanket of scarlet cloth, very long and ample, which he had thrown back a little to display his chest, on which a large outspread hand was painted in white. It is impossible to describe the air of perfect self-complacency with which this youth strutted about. Seeing my attention fixed upon him, he came up and shook hands with me, repeating 'Bojou! bojou!' Others immediately pressed forward also to shake hands, or rather take my hand, fo-



3 GENERATIONS UNDER ONE ROOF

Laid by the grandsire—shelters the son—passed on as a heritage to the grandson

A record that is duplicated time and again by

BRITISH COLUMBIA RED CEDAR SHINGLES

No known wood meets the demands of weather exposure as does Red Cedar. No Red Cedar in the world excels in quality the stand in the British Columbia forests. It is from this growth that B. C.

Red Cedar Shingles are made.

Longest Life at Lowest Cost

## Plough and Pen



**T**HE farmer is making himself felt as a political force in the land. People are looking to him for the direction of public affairs, and no doubt he will wield the pen as well as he does the plough. In one, as in the other, he is adopting modern methods, as for instance,

### Waterman's Ideal Fountain Pen

With a fuller realization of his position in the world of today, the food producer needs the services of the best pen. He writes letters, orders, receipts, and instructions. He signs papers, makes notes, writes cheques. He keeps accounts and records.

There is often an inclination to neglect these things because of the inconveniences of the old-time pen and ink. The Waterman's Ideal Fountain Pen reverses this because it makes writing a pleasure.

Sold by good dealers everywhere.

From \$2.50 up.

**L. E. Waterman Company Limited**

179 St. James St., Montreal.

NEW YORK, BOSTON, CHICAGO, SAN FRANCISCO, LONDON, PARIS.



they do not shake it; and I was soon in the midst of a crowd of perhaps 30 or 40 Indians, all holding out their hands to me, or snatching mine, and repeating "bojou" with every expression of delight and good humour."

The Indians had really come to the house, it appeared, to confer with Mr. Schoolcraft, but as Mrs. Jameson witnessed a more important council at Manitoulin Island, we will forego the description of this. (To be continued.)

### The Children's Poem.

Block City.

BY ROBERT LOUIS STEVENSON.

What are you able to build with your blocks?  
Castles and palaces, temples and docks,  
Rain may keep raining, and others go roam,  
But I can be happy and building at home.  
Let the sofa be mountains, the carpet be sea,  
There I'll establish a city for me:  
A kirk and a mill and a palace beside,  
And a harbor as well where my vessels may ride.

Great is the palace with pillar and wall,  
A sort of a tower on the top of it all,  
And steps coming down in an orderly way  
To where my toy vessels lie safe in the bay.

This one is sailing and that one is moored;  
Hark to the song of the sailors on board!  
And see on the steps of my palace, the kings  
Coming and going with presents and things!

In "A Child's Garden of Verses"

## Do You Realize That

Every purchase of Fertilizers from the United States helps to depreciate still further the value of the Canadian dollar?

The economic position demands that we reduce our purchases in the United States to a minimum. If we buy Acid Phosphate we are helping to depreciate still further the value of the Canadian dollar. Most of this fertilizer imported from the States, or, in any case, where it is manufactured in Canada, the Rock Phosphate to produce same must come from the States.

### SYDNEY BASIC SLAG

yields Phosphoric Acid which is entirely of Canadian origin. If you are in any doubt as to this proposition, just consult your banker. Patriotism, therefore, demands that in these times we should use as few United States products as possible.

**The Cross Fertilizer Co., Limited**  
Sydney, Nova Scotia

Address all enquiries to our General Sales Agent:

**A. L. SMITH, 220 Alfred Street, Kingston, Ont.**

**Wanted—An Aged Shorthorn Bull**  
of fashionable Scotch breeding; tuberculin tested; with size, quality, proven progeny, and guaranteed a sire breeder. State age, color, and weight.  
ADVERTISER  
Care of Union Bank

**Choice Yorkshires**—One sow due to March, one boar one year old, farrow first week in ready to wean, both sexes; priced to sell.  
**L. M. STEVENSON, Science Hill, Ont.**  
Please mention The Farmer's Advocate.

## Serial Story

### "His Family."

BY ERNEST POOLE.

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

#### CHAPTER XXIV.

It had rained so hard for the past two days that no one had gone to the village, which was nearly three miles from the farm. But when the storm was over at last, George and Elizabeth tramped down and came back at dusk with a bag full of mail. Their clothes were mud-bespattered and they hurried upstairs to change before supper, while Roger settled back in his chair and spread open his New York paper. It was July 30, 1914.

From a habit grown out of thirty odd years of business life, Roger read his paper in a fashion of his own. By instinct his eye swept the page for news dealing with individual men, for it was upon people's names in print that he made his living. And so when he looked at this strange front page it gave him a swift twinge of alarm. For the news was not of men but of nations. Austria was massing her troops along the Serbian frontier, and Germany, Italy, Russia, France and even England, all were in a turmoil, with panics in their capitals, money markets going wild.

Edith came down, in her neat black dress with its narrow white collar, ready for supper. She glanced at her father.

"Why, what's the matter?"

"Look at this." And he tossed her a paper.

"Oh-h-h," she murmured softly. "Oh, how frightful that would be." And she read on with lips compressed. But soon there came from a room upstairs the sudden cry of one of her children, followed by a shrill wail of distress. And dropping the paper, she hurried away.

Roger continued his reading.

Deborah came. She saw the paper Edith had dropped, picked it up and sat down to read, and there were a few moments of absolute silence. Then Roger heard a quivering breath, and glancing up he saw Deborah's eyes, intent and startled, moving down the columns of print in a swift, uncomprehending way.

"Pretty serious business," he growled.

"It can't happen!" she exclaimed.

And they resumed their reading.

In the next three days, as they read the news, they felt war like a whirlpool sucking in all their powers to think or feel, felt their own small personal plans whirled about like leaves in a storm. And while their minds—at first dazed and stunned by the thought of such appalling armies, battles, deaths and desolation—slowly cleared and they strove to think, and Roger thought of business shivered to atoms in every land, and Deborah thought of schools by thousands all over Europe closing down, in cities and in villages, in valleys and on mountain sides, of homes in panic everywhere, of all ideals of brotherhood shaken, bending, tottering—war broke out in Europe.

"What is this going to mean to me?"

Millions of people were asking that. And so did Roger and Deborah. The same night they left for New York, while Edith with a sigh of relief settled back into her family.

Next morning at his office Roger found John waiting with misery stamped on his face. John had paid small heed to war. Barely stopping for sleep in the last two days he had gone through scores and hundreds of papers, angrily skipping all those names of kings and emperors and czars, and searching instead for American names, names of patrons—business! Gone! Each hour he had been opening mail and piling up letters cancelling contracts, ordering service discontinued.

Roger sat down at his desk. As he worked and figured and dictated letters, glancing into the outer rooms he saw the long rows of girls at tables obviously trying to pretend that there was work for them to do. He felt them anxiously watching him—as in other offices everywhere millions of other employees kept furtively glancing at their chiefs.

"War," he thought. "Shall I close down?" He shrank from what it would mean to those girls. "Business will pick up again soon. A few days—weeks—that's all I need."

And he went to his bank. No credit there. He tried other sources, all he

FOUNDED 1866

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ERNEST POOLE.

erved by the Farmer's and Home Magazine.)

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# IT IS "NEPONSET" PAROID OR IT IS NOT PAROID

**P**AROID is not a roofing term for all ready roofings, but is manufactured exclusively by Messrs. Bird & Son and is a member of the great "Neponset" Family, the trade name of all the Bird Products.

"Neponset" is derived from the river of that name, which flows through the town of East Walpole, Mass., where the original Bird & Son plant was established in 1795. Paroid was first manufactured there in 1898, and eight years later in Canada, upon the opening of the Canadian Plant in Hamilton.

The excellence of Paroid, combining as it does great durability with weather-resisting qualities, has made this product of the "Neponset" Family well and favorably known throughout the Dominion; and to those not familiar with its origin Paroid is assumed to be a word meaning all ready roofing. This is not so!

## To be PAROID, it Must be "NEPONSET" PAROID

Roofs laid with Neponset Paroid more than twenty years ago are still giving satisfactory service and show no appreciable signs of wear though exposed for all these years to varying climatic changes. Compared with wood or steel shingles, or slate, Paroid is cheaper and costs less to lay.

The base of Neponset Paroid is a high-grade rag felt thoroughly impregnated with asphalt, making it positively water-proof.

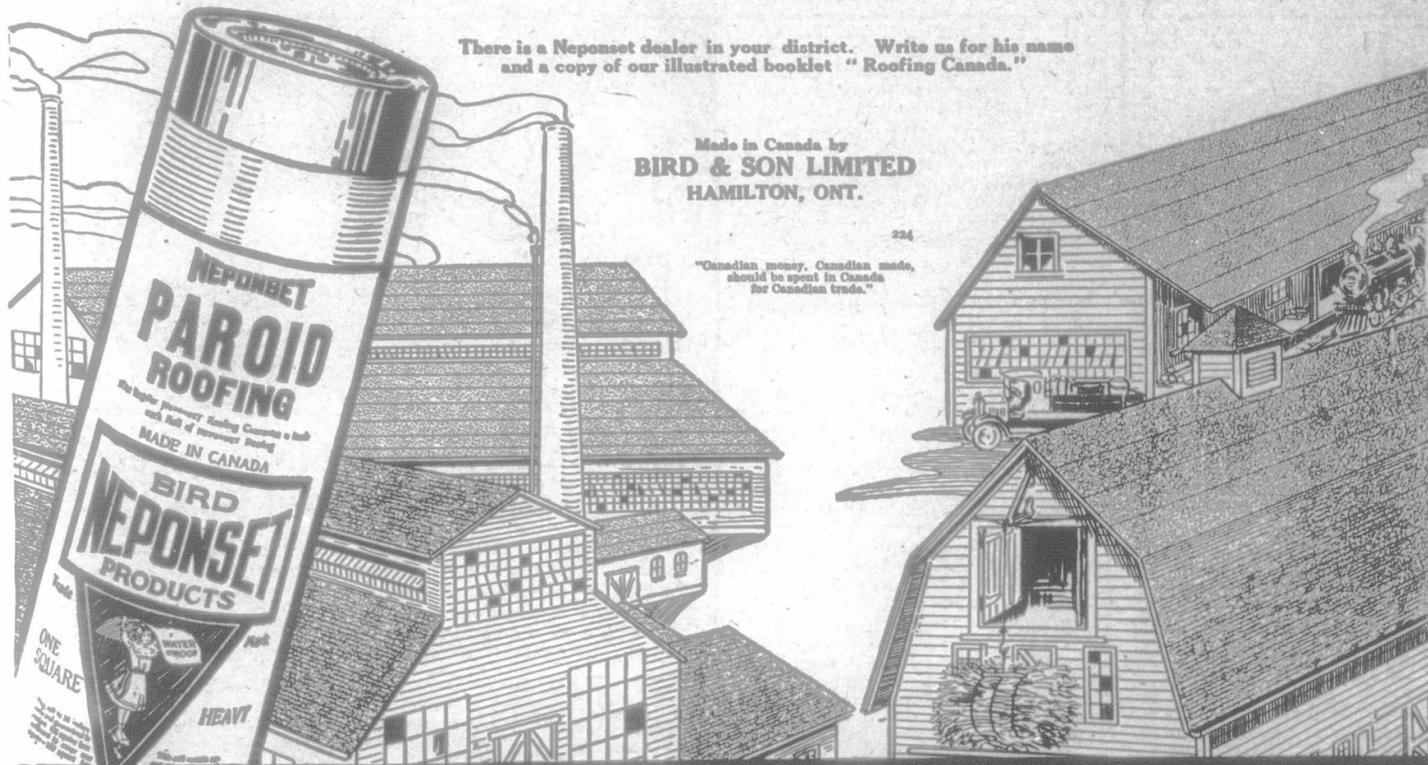
Neponset Paroid is made in two surfaces—Talc, grey in color; or crushed slate, red or green in color.

For satisfactory roofing—durability, service, appearance and protection, specify "Neponset" Paroid. "Neponset" is your assurance of quality; it is the hall-mark that stamps all Messrs. Bird & Son Products, and places them in the lead on merit and quality.

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"Canadian money, Canadian made, should be spent in Canada for Canadian trade."



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A cup of hot OXO keeps the warmth IN and the cold OUT.

A Cube to a cup.



**THE MOLSONS BANK**

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

THE MOLSONS BANK is prepared to render every assistance possible to responsible business men or farmers in financing their business.

The Manager will give you any information needed about banking.

**Tudhope-Anderson**

**WIDE Steel Wheels**  
make your work easier

How much easier to load and haul around the farm with a low wagon that won't sink in the soft soil and spoil the ground or tire out the horses! There's a Tudhope-Anderson Wide Tire Steel Wheel for your truck-wagon.

Write us now for order-blanks and full particulars about wide tire Steel Wheels for work about the farm. Can be made to fit any skein or axle bearing—diameters, 20" to 60"; tire widths, 3" to 10".



We also manufacture Low Down Wide Tire Steel Wheel Trucks.

Tudhope-Anderson Co., Limited  
Orillia Ontario  
Cut out this advertisement and mail to us 45

**Remarkable Growth of the Mutual**

For a life insurance Company there is no such a thing as old age. The older the company the more strength and energy it acquires, providing it has experienced normal and healthy development such as characterized the first half century in the life of Canada's only Mutual.

This Company was incorporated in 1868, organized in 1869 and began writing business in 1870. Its steady and consistent progress has been phenomenal.

The figures from the successive reports suggest almost limitless possibilities of expansion in the coming years.

**Mutual Life of Canada**  
Waterloo-Ontario

**PATENTS** Canadian, Foreign, Booklets Free  
EGERTON R. CASE  
10 Adelaide East, TORONTO

could think of, racking his brains as he went about town, but still he could not raise a loan. Finally he went to the firm which had once held a mortgage on his house. The chief partner had been close to Bruce, an old college friend. And when even his friend refused him aid, "It's a question of Bruce's children," Roger muttered, reddening. He felt like a beggar, but he was getting desperate. The younger man had looked away and was nervously tapping his desk with his pen.

"Bad as that, eh," he answered. "Then I guess it's got to be done." He looked anxiously up at Roger, who just at that moment appeared very old. "Don't worry, Mr. Gale," he said. "Somehow or other we'll carry you through."

"Thank you, sir," Roger rose heavily, feeling weak, and took his departure. "This is war," he told himself, "and I've got to look after my own."

But he had a sensation of guilt, as upon his return to his office he saw those suddenly watchful faces. He walked past them and went into his room, and again he searched for ways and means. He tried to see his business as it would be that autumn, to see the city, the nation, the world as it would be in the months ahead. Repeatedly he fought off his fears. But slowly and inexorably the sense of his helplessness grew clear.

"No, I must shut down," he thought. On his way home that evening, in a crush at a turbulent corner he saw a big truck jam into a taxi, and with a throb of rebellion he thought of his son-in-law who was dead. Just the turn of a hair and Bruce might have lived and been here to look after the children! At the prospect of the crisis, the strain he saw before him, Roger again felt weak and old. He shook off his dread and strode angrily on.

In his house, the rooms downstairs were still dismantled for the summer. There was emptiness and silence but no serenity in them now, only the quiet before the storm which he could feel from far and near was gathering about his home. He heard Deborah on the floor above, and went up and found her making his bed, for the chambermaid had not yet come. Her voice was a little unnatural.

"It has been a hard day, hasn't it. I've got your bath-room ready," she said. "Don't you want a nice cool bath? Supper will be ready soon."

When, a half hour later, somewhat refreshed, Roger came down to the table, he noticed it was set for two.

"Isn't Allan coming?" he asked. Her mobile features tightened.

"Not till later," she replied. They talked little and the meal was short. But afterwards, on the wooden porch, Deborah turned to her father, "Now tell me about your office," she said.

"There's not enough business to pay the rent."

That won't last—

"I am," she said determinedly. Her father slowly turned his head.

"Are you, with this war?" he asked. Her eyes met his and moved away in a baffled, searching manner. "She has troubles of her own," he thought.

"How much can we run the house on, Deborah?" he asked her. At first she did not answer. "What was it—about six thousand last year?"

"I think so," she said restlessly. "We can cut down on that, of course—"

"With Edith and the children here?"

"Edith will have to manage it! There are others to be thought of!"

"The children in your schools, you mean."

"Yes," she answered with a frown. "It will be a bad year for the tenements. But please go on and tell me. What have you thought of doing?"

"Mortgage the house again," he replied.

"It hasn't been easy, for money is tight, but I think I'll be able to get enough to just about carry us through the year. At home, I mean," he added.

"And the office?"

"Shut down," he said. She turned on him fiercely.

"You won't do that!"

"What else can I do?"

"Turn all those girls away?" she cried. At her tone his look grew troubled.

"How can I help myself, Deborah? If I kept open it would cost me over five hundred dollars a week to run. Have I five hundred dollars a week to lose?"

**Sweet Milk—Sour Milk—Buttermilk or Water**

Use any of these when baking with

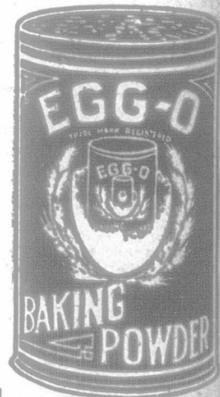
**EGG-O Baking Powder**

It gives you a wider choice of ingredients for cakes and pastry, yet assures you of positive success in your baking.

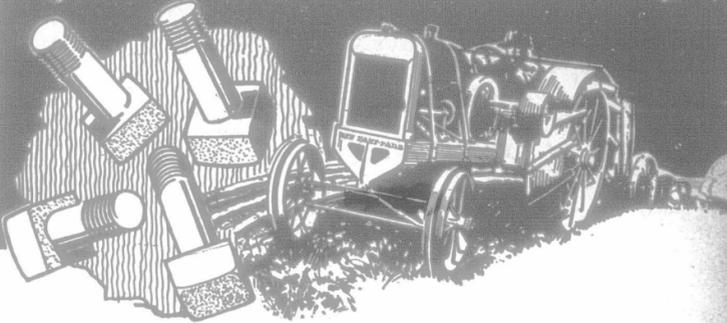
Egg-O is absolutely pure and efficient—And *double acting*, that is, its first action occurs in the mixing bowl when cold water or milk in its various forms is added. Allowing the dough to stand for 15 or 20 minutes will give better results. When you put your baking in the oven Egg-O will continue to rise until your cakes are properly baked.

Buying Egg-O in the larger tins is most economical for family use.

**Egg-O Baking Powder Co. Limited**  
Hamilton, Canada



**Four Bolts or Seventy?**



THE tractor that is easiest to keep in good repair is the one that will have the longest life. The crank-case inspection plate of the Hart-Parr 30 may be removed by taking out only four bolts—NOT fifty to seventy. The same is true of the transmission case inspection plates. You don't need to tear down the Hart-Parr 30 to get at its vital parts. The differential-shaft may be removed without taking off a wheel or moving the motor.

**The Most Power for the Longest Time at the Lowest Cost**

You doubtless remember how the Hart-Parr 30 walked away from all competitors at the big tractor tests of last year. Tractor success all hinges on construction. Hart-Parr Company have had 19 years' experience in tractor building. Old Hart-Parr No. 1 was the great grand-daddy of all the tractors, and many of the old Hart-Parrs of virgin prairie days are in use today.

**FREE BOOK**

Should be in the hands of every prospective tractor buyer. It's full of useful information and it's free. Write for a copy today.

**HART-PARR COMPANY**

Founders of the Tractor Industry  
228 Lawler Street CHARLES CITY, IOWA

THE JOHN GOODISON THRESHER CO., LTD.  
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ABUNDANT POWER FOR THREE PLOWS. WEIGHS 5158 LBS.

**HART-PARR 30**

NINETEEN YEARS TRACTOR BUILDING EXPERIENCE



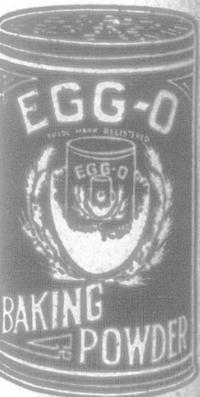
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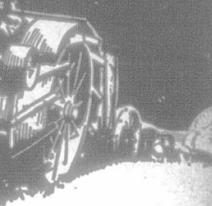
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Many of the old Hart-Parrr  
that plowed the virgin prairie  
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PERIENCE

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**IMPORTANT—**  
To make sure that you are getting all these qualities, do not fail to look for the name "Griffith" stamped on every strap. It is your guarantee of satisfaction.

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If your dealer doesn't sell the famous Griffith Chrome Leather Harness Specialties, send 25c for sample of 1 inch "Horsepower" Hame strap (40c in the West). For lumbering or very heavy teaming we recommend the 1 1/4" strap at 45 cents (50c in West).

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

**TERMS**—Four cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 60 cents.

**FARM FOR SALE—WESTMINSTER TOWN-SHIP**, 150 acres best farming land available; clay loam; ideally situated on main road between London and St. Thomas, 6 miles from St. Thomas, 9 miles from London, 1 mile from L. & P. S. Ry. Two-story brick house, 2 barns, 1 bank, 10 acres fall wheat. Immediate possession. Apply J. Macdonald, 45 Stanley St., St. Thomas.

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

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**WANTED—AN EXPERIENCED FARMER** and his wife to help on the Glen Dhu Dairy and Poultry Farm at Whitby, Ontario. Applicant must have practical experience in farming, and we can employ the wife for the poultry department. This job is not practical if you have young children. Can put a son on wages from 15 years up. E. E. Wallace, 100 Stanley St., Montreal.

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**SUNNY SIDE HEREFORDS**  
12 bulls, serviceable ages; 5 by breeding and individual merit are good enough to head any pure-bred herd. Females of different ages. Inspection invited. They are priced to sell.  
Arthur F. O'Neill & Sons, Denfield, Ont., R. No. 2.  
Phone 27-12

### FOR SALE Buckeye Traction Ditcher

15'x5 1/2', second-hand, in good condition, having latest improvements, e. g. speed change, friction conveyor, etc. Ten miles of trenching ahead of this machine and more in view. Also good, experienced operator wanted.

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### Strawberry Plants

The best strains of standard varieties: Williams' Improved, Senator Dunlap, Glen Mary, Arnout, Parsons' Beauty, Stephens' Champion. Sample, \$1.00; \$5 per 1,000 or \$1 per 100. Superb and Progressive, overbearing varieties, \$10 per 1,000 or \$1.50 per 100.

WM. WALKER 11 Port Burwell, Ontario

### A quantity of choice seed Oats

O. A. C. No. 72 variety  
These oats won first prize in the standing grain competition. Price \$1.50 per bushel f.o.b. my station. (bags free).

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

"But I tell you it won't last!" she cried, and again the baffled, driven expression swept over her expressive face. "Can't you see this is only a panic—and keep going somehow? Can't you see what it means to the tenements? Hundreds of thousands are out of work! They're being turned off every day, every hour—employers all over are losing their heads! And City Hall is as mad as the rest!

They've decided already down there to retrench!"

He turned with a quick jerk of his head: "Are they cutting you down?" She set her teeth:

"Yes, they are. But the work in my schools is going on—every bit of it is—for every child! I'm going to find a way," she said. And he felt a thrill of compassion.

"I'm sorry to hear it," he muttered.

"You needn't be." She paused a moment, smiled and went on in a quieter voice:

"Don't think I'm blind—I'm sensible—I see you can't lose five hundred a week. But why not try what other employers, quite a few, have decided to do? Call your people together, explain how it is, and ask them to choose a committee to help you find which ones need jobs the most. Keep all you can—on part time, of course—but at least pay them something, carry them through. You'll lose money by it, I haven't a doubt. But you've already found you can mortgage the house, and remember besides that I shall be here. I'm not going to marry now"—her father looked at her quickly.

"—and of course I'll expect to do my share toward meeting the expenses. Moreover, I know we can cut down."

"Retrench," said Roger grimly. "Turn off the servants instead of the clerks."

"No, only one of them, Martha upstairs—and she is to be married. We'll keep the cook and the waitress. Edith will have to give up her nurse—and it will be hard on her, of course—but she'll have to realize this is war," Deborah said sharply.

"Besides," she urged, "it's not going to last. Business everywhere will pick up—in a few weeks or months at most. The war can't go on—it's too horribly big!" She broke off and anxiously looked at him. Her father was still frowning.

"I'm asking you to risk a good deal," she continued, her voice intense and low.

"But somehow, dearie, I always feel that this old house of ours is strong. It can stand a good deal. We can all of us stand so much, as soon as we know we have to." The lines of her wide sensitive mouth tightened firmly once again.

"It's all so vague and uncertain, I know. But one thing at least is sure. This is no time for people with money—no matter how little—to shut themselves up in their own little houses and let the rest starve or beg or steal. This is the time to do our share."

And she waited. But he made no reply.

"Every nation at war is doing it, dad—become like one big family—with everyone helping, doing his share. Must a nation be at war to do that? Can't we be brothers without the guns? Can't you see that we're all of us stunned, and trying to see what war will mean to all the children in the world? And while we're groping, groping, can't we give each other a hand?"

Still he sat motionless there in the dark. At last he stirred heavily in his chair.

"I guess you're right," he told her.

"At least I'll think it over—and try to work out something along the lines you spoke of."

Again there was a silence. Then his daughter turned to him with a little deprecating smile.

"You'll forgive my—preaching to you, dad?"

"No preaching," he said gruffly. "Just ordinary common sense."

A little later Allan came in, and Roger soon left them and went to bed. Alone with Baird she was silent a moment.

"Well? Have you thought it over?" she asked. "Wasn't I right in what I said?"

At the anxious ring in her low clear voice, leaning over he took her hand; and he felt it hot and trembling as it quickly closed on his. He stroked it slowly, soothingly. In the semi-darkness he seemed doubly tall and powerful.

"Yes, I'm sure you were right," he said.

"Spring at the latest—I'll marry you then—"

Here eyes were intently fixed on his.

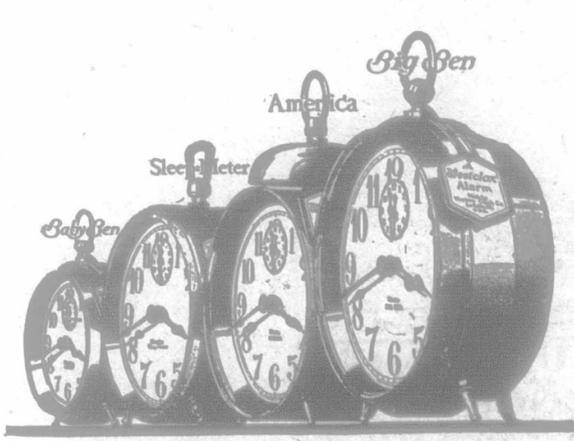
"Come here!" she whispered sharply, and Baird bent over and held her tight.

"Tighter!" she whispered. "Tighter! There! . . . I said, spring at the latest! I can't lose you, Allan—now—"

She suddenly quivered as though from fatigue.

"I'm going to watch you close down there," he said in a moment, huskily.

To be continued.



## Westclox

—for these dark mornings

IT takes real courage to get up when the room is dark; when the floor's like ice; when you dread that dash to the open window—when the bed clothes hug you warm as toast!

Your Westclox understands: it lets you sleep right up to the last tick.

That's a good alarm clock's most important job—calling you on the dot. Then, of course, it must keep good time all day.

All Westclox are good clocks; each one has that same good construction principle that put Big Ben where he is today. You know you can depend on a Westclox alarm.

Western Clock Co.—makers of Westclox  
La Salle and Peru, Ill., U. S. A.

## Prompt Returns From Shipments

When you ship Grain, Butter, Cheese or Fruit, put through The Merchants Bank a Draft on the buyer. This is the business way of securing prompt and satisfactory settlement.

It saves time and possible loss.  
**THE MERCHANTS BANK**  
Head Office: Montreal OF CANADA Established 1864.  
With its 138 Branches in Ontario, 44 Branches in Quebec, 1 Branch in New Brunswick, 2 Branches in Nova Scotia, 36 Branches in Manitoba, 46 Branches in Saskatchewan, 86 Branches in Alberta, and 12 Branches in British Columbia, serves rural Canada most effectively.  
WRITE OR CALL AT NEAREST BRANCH.

## Current Events

Robert Lansing, Secretary of State in the United States Government, resigned the portfolio last week. The President, according to correspondence made public, accused Mr. Lansing of attempting to usurp the executive authority and with being out of harmony with the views and suggestions of the President.

The Allied Supreme Council has decided to leave Constantinople in the

hands of the Turks, to internationalize the Dardanelles and to make Armenia an independent state.

David Marshall M. P., the representative in the Dominion House for East Elgin, died suddenly in Vancouver, B. C., on Saturday, February 14. Mr. Marshall was on an inspection tour of the Dominion canneries, of which company he was a director, and succumbed to influenza.

The five Protestant denominations interested in the Forward Movement

## SEEDS

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

**DOUGLAS & ROY, Seedmen**  
 Box 254 Brantford, Ont.

## POULTRY AND EGGS

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

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

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

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

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

**BABY CHICKS FROM FERRIS STRAIN**  
 White Leghorns and O.A.C. Barred Rocks, 25c. each. Book your order now for March, April and May delivery; 25% deposit with order. Eggs for hatching, three dollars per fifteen. E. E. Charlton, Ilderton, Ont.

**EGGS FOR HATCHING FROM TRAP-NESTED, bred-to-lay Barred Rocks, \$2.50 per 15.** Order early. Send for circular. Gus. Langelier, Supt. Experimental Station, Cap Rouge, Que.

**FOR SALE—BRONZE GOBBLER, EMBDEN, African and China ganders, White Runner and Rouen drakes; also some choice cockerels in White and Barred Rocks, Silver, Golden and White Wyandottes, Buff Orpingtons, Reds, Silver Hamburgs, etc.** Booking orders now for hatching eggs and baby chicks. M. Shantz, Ayr, Ont.

**PUGH'S PEERLESS S.-C. RHODE ISLAND**  
 Reds—Four fine breeding cockerels \$5 each, one exhibition cockerel \$10, all sired by my 2nd (Ontario) Guelph cock; eggs for hatching after March 1st at \$2, and \$5 and \$10 per setting of 15. Pugh & Goudie, Claremont, R.R. No. 3, Ont.

**STOCK FOR SALE IN SINGLE-COMB**  
 Brown and Buff Leghorns, White Orpingtons, Rose-comb White Leghorns, Silver-pencilled Wyandottes. Good stock. Eggs in Leghorns \$3 per 15. Robert Houser, Canboro, Ont.

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

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

**ROSE-COMB (REDS) COCKERELS—GOOD**  
 winter-laying strain; three-fifty. Alex. McKinney, Erin, Ont.

### WANTED Crate Fed Chickens

Also Dressed  
**Large Hens Alive or Dressed**

Write for price list.

**WALLER'S** 702 Spadina Ave. TORONTO

### FOR SALE Barred Rock Cockerels

The O.A.C. bred-to-lay strain. Finely barred, single comb, rich yellow legs; sisters laid at 3 months. Price \$5 each.

A. H. CROZIER  
 Meadowdale, Ontario

### POULTRY WANTED

It will pay you to sell your poultry to the best market in Western Ontario. Special prices this month for heavy live hens. Be sure and sell to  
**C. A. MANN & CO.**  
 78 King St. London, Ontario

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

campaign to raise \$11,400,000 had obtained 73 per cent. of their objective by Saturday night last. For the Dominion the total raised was \$8,408,263 and for Ontario, \$5,515,262.

The epidemic of "flu" and "grippe", followed in many cases by pneumonia, is still rampant in both town and country. Numerous deaths have been reported and in many cases public gatherings are forbidden.

### Gossip.

#### Sale Dates.

Feb. 20, 1920.—T. H. Hassard, Markham, Ont.—Clydesdales and Percherons.  
 March 2, 1920.—Bruce County Breeders' Club, Walkerton, Ont.—Shorthorns.

March 2, 1920.—Victoria County Purebred Stock Association, Lindsay, Ont.

March 3, 1920.—Guelph Fat Stock Club, Guelph, Ont.—J. M. Duff, Sec'y.

March 3, 1920.—Warren Stringer, Dunnville, Ont.—Holsteins.

March 4, 1920.—W. G. Strong & Sons, Gorrie, Ont.—Ayrshires.

March 4, 1920.—Geo. M. Hearne, Burford, Ont.—Shorthorns.

March 4 and 5, 1920.—Union Stock Yards, Toronto, Ont.—Clydesdales, Percherons, Shires and Belgians.

March 9, 1920.—R. Willis, R. R. 1, London.—Holsteins.

March 10, 1920.—Caledonia Shorthorn Breeders, Caledonia.

March 10, 1920.—R. M. Holmes, Otterville, Ont.—Clydesdales and Holsteins.

March 10, 1920.—A. G. McNiven, Putnam, Ont.—Ayrshires.

March 11, 1920.—Russell Bryant, Strathroy, Ont.—Holsteins.

March 16, 1920.—London District Holstein Breeders' Club, London.

March 17, 1920.—Oxford Holstein Breeders' Consignment Sale, Woodstock, Ontario.

March 17, 1920.—Geo. A. Ritchie, Plainville, Ont.—Aberdeen-Angus.

March 18, 1920.—Fred. V. Heeney, Ingersoll, Ont., R. No. 2.—Holsteins.

March 24, 1920.—Perth Breeders' Holstein Club, Stratford, Ont.

March 25, 1920.—F. A. Legge, Jefferson, Ont.—Holsteins.

March 31, 1920.—Belleville District Holstein Club, Belleville, Ont.

March 31, 1920.—Brant District Holstein Breeders' Club, Brantford, Ont.

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

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

### Questions and Answers.

#### Miscellaneous.

#### Treating Grain for Smut.

Is it necessary to treat grain for smut when the grain was treated last year? I used the dry treatment as recommended in your paper, and did not find any smut in the entire crop.

S. T.  
 Ans.—It is advisable to treat the grain every spring. While the seed may have come from a clean field, it is possible for infection to come from other sources. The expense of treating is not large, and it serves as a preventative against loss.

#### Warts.

I have a yearling heifer that has a very large wart on the back of her shoulder, and also a number of small ones. What is a good treatment?

H. S. T.  
 Ans.—Using caustic potash or butter of antimony will remove the warts. Care must be exercised in applying either of these remedies, as there is danger of them burning and causing a scar if they come in contact with other parts of the body.

#### Feed for Brood Sow.

1. Are sugar beets sufficient feed for a brood sow, or should I give her some meal?

2. What is the best cure for lice on hogs?

F. A.  
 Ans.—1. It depends a good deal on the sow. Some will keep in good condition with little else than the sugar beets, but as a rule it is advisable to feed some meal, the amount depending on the condition of the sow.

2. Rub machine oil on the backs of the pigs. The oil which is drained out of the crankcase of a car is excellent for this purpose.

## Second Annual Sale Caledonia Shorthorn Club

# 57 ATTRACTIVE Breeding Cattle 57

Carefully selected from the leading herds of the district and selling without reserve at

**Caledonia, Ont., Wednesday, March 10, 1920**

**Forty Young Bulls. Seventeen Females.**

The largest offering of young bulls ever offered in an Ontario sale ring. There's herd sire material here, and breeders who are looking for a herd sire should attend this sale. The females, too, will please.

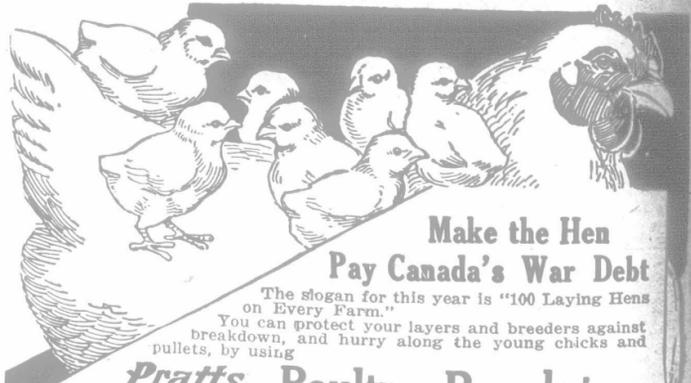
Consignors: J. B. Calder, Glanford; D. B. Campbell, Cainsville; E. W. Gowan, Jarvis; Peart Bros., Caledonia; Hugh Scott Caledonia; Ross Martindale, Caledonia; Jno. Senn, Caledonia, and others.

For catalogues, address:

**HUGH SCOTT, Caledonia, Ontario**

Sales Managers: W. A. Douglas, D. Z. Gibson

Auctioneer: T. E. Robson



### Make the Hen Pay Canada's War Debt

The slogan for this year is "100 Laying Hens on Every Farm." You can protect your layers and breeders against breakdown, and hurry along the young chicks and pullets, by using

## Pratt's Poultry Regulator

Keeps your fowls in robust health. Regulates the bowels and digestive organs. Produces bone and muscle.

Insures more eggs, increased fertility, and sturdy chicks.

Order to-day from your dealer in popular priced pkgs., or in money-saving 25-lb. pails or 100-lb. bags.

**MONEY BACK IF NOT SATISFIED.**

PRATT'S Animal Dip and Poultry Disinfectant, used frequently, keeps the roosts, nests and dropping boards free from lice and mites. Kills the germs of disease. Keeps down bad odors.

At your dealer's in 1 gal., ½ gal., and 1 qt. cans.

Write for FREE book on the Care of Poultry.

Also use Pratt's Animal Regulator. The Guaranteed Stock Tonic.

**Pratt Food Co. of Canada, Ltd.**

32-L. Carlaw Ave., Toronto.

PS-16



### Buy Feed Clover Seed Early

Prime red clover seed was quoted at \$35.55 per bushel on the Toledo market of the 6th instant. Toronto prices then ranged about \$3.00 per bushel in advance of Toledo prices. Clover seed that would grade "Prime" on the Toledo market could be bought in Toronto at \$38.50 and, because of exchange conditions, delivered to United States points at approximately \$33.00 per bushel, or about \$2.50 less than the Toledo price. The money

situation, short supplies, and an earlier demand in the United States will explain the heavy exports of clover seed. The price of red clover seed has advanced almost \$14.00 per bushel on the Toledo market since May last. The world supply will not be sufficient to meet normal requirements. In these circumstances, Canadian farmers who delay the purchase of their red clover seed requirements until seeding time may be unable to obtain supplies at any price.—Geo. H. Clark, Seed Commissioner.

# Royal Purple Stock and Poultry Specifics and Foods

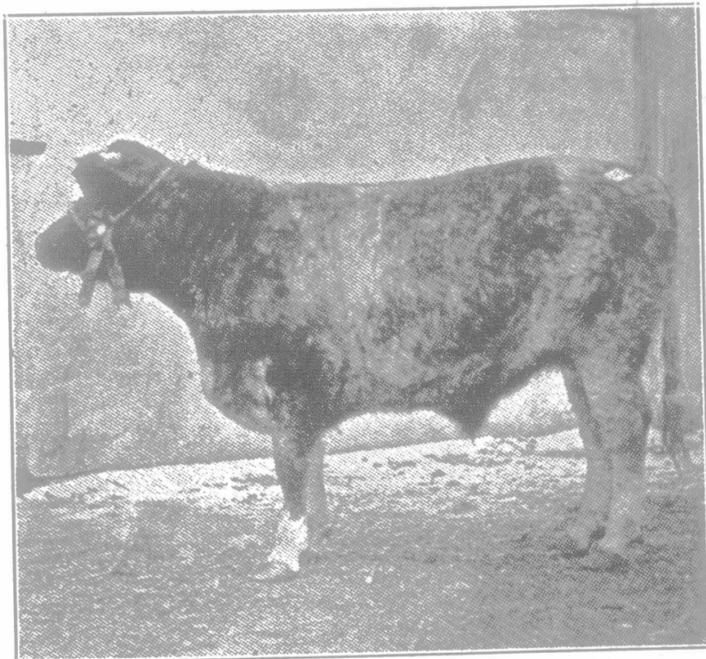
In the manufacture of all our Stock and Poultry Condition Powders and Remedies we eliminate the cheap filler which is used by many manufacturers to make up a large package, and give you pure material which you can adulterate yourself if you wish. Mr. Farmer, how does this appeal to you?

## Royal Purple Stock Specific

is a pure unadulterated condition powder, it is not a dope. It can be used throughout the entire feeding season and will not do your animals one iota of harm, works entirely on their digestive organs, causes them to assimilate the foods properly and digest every particle of food value. Fifty-five to sixty per cent. of food value is a fair average of what the animal takes out of its food without this condition powder: it makes their coats sleek and causes them to take on a healthy appearance in a very short time.

## What We Claim For It

Cows will give from three to five pounds more milk per day during the winter months. You can fatten pigs a month earlier, have larger and better pigs and save a month's time and feed. You can fatten horses ready for sale in four to six weeks. If you don't believe us try a 60c. package on the worst animal you have on your place and be convinced. How many times have you said to yourself, "No matter how much I feed my animals they do not seem to thrive". This, Mr. Farmer, is because your animals are not in a healthy thriving condition. Royal Purple Stock Specific will compel them to put on a thrifty appearance in a short time and yet it will cost you less than 15c. per month per animal to use it. Put up in 60c. packages, \$1.75 and \$6.00 tins. If you have a lot of stock buy the large tin. It contains sixteen 60c. packages.



PURE BRED STEER under 1 year, entered in Lot No. 3, Toronto Fat Stock Show, Union Stock Yards, Toronto, Ont., Dec. 11-12, 1919, and awarded 1st Prize. Also entered for Royal Purple Calf Meal Special, and awarded 1st Prize. Fed and Exhibited by Mr. Oril Williamson, R. R. No. 1, Jarvis, Ont. Sold for 33c. lb. by Auction. Weight, 1190 lbs.

## Royal Purple Laying Meal

During the many years we have been making our high-class Stock and Poultry Specifics, we have had thousands of letters from Poultry raisers all over Canada, wanting to know what to feed their poultry. A hen is just like a factory. If you have lots of material in your factory, you can get out the finished product. The hen requires so much Protein, so much Fat, Ash Lime, etc., to make an egg and supply her bodily needs. Ordinary grains will give her a supply for herself and to make one egg every two to three days. For the accommodation of our customers, we have produced a Laying Meal which contains high-class meat meal, grains, etc., that will give her everything she requires for her bodily needs and produce an egg per day. If you cannot get this material from your dealer in your own town send us \$5.00 for a hundred-pound bag and we will ship it to you direct. This product certainly fills a long felt requirement for the poultry men and simplifies the matter of feeding.

MANUFACTURED BY

# W. A. Jenkins Mfg. Co., Limited

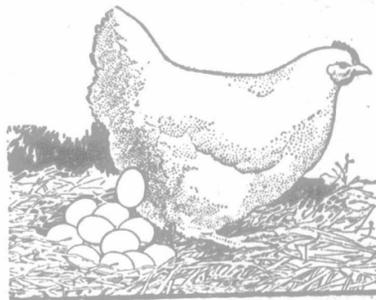
London, Ontario

## Royal Purple Calf Meal

There is probably no mixed feed on the Canadian market that the farmers have been buncoed more on than Calf Meal. You cannot make a substitute for milk with less than 10% Fat or over 20% Protein. Calves are entirely different from grown animals. You must supply them with material as much like milk as possible. In our Royal Purple Calf Meal we have a product on which you can raise calves after they are eight days old just as well as though you used new milk. At the Toronto Fat Stock Show this year there were eight calves shown not over a year old that averaged over one thousand pounds each, that were fed on this meal. If you will write us for our new booklet we will send you the full particulars and photographs of all these calves. Mr. Farmer, when you want calf meal you see that it contains over 10% Fat. Unscrupulous dealers and manufacturers are making meals that do not contain more than 7% fat and a large percentage of protein. Many of these meals are no better than ordinary dairy feeds. Fat costs two and a half to three times as much as protein in any market but you must have it in calf meal to make a substitute for milk. Our Royal Purple Calf Meal is put up in 25, 50 and 100-lb. bags.

## Royal Purple Poultry Specific

If your hens are not laying after the first of January it is because they are not housed properly and are in an unhealthy condition. There is no excuse for hens not laying if they are fed and housed properly. Our Royal Purple Poultry Specific, if used in the mash given them, will make them digest their food properly, make their digestive organs healthy and active and will produce the eggs for you as well in the winter as in the summer. The eggs are formed in batches from ten to fifteen, from the large egg down to the size of a pin head. If the hens are not healthy nature will lie dormant. As soon as our Poultry Specific is used nature becomes active. This is why so many people get eggs in a few days after using our Specific. If you do not get eggs it is your own fault. This Specific is put up in 30c. and 60c. packages, \$1.75 and \$6 tins.



## Royal Purple Chick Feed

made from all kiln dried white grains. You can raise 95 to 98% of your young chicks with this food, put up in packages and bags.

We also manufacture the following valuable brands:

- Royal Purple Lice Killer in 30c. and 60c. tins.
- " " Cough Cure in 60c. tins.
- " " Sweet Liment in 60c. bottles.
- " " Disinfectant in 35c., 65c. and \$1.40 tins.
- " " Roup Cure in 30c. and 60c. tins.
- " " Worm Powder in 30c. and 60c. tins.

Every article we make is guaranteed to do exactly as represented.

For Sale by reliable dealers everywhere. If you cannot get any of the above articles from your dealer write us direct.

**FREE**—Write us and we will send you one of our new books that are now being published, giving you all the common diseases of stock and poultry, how to treat them, how to build a hen house, and wilderness of valuable information.

Sale  
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March 10, 1920

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; D. B. Campbell  
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D. Z. Gibson



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Pratt's

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In these circumstances,  
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clover seed requirements  
time may be unable to  
s at any price.—Geo. H.  
ommissioner.

# Carrots For Feed

Less than a cent per pound

NO WASTE      NO DIRT

We have a quantity of dried shredded carrots for sale. The ideal cattle feed. 200 lbs. of these dried carrots equal a ton of fresh carrots. Just soak in water, and they come back with the same appearance and flavor and other properties of the fresh article. Frost cannot hurt them. You add the water. Try a sample bag.

**Graham's Limited**

Belleville      ::      Ontario

## Best-by-Test FERTILIZERS

**F** FARMS YIELD MORE IN CROPS AND MONEY when they are kept up to a high production standard by the regular use of good Fertilizers. BEST-BY-TEST FERTILIZERS are strong in fertilizing power and are up to full strength of analysis. If you want advice as to the kind of Fertilizer you need, write us about your crop and soil. We are headquarters for scientific users of Fertilizer in Eastern Canada. We pride ourselves on having every brand, make or chemical any farmer or dealer could ask for. Ask your dealer, or form a club of farmers and order in carload lots. Prices on request.

for every CROP and every SOIL

Write for interesting Book on Fertilizers—FREE

CANADIAN FERTILIZER CO., LIMITED  
12 Market Chambers, Chatham, Ont.

"For The Land's Sake" use

# STONE'S FERTILIZER

For Bigger and Better Crops

Agents wanted where not represented  
WM STONE SONS LIMITED  
INGERSOLL ONT.

More years of service and lowest fuel cost when using an



# ALPHA

The Alpha is the cheapest gas engine in the long run, because it gives many years of good service, with low fuel bills.

It is used by thousands of Canadian farmers, who appreciate its economy and dependability. They buy from a local De Laval agent because of the service he renders his customers.

Before putting any money in a gas engine investigate the Alpha—and remember that the man who buys the best is never sorry.

The Alpha is made in twelve sizes, 1½ to 28 H. P., and in several styles.

Write to nearest office for catalogue and name of local agent

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

Dispersion Sale of

35 HEAD

## Holstein-Friesian Cattle

35 HEAD

Entire herd, 35 head, will be sold at the farm (5 miles south of London) by auction on

Tuesday, March 9th, 1920

No old cows, mostly young stuff; also the young herd sire, "King Alcartra De Kol," whose three nearest dams have official records averaging over 29 lbs. butter. Every animal in the herd has good backing, and most of the young stuff have officially-tested dams; a good lot the result of 27 years' careful breeding. Write for catalogue. Sale at 1.30 p.m.

Robt. Willis, Proprietor, R.R. No. 1, London, Ont.  
Lindsay & Pound, J. W. Laidlaw, Auctioneers.

## WHITE LIGHT

FROM COAL OIL Beats Gas or Electric

BURNS 94% AIR

Make your home bright and cheerful, saving one-half on oil. Government and leading University tests prove this wonderful new Aladdin nearly five times as efficient as best round-wick open-flame lamps. Burns 70 hours on one gallon common kerosene (coal-oil). No odor, smoke or noise, no pumping up, easy to operate, won't explode. WON GOLD MEDAL. GUARANTEED. Prove for yourself, without risk, by

**TEN NIGHTS FREE TRIAL**

that Aladdin has no equal as a white light. If not satisfied, return at our expense. \$1000 given anyone showing us an oil lamp equal in every way to this NEW MODEL ALADDIN.

**GET YOURS FREE!** We want one user whom customers can be referred. In that way you may get your own without cost. Be the first and write us quick for 10 DAY FREE TRIAL OFFER and learn how to get one FREE.

WANTLE LAMP CO., 233 Aladdin Building, Montreal or LARGEST COAL OIL MANTLE LAMP HOUSE IN THE WORLD Winnipeg

Make big money spare or full time. Our easy selling plan makes expense unnecessary. We start you without money. Sample sent for 10 days trial and GIVEN FREE when you become a distributor.

**Agents Wanted**

TWICE THE LIGHT ON HALF THE OIL

**Questions and Answers.**

**Miscellaneous.**

**Miscellaneous.**

1. A sold B several bags of potatoes, and 17 days after this B wrote A saying that the potatoes were beginning to rot, and asked A to either refund the money or replace the potatoes. It was eight days before A got B's letter. He then went immediately to see the potatoes, with the intention of refunding the money and taking the potatoes away, but when he got there the potatoes had been taken to the dump. Can B compel A to refund the money?

2. I am thinking of going into the dairy business. I live close to a town with about 6,000 of population, and milk sells for 13 cents a quart the year around. Do you consider this a good paying proposition?

3. What does it cost to feed a dairy cow for one year, wages for man included?

4. Do you consider a cow that gives 40 lbs. a day for ten months a profitable animal?

5. Is 2 1/2 inches for 100 feet sufficient fall for underground drainage?

6. As tile is expensive, would you advise me to put in wooden boxes rather than tile?

7. Which is the more durable, cement or clay tile? What is the difference in price?

8. What is a good chemical to treat shingles or wood with?

9. A borrowed from B a set of sleigh shafts, and about six weeks after this B decided to leave the district and asked A to return the shafts, so that he could ship them on the train with the rest of his goods. A did not return the shafts before B left, but expressed them a few days later. The shafts arrived in a damaged condition. A said the shafts were all right when he loaded them and refused to pay damages. Can I compel him to pay damages?

10. What kind of fertilizer is best for potatoes, tomatoes, corn, carrots and cabbage?

Ans.—1. As B accepted the potatoes and did not complain for seventeen days, he has no claim on A.

2. It should be.

3. It all depends on the individuality of the cow, the wages paid, and the equipment. There are some who find that it costs from \$125 to \$150 per year to feed an average cow, all things included.

4. If a cow will average 40 lbs. a day for ten months, we would consider her a profitable animal.

5. As a rule it is.

6. Lumber is expensive, and we would prefer the tile.

7. If cement tile are made right they should be as durable as clay. We do not know the comparison in price this spring.

8. Creosote is as good a material as any.

9. If the express company accepted the shafts in good condition, they should be appealed to for damages. A certainly did not do the right thing in not returning the shafts when requested to do so.

10. For potatoes, you might use nitrate of soda, acid phosphate and sulphate of potash, using about 600 lbs. of the mixture. The amount of acid phosphate should equal the other two. For the other vegetables, a mixture of 250 lbs. nitrate of soda, 450 lbs. acid phosphate, and 200 lbs. of muriate of potash should be satisfactory.

**Feeding Cows.**

1. I am feeding my herd of cows all the fall wheat chaff they will eat, a gallon of oat chop containing a sprinkling of peas, and a peck of whole turnips, night and morning. At noon they get all the timothy hay they will eat. What other feed would you recommend?

2. Is it lawful to sell clover seed uncleaned to your neighbor?

3. Would you advise planting small potatoes?

Ans.—1. The ration which you are feeding is not particularly conducive to heavy milk production. There is not enough succulent feed, and there is a lack of feeds containing protein. Moistening the chaff and mixing pulped turnips with it would make the chaff more appetizing. Clover hay is preferable to timothy, as it contains a fairly high percentage of protein. In order to increase the protein of the ration, 2 or 3 lbs. of oil cake or cotton seed meal might be fed.

2. The way we interpret the Act, a man can go to his neighbor's place and purchase ungraded seed and take it away with him, as he then sees what he is getting.

3. We would not care to plant small potatoes two or three years in succession, but if the small potatoes are the result of an adverse season then there should be no particular harm in planting them.

**Keeping the Boys on the Farm**

1. We have a large and very productive farm, and my three boys wish to stay with me. What would you consider wages by the year for a good farm hand? I think it better to pay them well and teach them how to use the money, than to reserve it for them to use after I am gone.

2. Will White Dutch clover do well on heavy, rich clay land which produces heavy crops of wheat? Would it be a paying crop to invest in?

Ans.—1. You are fortunate in having three boys who wish to remain on the farm, and we commend you for the stand taken in giving them money now rather than keeping it until later. We would think, however, that it would be a better plan to take the boys into partnership than to consider them as hired men. You might pay a reasonable wage and then give a certain percentage of the profits to the boys, and at all times let them have a voice in running the farm. Wages run from \$40 to \$50 per month, but you must remember that your own son is very often worth twice what a hired man is.

2. The White Dutch clover should do well on this land. We cannot say as to how the crop will pay. There does not seem to be the demand for the White Dutch that there is for some of the other clovers.

**Miscellaneous.**

1. What is the normal temperature of a cow?

2. Explain butter-fat.

3. Describe the tuberculin test.

4. What is certified milk?

Ans.—1. The normal temperature of a cow is 101.4 degrees.

2. Milk is composed of water, casein and albumen, milk sugar or lactose, fat, and ash. These materials vary considerably. The amount of fat is anywhere from 2.5 to as high as 5 1/2 or 6 per cent. This fat is usually termed butter-fat, although to be absolutely correct it should be milk-fat.

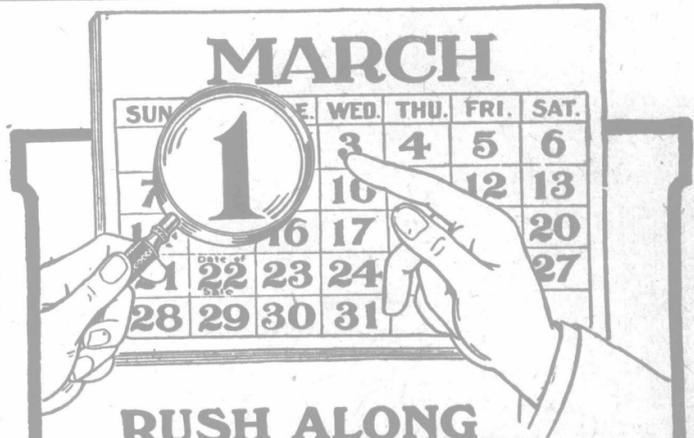
3. The tuberculin test consists in taking the temperature of the animal four times, at three-hour intervals, then injecting tuberculin into the animal, and at the end of ten or twelve hours again taking the temperature at three-hour intervals. If after the injection the temperature rises 2 or more degrees above normal, the animal is termed a reactor.

4. Following is the legal standard for certified milk, as recommended by the Dominion Dairy Conference, held in Ottawa, November, 1918: (a) It shall be taken from cows semi-annually subjected to the tuberculin test, and found without reaction; (b) It shall contain not more than 10,000 bacteria per cubic centimetre from June to September; and not more than 5,000 bacteria per cubic centimetre from October to May, inclusive; (c) It shall be free from blood, pus, or disease-producing organisms; (d) It shall be free from disagreeable odor or taste; (e) It shall have undergone no pasteurization or sterilization, and be free from chemical preservatives; (f) It shall have been cooled to 45 degrees Fahrenheit within half an hour after milking, and kept at that temperature until delivered to the consumer; (g) It shall contain 12 to 13 per cent. of milk solids of which at least 3.5 per cent. is fat; (h) It shall be from a farm whose herd is inspected monthly by a veterinarian, and whose employees are examined monthly by a physician.

In another column of this issue appears the advertisement of H. M. Dymont, of Barrie. Mr. Dymont has built up a herd of Shorthorns which includes representatives of many of the prominent families of the present time. A special offering is being made of a number of choice young bulls. One is a Missie-bred bull, sired by Marigold King. Sires of high quality are used on this herd. If in need of a Shorthorn bull, it would be advisable to write Mr. Dymont, or visit his farm, which is only a short distance from Barrie Station.

**To increase the defensive forces of the body against epidemics or illness take BOVRIL**

Body-building power proved to be 10 to 20 times the amount taken.



**RUSH ALONG YOUR RAW FURS**

**March 1st is Last Receiving Date for the Great March Sale**

When on the morning of March 22 this first great Canadian sale begins, as hundreds of buyers from the United States, Great Britain, France and Canada, eagerly outbid one another for the finest average furs ever assembled at any sale—then you'll be glad you have your furs on our floor.

And as, day by day, lot after lot is sold and you realize you are getting more for your furs than ever before, you will resolve always to send all of your furs to the

**GREAT PUBLIC Auction Sales in Montreal**

—to this great, big, Home market specializing in fresh, original, unculled Canadian furs, unmixed with inferior southern varieties.

Do not hold a package or a bale another day. Ship all your furs now! They must be sorted, listed and put into shape in good time for the buyer's inspection. Liberal advances will be made, gladly, to any shipper, large or small on request.

SMALL SHIPPERS—Any quantity is acceptable. Honest, expert grading carefully supervised yields the best possible results. You will never know how much your furs are really worth until you ship to us. Our sales truly test the world's buying strength.

AN INVITATION—Every shipper, every dealer, every manufacturer, EVERYONE interested in raw furs is cordially invited to attend this epoch-marking sale.

**Canadian Fur Auction Sales Company, Limited**

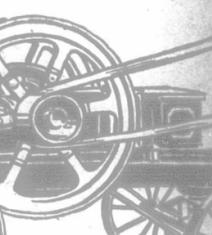
MAIN OFFICE AND WAREHOUSE  
130 LaGauchetiere Street West

Temporary Offices:  
Windsor Hotel,  
Montreal.

Canadian Fur Auction Sales Co., Ltd.  
I am interested in Raw Furs. Send me some Shipping Tags and put me on your free mailing list for circulars, etc.  
Name \_\_\_\_\_  
Street \_\_\_\_\_  
Town \_\_\_\_\_  
County \_\_\_\_\_  
Province \_\_\_\_\_

Service cost

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ANY, Ltd. VANCOUVER

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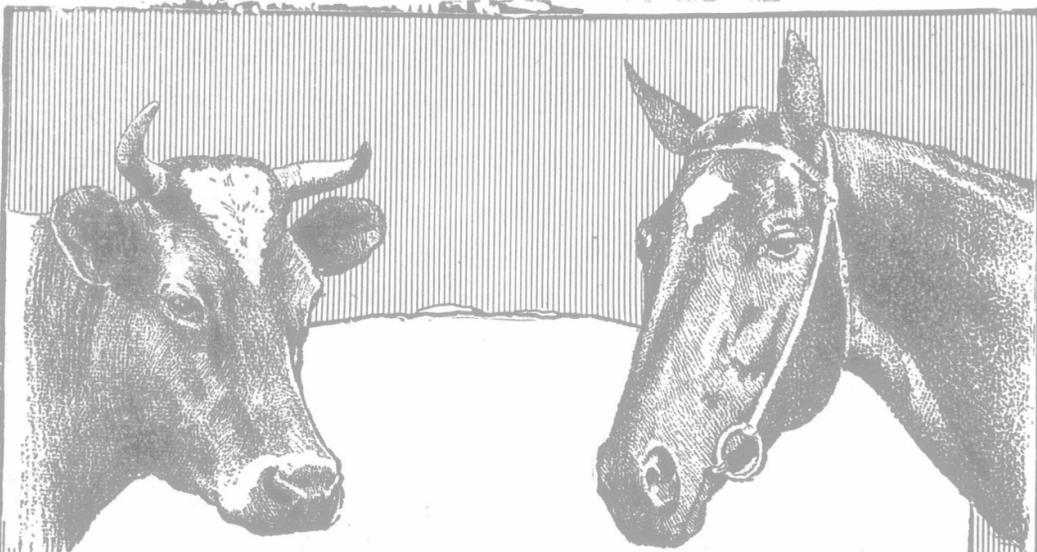
FROM COAL OIL Beats Gas or Electric

cheerful, saving one-half on university tests prove this sometimes as efficient as best record 70 hours on one gallon consumption, smoke or noise, no pumping mode. WON GOLD MEDAL. urself, without risk, by

FREE TRIAL white light. If not satisfied, return anyone showing us an oil NEW MODEL ALADDIN.

FREE! We want one user in each locality to ed. In that way you may get first and write us quick for 10 and learn how to get one FREE.

laddin Building, Montreal or USE IN THE WORLD. Winnipeg. Our easy selling plan makes expert, about money. Sample sent for 10 you become a distributor.



**STAMINAX**  
REGISTERED

**FEEDS**

The Finest The World Produces

**STAMINAX DAIRY MEAL**

Protein	Fat	Fibre
20	5	10

Price \$5.20 per cwt.

**VALLEYTOWN DAIRY MEAL**

Protein	Fat	Fibre
18	4	10

Price \$4.40 per cwt.

**STAMINAX GORBALS DAIRY MEAL**

Protein	Fat	Fibre
20	3.5	5

Price \$5.40 per cwt.

**VALLEYTOWN MOLASSES DAIRY MEAL**

Protein	Fat	Fibre
10	3	10

Price \$3.95 per cwt.

**STAMINAX CALF MEAL**

(with separated milk only)

Cheapest and finest Calf Meal in the world. You feed one third to one half less than any ordinary Calf Meal.

Protein	Fat	Fibre
17	14	5

Price \$8.60 per cwt.

All Staminax Feeds are delivered in new sealed bags. No oat hulls, dust, screenings, sweepings, charcoal, grit, oyster shell or cheap fillers are used. Staminax and Valleytown feeds are guaranteed to contain nothing but the choicest re-cleaned grains.

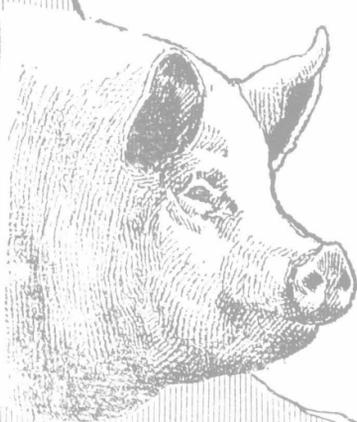
Terms 2% discount, cash with order. Freight paid on five-bag lots to your nearest railway station in Ontario. 100-pound lots delivered by freight or express, our option, 50c per cwt. extra.

Our feeds are sold by all first-class dealers, or by the Manufacturers direct.

**ANDREW MOTHERWELL OF CANADA, LIMITED**

Valleytown Feed Mills  
DUNDAS, - ONTARIO

Phone 119 Dundas



**Questions and Answers.**  
Miscellaneous.

**Lumber.**

Where can I secure prices on lumber?  
T. R. H.

Ans.—The prices of lumber vary so much that few firms quote prices in publications. It is advisable to write some lumber firm.

**Removing A Wart.**

I have a horse with a wart on its leg. I cut it off. If it starts to grow again, what will kill it?  
R. W. C.

Ans.—You might apply caustic or butter of antimony. Both of these substances have proven successful in removing warts.

**Travelling.**

What is the name of some big tea firm, who would be willing to start a man on the road delivering tea from house to house?  
G. L.

Ans.—We do not know of a firm requiring a traveller at the present time. An advertisement inserted in our next column might put you in touch with a tea firm.

**Bitter Cream—Mare Lacks Stamina.**

1. I have a cow that has been milking for eight months. The milk tastes all right, but the cream and butter have a bitter flavor. I feed oats, straw, hay and carrots.

2. I have a mare that is in fairly good condition, but she appears to have a ravenous appetite for hay and oats. I feed 3 gallons of oats per day and she seems all right when I take her out in the morning, but becomes played-out in the afternoon.  
G. T.

Ans.—1. As the milk tastes all right, the bitter flavor must develop in the ripening of the cream. This may be due to bacteria, or it is possible that the cream stands near some substance which has a bitter flavor, which it readily takes on. If the cream is stored in a sweet, clean place, then see that the storage receptacle is thoroughly scalded before the cream is put into it. Pasteurizing the cream may overcome the difficulty.

2. It is rather difficult to diagnose the trouble. There is evidently something wrong with the digestive system, which does not take the nutrients out of the feed. Some horses that were overcome with the heat last spring have shown this after effect. It would be advisable to have your local veterinarian examine the mare.

**Crops, Geese, Cement Blocks.**

1. I have a clay soil with a gravel sub-soil. What kind of commercial fertilizer would you recommend for oats? What variety of oats will yield a good crop of straw and grain?

2. What kind of grass seed would be best for pasture?

3. There is a good never-failing stream running through my farm. I would like to get about 100 goslings in the spring to put on it. Where could I get them, and what kind would be most profitable?

4. I have read about cement blocks being used for silo building. Where could I see them?  
S. K.

Ans.—1. Different firms put out special fertilizers for spring crops. A mixture of 80 lbs. nitrate of soda, 250 lbs. acid phosphate, and 70 lbs. of muriate of potash has been used with success. The Banner and O. A. C. No. 72 are two good varieties of oats.

2. For a pasture that is only to be left down for a year or two, a mixture of 8 lbs. red clover, 2 lbs. alsike, and 4 lbs. timothy should give results. If you are wanting a more permanent pasture, and one which would come on early in the spring, orchard grass could be sown, along with some Kentucky blue grass, red top and meadow fescue.

3. The Toulouse and Embden are breeds which should be satisfactory. An advertisement placed in "The Farmer's Advocate" will undoubtedly put you in touch with someone having goslings for sale.

4. Cement blocks are quite commonly used in silo construction. These may be seen in almost any neighborhood where silos are found. We believe that you could see some of them in the Woodstock district, and we know of one or two near Kerwood.

**Questions and Answers.**  
Miscellaneous.

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**The Royal Bank  
of Canada**



The Farmer's Wife should  
have a Bank Account.

Sometimes the money re-  
ceived from the sale of her  
eggs and butter is not  
deposited in the bank and  
she gets no benefit from  
them.

The staff of this bank is trained  
to be especially courteous to ladies  
not familiar with banking ways.

CAPITAL AND RESERVES \$35,000,000  
TOTAL RESOURCES - \$535,000,000  
625 BRANCHES



**Simonds  
saws**

We make and temper  
our own steel which  
gives the teeth of  
Simonds Saws a tough-  
ness and hardness  
which ensures their  
keeping their sharp  
cutting edge under  
severe usage. S-56-2

SIMONDS CANADA SAW CO., LIMITED  
St. Remi Street and Acorn Avenue,  
MONTREAL Que.  
VANCOUVER, B. C. ST. JOHN, N. B.

**None - Such Seed Corn**

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

Cottam Farmers Limited, Cottam, Ontario

**CROP INSURANCE**

Spraying kills pests and disease. Government  
reports and valuable information  
in our free booklet.



Spramotor Co., 18 King St., London, Can.

**WANTED  
Horse Radish Root**

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

M. B. KING,  
47 Ossington Ave. - Toronto, Ontario

When writing please mention Advocate

**Questions and Answers.**

Miscellaneous.

**Bloat in Cattle.**

What is the cause of bloat in cattle,  
and how can it be remedied? S. R.

Ans.—It is very often caused by over-  
feeding, sudden changes in feed, frozen  
feed, or weakness of the digestive glands.  
Give 3 to 4 ounces of turpentine in a  
pint of raw linseed oil as a drench. Repeat  
if necessary, in two hours. If bloating  
is excessive, puncture in front of the  
point of the left hip, using the trocar and  
canula if such is convenient, if not, the  
puncture may be made with a sharp pen-  
knife and a goose quill inserted through,  
which the gases may escape.

**Molasses vs. Oil Cake.**

What is the relative feeding value of  
sugar-cane, molasses and oil cake for  
milk and beef production? V. C. P.

Ans.—The percentage composition of  
the two feeds, as given in "Feeds and  
Feeding" are: oil cake—ash, 5.6; crude  
protein, 36.9; fibre, 8.7; nitrogen free  
extract, 36.3; fat, 2.9. Cane molasses  
is given as 6.4 per cent. ash; 3.1 protein,  
and 64.7 nitrogen free extract. Thus  
it will be seen that the oil cake is a good  
deal higher in protein and one would  
naturally suppose that it would have the  
highest value when fed to dairy cows,  
while the molasses which contains a high  
percentage of nitrogen free extract would  
be the better for beef animals. Both  
feeds have a beneficial effect on the  
system. Cane molasses is not as laxative  
as beet molasses.

**Eggs For Hatching.**

I have a few very good pullets and  
would like to keep their eggs for setting.  
When should I begin to save the eggs  
as I would like to have chicks hatch by  
the first of May. How should they be  
kept from the time they are gathered until  
set? F. S.

Ans.—The birds should be mated at  
least ten days before the eggs are saved  
for setting. The fresher the eggs are  
when set the better. If the flock is small,  
it sometimes takes two or three weeks to  
gather enough eggs, especially if an  
incubator is used. The eggs should be  
kept in a cool place, and it is well to  
bury them in oats or bran, or wrap them  
in paper, so as to prevent evaporation.  
It is advisable to turn them every few days,  
as, if this is not done, there is danger of the  
germ becoming set.

**Frozen Radiator.**

1. The water is frozen in my radiator.  
Can it be fixed or will I have to get a  
new one, and how much will it cost?

2. If a person has money in the post  
office savings department, is it much  
trouble getting it out? A. H.

Ans.—1. It is not stated whether this  
is the radiator of a car, or a radiator in  
the house, but we presume it is the  
former. As to whether or not it can be  
repaired depends on the extent of the  
damage. Unless it is too badly broken,  
it may be possible to have it fixed. The  
cost will depend on the size of the radiator.  
We are not in a position just at the present  
time to state what a new one would cost,  
as it depends on the make of car.

2. If a person has an account with  
the post office savings department, there  
should be no difficulty in securing the  
money.

**Ventilation.**

1. I am enclosing a rough design of my  
barn and stables. There is no ventilation,  
and moisture is causing considerable  
damage. How could I put in a ventilator  
that would improve conditions?

2. What can one do to exterminate  
tuberculosis when it gets among the  
feathered flock? F. M.

Ans.—1. From the design submitted  
it is rather difficult to outline a system  
of ventilation which would prove satis-  
factory. We have seen good results  
from running a galvanized pipe, possibly  
15 to 18 inches in diameter, from within  
2 feet of the floor up to the roof at each  
end. There could be an opening at the  
ceiling which might be opened or closed  
at will to regulate the temperature.

2. Once tuberculosis infects the flock,  
it is rather difficult to get rid of it, without  
destroying infected birds and giving the  
premises a thorough cleaning and disinfect-  
ing. If possible, sparrows or pigeons  
should not be allowed to mingle with the  
flock, as there is danger of them carrying  
the disease from one flock to another.

**The Annual Sale  
OF  
Pure-bred  
Cattle**

BEEF BREEDS MALE AND FEMALE

Under the auspices of the Ontario Department  
of Agriculture and management of the Guelph  
Fat Stock Club, will be held in the

Winter Fair Buildings, Guelph, on

**Wednesday, March 3rd, 1920**

Commencing at 1 p.m.

For catalogues and further particulars apply to

C. L. Nelles,  
President

J. M. Duff, Secretary  
Guelph, Ont.

**DISPERSION SALE OF  
15 R.O.M. Bred Holsteins**

AT HALL'S FEED BARN

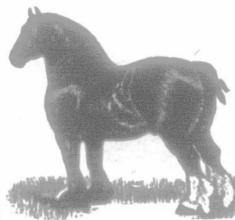
**Dunnville, March 3rd, 1920**

Sale commences 2 p.m.

In this herd are 11 cows and heifers fresh and due to freshen soon after  
sale; the herd sire, "Johanna Bonerges Lad" (whose dam has a record 29.11  
lbs. butter in 7 days); also three young bulls (ready for service), sired by  
the herd sire and out of good R.O.M. dams.

In addition to the foregoing there will be sold nine cows, fresh and soon  
to freshen, consigned by  
J. ALEX. WALLACE, Simcoe, Ont. J. W. MOOTE, Canboro, Ont.,  
and P. S. MOOTE, Dunnville, Ont.

Send for catalogue. Trains G.T.R. and T.H. & B.  
**WARREN STRINGER, Proprietor, DUNNVILLE, ONTARIO**  
T. MERRITT MOORE, Auctioneer.



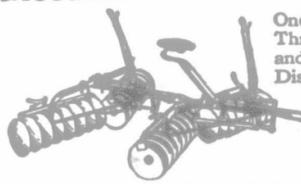
**PREMIUM CLYDESDALES**

Our Stud is headed by  
**BARON GARTLY**

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

**BRANDON BROS., Forest, Ontario**

**BISSELL Double Action Harrows will thoroughly cultivate**



and pulverize any soil.  
One Harrow is Out Throw; the other is In  
Throw. They are simply constructed, rigid  
and durable. The Gangs are flexible and the  
Disk Plates are so designed that they "hang"  
right into the soil. Bissell Harrows are  
built in sizes and weights suitable for horse  
or tractor use. Write Dept. W for free  
catalogue. 98  
**T. E. BISSELL CO., LTD., Elora, Ont.**

## Attention, Canadian Stallion Buyers!

BEFORE YOU BUY A

### SHIRE, PERCHERON or BELGIAN STALLION

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

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

#### Registered Clydesdale Mares For Sale

Having decided to sell some of my best stock, I am now offering three very choice mares—  
**KIRMINNOCH QUEEN (43222)**  
 Sire Kirminnoch Mac, by Montraive Mac  
 Dam Net Macqueen, out of Macqueen  
**MONTRAIVE MAUD (43044)**  
 Sire Kirminnoch Mac  
 Dan Moncreiffe Heather, sired by  
 Moncreiffe Marquis  
 This team of half sisters are five years old weighing between 1,600 and 1,700 lbs. each. Have won many prizes and championships, and have never been beaten in the show ring. Price \$1,200 will not break team.  
**LADY GLENIFFER (41513)**  
 Sire Lord Gleniffer, by Sir Ronald  
 Dam Iris, by Scotland's Choice  
 This is one of the best two-year-old fillies in Canada. Black with white markings. Weighs between 1,400 and 1,500 lbs. Plenty of size and quality. Price \$500.  
**MANNING W. DOHERTY, Ontario Farm, Milton, Ont.**

We will be satisfied with your decision based upon your own judgement of a

### VIKING

- Finest steel construction
- greatest simplicity
- easy washing
- ease of operation and turning
- clean skimming



After examining a Viking on all these points just consider Viking Service and the fact that you pay less for a Viking than for other good separators.

Viking has a straight disc skimming device—all attached to a key ring—all wash as one—cleans in a minute.

All running parts of a Viking Separator are

#### Guaranteed for Five Years

—bowl balanced free, as long as the Viking is in your possession, all defective parts replaced anytime—no charge and no time limit.

Write for illustrated catalog, name of dealer or for latest price list.

**SWEDISH SEPARATOR COMPANY**  
 Dept. S, 422 Power Bldg., Montreal

#### Sundrum Clydesdales

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

**W. A. McNIVEN**  
 Hamilton, Ont.

R.R. 4

**For Sale—Two Imp. Percheron Mares**  
 Registered in the Canadian Stud Book. Write

**HUGH A. FLETCHER**  
 Melbourne, Ont.

R.R. 2

**For Sale or Let—A Grey Percheron Stallion, John D—**  
 A1 stock horse and a money-maker.

**D. A. GRAHAM**  
 Parkhill, Ontario

R.R. No. 4

#### Questions and Answers.

##### Miscellaneous.

##### Trespassing.

Can a farmer whose land runs to the river forbid a trapper from trapping on a marsh that is inside the high-water mark? B. B.

Ans.—The way we interpret the Act, he can.

##### Bladder Campion.

What is the best way to kill bladder campion? H. B.

Ans.—Bladder campion is a perennial with deep, running root stalks, and is one of the most difficult weeds to suppress. When the plants are not too numerous it is advisable to go through the crop and cut them off, placing a handful of salt at the roots. Where the field is badly infested it necessitates deep plowing and thorough cultivation throughout the entire season.

##### Sweet Clover.

Would it be any use seeding sweet clover on old pasture sod? How much seed should be sown to the acre? I am going on a farm that has all been in pasture, and would like to grow some clover. S. M. T.

Ans.—Scattering sweet clover over the pasture in the spring would no doubt give a very good catch for the following year. One should sow 10 or 12 pounds to the acre on the pasture, as, if sown thinly, the clover will grow very rank and coarse. The sweet clover has proven to be a very good pasture crop and is an excellent soil renovator. However, we would endeavor to get some red clover growing on the farm. It is an excellent all-round feed.

##### Milking a Cow.

1. How long should I leave a calf with a cow after she freshens? Should she be milked dry after taking the calf away?

2. What is a good spray for putting fire out, as our chimney gets on fire about once a month. W. L.

Ans.—1. If the cow is to be hand-milked, the calf may be taken away at the end of the first day, and hand-fed. The cow may then be milked dry by hand. If she is an exceptionally heavy milker, it is a precaution against milk fever not to milk dry for the first forty-eight hours. There are some who raise the calves on the cows, allowing the calf to practically wean itself as the cow dries. Should the calf not take all the milk, hand-milking should be resorted to to prevent udder trouble.

2. Chemical fire extinguishers which are on the market are the best hand sprays that we know of for extinguishing fire.

## AUCTION SALE OF Pure-Bred Angus Cattle

Farm Stock and Implements

At Cold Creek Farm, Lot 23, Con. 7, Hamilton Tp., Northumberland Co., on

Wednesday, March 17th, 1920

20 HEAD ABERDEEN-ANGUS

One four-year-old bull, 2 yearling bulls, 5 cows with calves at foot, 1 cow due to calve in April, 3 heifers 2 years old, 2 heifers one year old, 1 heifer under one year. Write for catalogue.

Trains met at Campbellcroft Station, G.T.R., if notified. Good liveries from Cobourg and Port Hope. Sale of cattle about 3 o'clock.

**JOHN A. NOBLE**  
 Auctioneer

**Geo. A Ritchie, Plainville, Ont.**

## LARKIN FARMS, QUEENSTON, ONT.

ABERDEEN-ANGUS CATTLE, SHROPSHIRE and SOUTHDOWN SHEEP  
 CORRESPONDENCE and INSPECTION INVITED  
 (Mention Farmer's Advocate)

#### FAIRVIEW CLYDESDALE CHAMPIONS

We have at present, several mares that have been champion winners at Toronto, Guelph, London and Ottawa. Look up our past winnings and call on us if you want something choice. We also have Shorthorn bulls and females of show individuality.

**ROBERT DUFF & SON**

MYRTLE, ONT.

#### BROWN SWISS BULLS

2 young bulls fit for service from high-producing dams excellent type. This breed is ever growing in popularity.

**J. W. LAIDLAW,**

R. No. 2,

WILTON GROVE, ONT.

#### BROOKDALE HEREFORD FARM

Young stuff for sale at all times. Visitors always welcome and met any time.

Telephone.

**W. READHEAD, Milton, Ontario**

#### Irvin Scotch Shorthorns

—Herd Sire Marquis Supreme—by Gainford Marquis (Imp.). We have at present three young bulls of serviceable age and one younger, all sired by our herd sire and from Scotch bred dams. Good individuals and the best of pedigrees. Also pricing a few females.

**J. WATT & SON,**

ELORA, ONT.

#### Spruce Glen Shorthorns

—When in want of Shorthorns visit our herd. We have 80 head to select from—Minas, Fames, Florences, Emilys, Red Roses and Elizas—good milkers; a few heifers for sale; also several young bulls of breeding age, thick, level, mellow fellows and bred just right.

**JAMES MCPHERSON & SONS, Dundalk, Ont.**

#### R.O.P. Dual-Purpose Shorthorn Bulls

I am consigning in Caledonia sale two grandsons of Maud 108683, with record of 11,862 lbs. milk and 513 lbs. fat. Dams of these bulls have good R.O.P. records. See catalogue or breeding. Offering at farm on extra choice, eleven months' son of Maud.

**GROVER C. ANDERSON, R.R. 1, Waterford, Ont.**

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

## Percherons and Belgians THE POPULAR BREEDS

We have in our stables a select lot of Percheron and Belgian stallions and mares, running in age from 4 to 7 years. Our stallions weigh from 1,900 to 2,200 lbs., and mares from 1,700 to 2,000 lbs.

Use good breeding stock now and be ready to meet the demand which is sure to exist. All horses have been Government inspected, and we guarantee them to be satisfactory sure breeders; if they are not, you do not have to keep them.

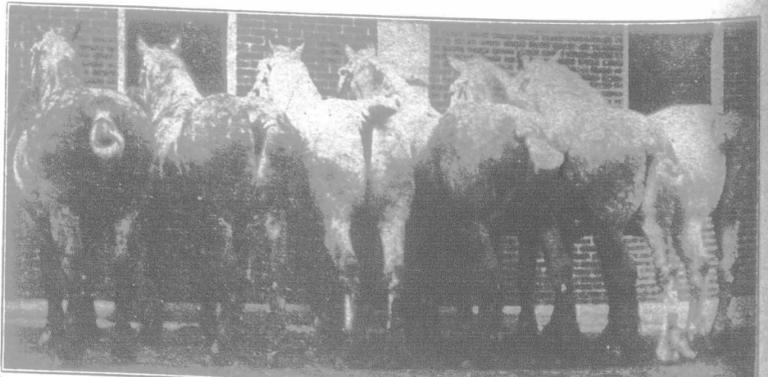
We will sell on time to responsible parties. Look up our winnings at the Western Fair, Guelph Winter Fair and Ottawa Winter Fair. These will give you some idea as to the class of horses we are offering.

Inspection Welcomed. Correspondence Solicited.

ADDRESS ALL CORRESPONDENCE TO  
**G. R. Crouch, Vice-President La Fayette Stock Farm Company of Canada, Limited, London, Canada**

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A GROUP OF PERCHERON-GENEALINGS





**Maple Shade SHORTHORNS**

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

**W. A. DRYDEN**  
Brooklin - - - Ontario

**IMPORTED DUAL-PURPOSE Shorthorns**

If you require a bull bred on the English system for milk and beef, we can sell you one of choice breeding, and in every way a good individual—one which will add value to your herd. We have a fine selection of young bulls at present, also English Large Black pigs.

**CALL OR WRITE.**  
**LYNNORE STOCK FARM**  
F. W. COCKSHUTT, Brantford Ont.

**FEEDS FEEDS**

We can quote inducing prices on all kinds of feed including Linseed Oilcake Meal, Cottonseed Meal, Gluten Feed, Distillers Grains, Oats, American Corn, Mill Feeds, Feeding Molasses, &c. (Carlots or less).

**WE BUY:** Hay, Straw, Potatoes, Oats, Buckwheat, Barley, Peas, Beans, &c.

*Write us to-day.*  
**Allen - Kelley Company**  
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**DUAL-PURPOSE SHORTHORNS**

Present offering: Six young bulls, Reds and Roans, also a number of females. They have size, quality and breeding from good milking dams. Prices moderate. Satisfaction guaranteed.

**CHAS. GRAHAM - Port Perry, Ontario**

**Buy Glenfoyle Shorthorns**

9 bulls, all ages; 25 heifers and cows. Herd bull 2,400 pound quality kind, which sire's dam and three nearest dam's milk records average over 9,000 pounds; also high-class yearling Clyde stallion. Come and see them.

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

**Mardella Dual-purpose Shorthorns**

8 choice young bulls; 30 females, cows and heifers. All of good size, type and breeding. Herd headed by The Duke; dam gave 13,599 lbs. milk, 474 lbs. butter-fat. He is one of the greatest living combinations of beef, milk and Shorthorn character. All priced to sell. Write, call or 'phone.

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**MESSRS. A. J. HICKMAN & CO.**

Halse Grange, Brackley, England  
Exporters of all Breeds of Pedigree Live-Stock.

Send for an illustrated catalogue and see what we can do for you. Whether you want show or breeding stock, buy direct from England and save money.

**FUR COATS IN SPRING**

On warm days you work in your shirtsleeves; do not expect your horses to do good work while covered with long, heavy coats of hair. It's unwise to make horses work under the hot sun without spring clipping. A Stewart No. 1 Machine does the work quickly and thoroughly. Insist on a Stewart—the only machine that always satisfies.

Write for a new catalog.  
**CHICAGO FLEXIBLE SHAFT COMPANY**  
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**Scotch Shorthorns**—Herd headed by Master Marquis = 123326 =, by Gainford Marquis. Stock of either sex for sale. Also Oxford Down ewes.

**GEO. D. FLETCHER, Erin, R.R. 1, Ont.**

**Evergreen Hill Farm—R.O.P. Shorthorns**

Present offering: Two 12-month bulls by the R.O.P. bull St. Clare = 84578 =, also a few heifers and heifer calves.

**S. W. JACKSON, Woodstock, Ont.**

**LABELS**

Live-stock Labels for cattle, sheep and hogs. Manufactured by the Ketchum Manufacturing Co., Ltd., Box 501 Ottawa, Ont. Write for samples and prices

**Questions and Answers. Miscellaneous.**

**Permanent Sod.**  
What would be the best seed to sow for a permanent hay field, on land that is low and wet? Timothy and alsike, and especially red clover, do not amount to much. How would orchard grass do? Does it make good hay, and would it be permanent?  
W. C.

**Ans.**—If timothy and alsike do not do well it is doubtful if you will get a grass or clover that will give you a profitable crop. Orchard grass would grow, and it is permanent, but it makes rather coarse hay and must be cut early. Timothy, alsike and red top should produce the best hay on such land.

**Poison.**  
I had a number of cattle vaccinated for blackleg before turning them on pasture, and shortly after they went out some of them died. The veterinarian thought it might be poison, as there was poison put out for foxes. How long will the poison be dangerous; it was put out in 1918?  
J. D. M.

**Ans.**—Without knowing the nature of the poison, it is impossible for us to state how long it may be dangerous. If it was a kind that would dissolve readily we would think that one season's rains and frosts would overcome any danger.

**Pumping Water.**  
I am planning on pumping water to my barn from a well 50 rods away, and up a gradual grade of 7 or 8 feet. What is the best power to use? Would it be better to force the water, or draw it? At which end would you place the tank.  
F. B.

**Ans.**—Either a windmill or gasoline engine should prove satisfactory. With a windmill you would require a large storage tank, unless you are in a district where there is regular wind. The gasoline engine would need more attention than a windmill, and during cold weather there may be some difficulty in starting it. However, as a rule, it is reliable. We would prefer forcing the water, and would have the tank at the barn, as you would have to have it put up fairly high at the well to permit the water to run by gravitation to the barn.

**Water Tank.**  
How can I build an elevated water tank so that it will be as nearly as possible frost-proof?  
H. A. L.

**Ans.**—In this climate it is rather difficult to erect a tank that would be entirely frost-proof. Many use concrete, and while there will be a considerable coating of ice around the inside in severe weather, yet this does not cause any inconvenience provided the pipes can be kept from freezing. The kind of structure depends on how high it is desired to have the tank, and what quantity of water is to be stored. A concrete foundation can be made, or the tank may be supported on steel and the pipes carefully boxed in. Using three or four ply of lumber, building paper, and having a dead-air space, there would not be much danger of frost reaching the pipes.

**Hen-house Construction.**  
We intend building a hen-house to accommodate 50 hens. What size should it be? Would you advise boarding the walls with one-ply of rough lumber, or use two-ply with felt between? Would you advise having a ground floor?  
C. W. D.

**Ans.**—A building about 16 feet deep and 15 feet wide would give ample room for fifty hens. This building should face the south, and the back ends might be built of two-ply lumber with building paper between. The front, which should be about nine feet high, could have the bottom 2½ or 3 feet boarded up and the remainder of equal parts cotton and glass. The back of the pen need not be over 5 feet high. With the height mentioned in front, the sun will shine to the back of the pen. If at any time one was desirous of increasing the flock, the pen could be extended in length. In regard to the floor, many prefer concrete. If the pen is high and dry a ground floor is satisfactory and gives the birds the earth to scratch in.

**CLEARING SALE**  
Scotch-topped

# Shorthorns!

30 choice selections. The entire herd belonging to **GEORGE M. HEARNE**, and selling without reserve at the farm, one mile from Burford, Ont.,

**Thursday, March 4th, 1920**

This herd, although small, comprises a number of choice Scotch-topped females, all of which are real good representatives of the breed, and selling in the best of breeding condition. The majority of the breeding cows will have calves at foot by, or be calving early to the service of the herd sire, which is a son of that good breeding bull, Nero of Cluny (imp.). The service of this sire should increase their value considerable, a fact which will be better appreciated when his one- and two-year-old daughters are seen on sale day. In all, there are six of these daughters, among which will be found some nice Strathallan and Roan Duchess pedigrees. Catalogues on request.

*As Mr. Hearne is giving up farming there will be positively no reserve, and, in addition to the pure-bred cattle, there will also be a number of grade cattle selling, as well as horses, implements, hay, grain, etc., including all equipment which has been used on this up-to-date 250-acre farm.*

**George M. Hearne, Burford, Ont.**  
Brant County

**Burnbrae Shorthorns**

Eighty-three years without change we have been breeding Scotch Shorthorns. The foundations of many of the best herds in America were laid from our farms.

I am in a position to furnish you now with the BEST in FORM and in BREEDING that can be found any place. Twenty-five young bulls, from small calves to fifteen months old. Sixty-three cows and heifers, every one of them bred right, not a plain-looking one in the lot. Every animal that I have sold in two years has been satisfactory; the most of them sold by letter. I can satisfy you with the best in what you want at a price that will give you a chance, and I will pay the freight to your station. A Grand Champion and the son of a Grand Champion at head of the herd.

Post Office, Telegraph, Telephone and Station is Stouffville, Ont.

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

A NEW IMPORTATION OF

## FORTY SCOTCH SHORTHORNS

arrived home Dec. 17th. From our herd of 125 head we can offer a large selection in choicely-bred bulls and females. Anyone in need of foundation stock may find it to their advantage to look over our offering before making any purchases.

**J. A. & H. M. PETTIT, Freeman, Ontario**  
Burlington Jct., G.T.R., only half mile from farm.

**MANOR FARM SHORTHORNS**

Five bulls from six to fourteen months. A Rosemary, Beauties and a Martha. I seldom, if ever, owned such a good lot.

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

**SHORTHORNS (PURE SCOTCH)**

Richly-bred bulls of A1 quality, by Escana Ringleader = 95963 =. Cows with calves at foot by Escana Ringleader. Write your wants.

**F. W. EWING, R.R. 1, Elora, Ontario**

**GLENGOW SCOTCH TOPPED SHORTHORNS**

We have several thick, growthy bulls about a year old and sired by Prince Sultan; our present herd sire—a Roan Lady, by Lavender Sultan. The families represented are Golden Drop, Crimson Flower, Wedding Gift, Wimple and Kilbean Beauty's. Also pricing females.

**WM. SMITH, M.P., Columbus, Ont. Brooklin, G.T.R.; Myrtle, C.P.R.; Oshawa, C.N.R.**

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

**R. M. MITCHELL, R. R. No. 1, FREEMAN, ONT.**

**20 Bulls—SPRUCE LAWN—100 Females**—Clydesdales, Shorthorns, Yorkshires. Herd headed by Imported Golden Challenger 122384. A Rubyhill bred by Earl of Northbrook, by Ascott Challenger, bred by L. De Rothchild. Special bargains in farmer's bulls. Cows and heifers in calf, yearling and heifer calves. Yorkshires either sex.

**J. L. and T. W. McCamus, Cavan, C.P.R., Millbrook, G.T.R. and P.O., Ontario.**

**Maple Hall Shorthorns**—We have on hand at present, four young bulls ready for service (two reds, two roans), that are just the herd sire and Butterfly dams.

They are all got by that great sire, Flower King, No. 90447, and from our Good Crimson Flower and Butterfly dams.

Stations: Claremont C.P.R., Greenburn C.N.R., Pickering G.T.R. **D. BIRRELL & SON, Claremont, Ont.**

Seven  
Registered  
Clydesdales

GREAT

Forty-five  
Registered  
Holsteins

## CLEARING SALE

The entire farm stock, implements, etc. belonging to R. M. Holmes and selling at the farm, near  
**OTTERVILLE, ONTARIO**  
Wednesday, March 10th, 1920

---

### HOLSTEINS

15 young cows, fresh or in full flow of milk.  
5 young cows near calving.  
16 one and two-year heifers sired by a son of Grace Fayne 2nd, Sir Colantha.  
8 cows calving in early summer.  
A number of 1920 calves sired by the present herd sire Colantha Fayne Abbekerk No. 32239.

### CLYDESDALES

2 seven-year old stallions guaranteed right.  
5 registered brood mares, all under six years of age and supposed to be in foal.

---

**The farm is sold. There will be no reserve.**

*Write for Catalogue*

**R. M. HOLMES, - Otterville, Ontario**  
(Watch these columns for further particulars.)

## Choice Ayrshire Bulls

One bull, 15 months old; dam's average test, 4.7 butter-fat; price, \$150.  
One bull, 16 months old; dam's average test, 4.8 butter-fat; price, \$175.  
One bull, 14 months old; dam's average test, 5.8 butter-fat; price, \$175.  
Also male calves, two and three months old—same dams.

**Thomas A. Low, Elm Valley Stock Farm, Renfrew, Ont.**

## Hospital for Insane, Hamilton

Holsteins, yes! All bulls of serviceable age are sold, but several of six months and younger, from one of the best sons of King Segis Alcartra Spofford, and our best dams will be sold at reasonable prices.

**APPLY TO SUPERINTENDENT**

### HOLSTEIN HERD AVERAGES 18,812 LBS. MILK

A herd of 13 pure-bred Holsteins last year averaged 18,812 lbs. milk and 638.57 lbs. fat. Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in HOLSTEIN CATTLE send for booklets—they contain much valuable information.

**HOLSTEIN-FRIESIAN ASSOCIATION OF CANADA**  
W. A. CLEMONS, Secretary, ST. GEORGE, ONT.

## Raymondale Holstein-Friesians

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

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

## Hamilton House Holstein Herd Sires

Our highest record bull for sale at present is a 4 months calf from Lulu Darkness 30.33 lbs. and sired by a son of Lulu Keyes 36.56 lbs. His two nearest dams therefore average 33.44 lbs. and both have over 100 lbs. of milk per day. We have several older bulls by the same sire and from two and three-year-old heifers with records up to 27.24 lbs. All are priced to sell.

**D. B. TRACY, - Hamilton House, COBOURG, ONT.**

"Premier" Holstein Bulls Ready for Service—I have several young bulls from dams with 7-day records up to 32.66 lbs. of butter, 755.9 lbs. of milk, with 110 lbs. of milk in one day—over 3,000 lbs. in 30 days. All are sired by present herd sire, which is a brother to May Echo Sylvia. Step lively if you want these calves.

**H. H. BAILEY, Oak Park Farm, Paris, Ont.**

When writing advertisers please mention "Advocate."

**SALE**

**Orns!**

rd belonging to  
selling without  
Burford, Ont.,

**4th, 1920**

a number of choice  
are real good repre-  
the best of breeding  
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grain, etc., in-  
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urford, Ont.

**Shorthorns**

been breeding Scotch  
st herds in America

**THE BEST IN FORM**

Twenty-five young  
sixty-three cows and  
-looking one in the  
has been satisfac-  
satisfy you with the  
you a chance, and I  
ampion and the son

is Stouffville, Ont.

**Stouffville, Ont.**

**OF**

**ORTHORNS**

can offer a large selection  
foundation stock may find  
re making any purchases.

**Freeman, Ontario**  
from farm.

**HORNS**

and a Martha. I seldom, if ever,

**BSON, Denfield, Ont.**

**SCOTCH**

05963. Cows with  
your wants.

**R.R. 1, Elora, Ontario**

**HORTHORNS**

Prince Sultan; our present herd  
represented are Golden Drop,  
ty's. Also pricing females.

Myrtle, C.P.R.; Oshawa, C.N.R.

three imported bulls, one yearling,  
ar-old, and our three-year-old herd  
g and three well bred bull calves  
scotch females.

**FREEMAN, ONT.**

Shorthorns, Yorkshires. Herd  
by Earl of Northbrook, by Ascot  
bulls. Cows and heifers in calf.  
W. McCamus, Cavan, C.P.R.

resent, four young bulls ready for  
ans), that are just the herd sire  
d from our Good Crimson Flower

**RELL & SON, Claremont, Ont.**

### Gossip.

#### A Word About Commodore.

The splendid Clydesdale stallion, Commodore, owned by T. J. Berry, Hensall, Ont., and illustrated in the Horse Department of this issue is a son of the illustrious Baron O'Buchlyvie and consequently a half-brother to Dunure Footprint, Bonnie Buchlyvie, and other notable horses in the Clydesdale world to-day. In 1918 foals by Commodore won first and sweepstakes at Exeter, Zurich and Seaford, and in 1919 his foals won first wherever shown. Commodore, himself has been a winner at Guelph, Toronto, London and other shows. He weighs close to a ton and transmits his splendid quality, size and all round excellence to his offspring. —Avt.

#### Shorthorns and Clydesdales at Fairview.

One of the most pleasing offerings in Clydesdales and Shorthorns mentioned in these columns for some time is now running in the advertising columns of this issue over the name of Robert Duff & Sons, Fairview Farm, Myrtle, Ont. Included in the Clydesdale offering will be found many of their champion winners of the shows of 1918 and 1919. Favorite Blend a four-year-old grand champion at Guelph in December, and also champion mare at the Canadian National last fall is still in the stables and looking as well as when she last faced the judges at Ottawa. Mendel Princess by Mendel and also a four-year-old mare, first and reserve at Toronto, Guelph and Ottawa as a three-year-old still stands next to Favorite Blend and still looks the part of her honors won as a reserve champion. Still another that has won many laurels in the past is Fairview Darling, the five-year-old mare by Gallant Caruchan and winner of first at Toronto and London on several occasions. She is now in foal to the service of the grand champion stallion, Baron's Best, Flora Landsdowne, winner of the two-year-old class at Toronto and Guelph last fall, and also the same honors at Ottawa in January, is probably

### WALNUT GROVE HOLSTEINS

I am offering a choice lot of bull calves sired by May Echo Champion who is a full brother of world's champion May Echo Sylvia, also a few cows just fresh.

**G. R. James, Richmond Hill, R. R. No. 1, Ont.**  
(Take Radial Car from Toronto to Thornhill)

### Sylvius Walker Raymondale

is the sire of the majority of our young bulls now listed. If you see these calves you will appreciate them. Their dams are mostly daughters of King Segis Pontiac Duplicate. Don't delay if you want a good bull at a right price. We are also offering females.

**R. W. WALKER, & SONS, Port Perry, Ont.**

### HOLSTEIN HERD SIRES

I have at present several young show calves nearly ready for service; all of which are from tested dams and sired by my 30-lb. sire Gypsy Pontiac Cornucopia. This bull is a grandson of May Echo Sylvia and our entire offering in females are bred to him. Prices right.

**JOSEPH PEEL, - PORT PERRY, ONT.**

### ELDERSLIE HOLSTEIN-FRIESIANS

Am all sold out of heifers, just have three bull calves left, from four to six months old. They are sired by Judge Hengerveld De Kol 8th, a 32.92-lb. bull. The dam of one is a 20.225-lb. cow. Write for prices and come and see them.

**ARCHIE MUIR, - Elderslie Farm, - SCARBORO' P.O., ONT.**

### Summer Hill Holsteins

—We have the best bunch of Holstein bulls ever offered at our farm. Their dams have records up to over 34 lbs. of butter in 7 days. All are sired by a bull with a 34-lb. dam. One is a full brother to the Grand Champion bull at Toronto this year. Prices reasonable

**D. C. FLATT & SON, R.R. No. 2, Hamilton, Ont.**

### SUNNYBROOK FARM HOLSTEINS

We are offering for quick sale one 24-lb. bull and one 26-lb. bull ready for service. Both are sired by a 33-lb. son of the great King Segis.

**JOSEPH KILGOUR, - NORTH TORONTO, ONT.**

### HOLSTEIN BULLS FROM 30-LB. DAMS

If you want 30-lb. bulls—good individuals—and priced right—you should see my present offering. I also have lower priced bulls and am offering females bred to Ormsby Jane Burke. Correspondence solicited.

**R. M. HOLTBY, Manchester G.T.R.; Myrtle C.P.R.; PORT PERRY, Ont.**

### CLOVERLEA HOLSTEIN FRIESIANS

We are offering this week two choice bulls, one ready for service, from a 25-lb. dam. Priced right for a quick sale. For price and particulars, apply to

**GRIESBACH BROS., - R. R. No. 1, - COLLINGWOOD, ONT.**

### Silver Stream Holsteins

—Special offering: Four choice bulls fit for service, sired by King Lyons Colantha, the records of his six nearest dams average 30.10 lbs. butter in 7 days and from R.O.P. tested dams. Individually as good as their breeding. Write at once for particulars and price, or better come and see them.

**JACOB MOCK & SON, R. R. 1 Tavistock, Ont.**

### Cedar Dale Farm

—The Home of Lakeview Johanna LeStrange, the \$15,000 sire—He is the son of the 38.06-lb. cow, Lakeview LeStrange, and is our chief sire in service. We are offering a few females bred to him and also have a few bull calves sired by him at right prices. Other older bulls, sired by our former herd sire, Prince Segis Walker, son of King Segis Walker.

**A. J. TAMBLYN, Cedar Dale Holsteins - (C.N.R. station one mile) - Orono, Ontario**

### ROWAN RIVER STOCK FARM

At present we have 3 bulls of serviceable age, sired by a 31-lb. sire from R. O. M. and R. O. P. dams. Younger ones sired by a grandson of May Echo Sylvia; his two nearest dams average 832 lbs. milk, 33 1/4 lbs. butter for 7 days. Priced to sell.

**PETER B. FICK, - PORT ROWAN, ONT.**

### RIVERSIDE HOLSTEINS—CHOICE BULLS

We have several 10 months old, from dams with official records up to 100 lbs. of milk per day and 32.32 lbs. of butter in 7 days. These are well marked and straight individuals. Inspection invited.

**J. W. RICHARDSON, Caledonia, Ont.**

the outstanding two-year-old in the stables and should please the most exacting. Still another that was at the shows last fall, and which we have not mentioned heretofore, is the three-year-old mare, Rye Queen by Rycroft Model. She was second in the large class in Toronto last September, first at London the following week, and second again at Guelph in December. This completes a list of show mares which undoubtedly are hard to equal on this side of the water. The only stallion in the stables is the year-old colt, Mendel Fairview, by Mendel Prince. This colt won second at Toronto last fall, and was first in his class the following week at London.

In Shorthorns, the herd is still headed by that good sire, Royalist. This bull is of Duchess of Gloucester breeding, got by a son of Longfellow and he by the great sire, Uppermill Omega. Royalist, it will be noted, is the sire of the \$3,100. Augusta calf, Augusta Emblem, sold at the recent Miller-Dryden sale at Toronto. There are only two young bulls sired by Royalist now in the stables, but the offering in his year-old daughters is more varied, there being upwards of ten and all belonging to good families. These heifers are mostly rising two years of age and are unbred. The families are Misses, Minas, Orange Blossoms, Duchess of Gloucesters and Matchless. Their individuality is on a par with their pedigrees.

"The longer I take 'The Farmer's Advocate' the better I like it. The Christmas Number was the best you ever sent out. The reading matter was instructive and entertaining. The illustrations of the different classes of stock were the best I have ever seen. I wish you every success in publishing the best farm paper in Canada to-day.

New Brunswick. FRED DOW.

"We could not get along without 'The Farmer's Advocate.' It is our best paper and we cannot afford to miss one copy."

JOS. N. BERTRAND.  
Northumberland Co., Ontario.

# Heaves CURED

—by removing the cause—and cured to stay cured—If 3 boxes of Fleming's Tonic Heave Remedy fail to effect a cure of any case, old or new, we will refund the full amount paid.  
 For Box, \$1.00; 3 for \$2.50. Mailed on receipt of Price.

**Scratches Disappeared**  
 Gentlemen—I gave a course of your Tonic Powders, which has put a horse and his mate in fine shape, and a touch of scratches has quite disappeared. Geo. A. Miles, Oxville, A.M.

Full information in Fleming's Vest Pocket Veterinary Adviser. Write us for a Free Copy.

**FLEMING BROS., Chemists**  
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Linseed Oil Cake Meal, Cotton Seed Meal, Gluten Feed (23% protein), Hominy Feed, Bran, Shorts, Feeding Cane Molasses (in barrels), Feed Corn, Oats, Barley, Distillers Grains, Dairy Feed, Hog Feed, Poultry Feeds and supplies.

Car lots or less—Prices on application.

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

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 LONDON - ONTARIO

# DR. BARNARDO'S HOMES

A party of boys and girls under the auspices of the above Homes will arrive in Ontario middle of March, 1920. Applications for service, as well as boarded-out children, may be sent for boys to

Mr. John W. Hobday, Manager, 50-52 Peter Street, Toronto, and for girls to Miss Taylor, Secretary, Girls' Home, "Hazelbrae," Peterborough.

**STAMMERING**  
 or stuttering overcome positively. Our natural methods permanently restore natural speech. Graduate pupils everywhere. Free advice and literature.

**THE ARNOTT INSTITUTE**  
 KITCHENER, - CANADA

# Ten Holstein Cows For Sale

Fresh and freshening in February, with good R.O.P. and R.O.M. records, all young. The cows to freshen are in calf to a 31-lb. sire. Hoping to hear from you, I remain,  
 Fred Ormiston, R.R. 2, Burketon, Ont.

# Gossip.

## Clydesdale and Holstein Dispersal.

One of the largest auction sales of private herds advertised in these columns for some time, is inserted elsewhere in this issue by R. M. Holmes, of Otterville, Ont. Mr. Holmes has sold his 250-acre farm, and his entire herd of forty-five purebred Holsteins, as well as all of his purebred Clydesdales, farm implements, etc., are selling without reserve on the above mentioned date. The Holstein herd at present is headed by the 29.95-lb.-bred sire, Colantha Fayne Abbekerk, that is a grandson on the sire's side of Queen Butter Baroness, Canada's first 33-lb. cow. This sire has only been used in the herd for the past season, and so far there are only four young calves in the stables, which are sired by him. These youngsters, however, are exceptionally promising, and by sale day their number will be increased considerably. The former sire, in service was Sir Colantha Vida Fayne, who was a son of Grace Fayne 2nd Sir Colantha. All the 1918 and 1919 heifers, sixteen in number, are got by this sire and they perhaps, aside from the breeding cows, are the attraction of the sale. As will be noted in the catalogue, there are very few of the breeding cows which have been officially tested, but the majority of them, aside from the 12-year-old cow, Rose Bonhuer, and the ten-year-old Rosetta May De Kol, have been bred on the farm. Both cows are still in the herd, and the former is a daughter of the once noted champion cow, Prince Abbekerk Pauline, while the latter traces to the famous old Mercena. Each cow has several daughters listed as well as a large number of granddaughters, and the only apologies there will be to offer on sale day, is that these have never been tested. Added to it will be noted, that Daisy Dew Drop Colantha, another foundation cow, has five daughters and a number of granddaughters listed. This cow, is a daughter of the 31-lb.-bred bull, Orvilla Sir Dew Drop Colantha. Her oldest daughter being now only a four-year-old, it will be noticed, she has produced heifer calves in her last five lactation periods. In Clydesdales there are two eight-year-old stallions listed and five registered brood mares. Of the stallions, Golden Powis, a 1,700-lb. horse, is the larger of the two although both are sired by Lord Powis (Imp.), Baron Gilchrist the other horse, in only fair condition, weighs in the neighborhood of 1,600 lbs. and his dam Jessie Gilchrist, was got by the imported horse, Carthusim, while the dam of Golden Powis was from an imported mare, got by Gold Mine, a son of Sir Everard. Each horse sells fully guaranteed. Of the five brood mares referred to, Golden Fancy, a five-year-old mare by Bohrangus, is the oldest, and then comes three, all of which are four years old, and all got by Golden Powis. The other is a three-year-old mare from a Lord Powis dam, and got by Baron Gilchrist. The catalogues which are now going to press, gives the breeding in detail of both the Clydesdales and Holsteins, and should have a wide distribution. All requests for same should be addressed to R. M. Holmes, Otterville, Ont.

# Save \$40 on Each Calf Raised

**COST OF RAISING A CALF FROM BIRTH TO 6 MONTHS ON MILK—**  
 2100 lbs. of whole Milk at \$3.10 per 100 lbs. . . . \$65.10

**ON "BLATCHFORD'S CALF MEAL"—**  
 200 lbs. of Whole Milk at \$3.10 per 100 lbs. \$ 6.20  
 1000 lbs. Skim Milk at \$ .40 per 100 lbs. \$ 4.00  
 200 lbs. of Meal at \$7.25 per 100 lbs. \$14.50

**THIS SHOWS A CLEAR SAVING OF \$40.40**

# MORAL: RAISE YOUR CALVES ON BLATCHFORD'S CALF MEAL AND SAVE MONEY.



The above statement shows the saving on whole milk. In comparison with all other methods of calf raising, the use of Blatchford's Calf Meal is proven to be by far the most economical; and the calf will show more healthy and vigorous growth. No matter what method you are using write us and we will show you that it is to your advantage to use Blatchford's Calf Meal.

**THE NEXT BEST THING TO WHOLE MILK**  
**Blatchford Calf Meal Company of Canada, Limited**  
 Dept. C15 61-77 Pelham Avenue, Toronto, Ontario  
 If your local dealer cannot supply you write us.

# BRAMPTON JERSEYS

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

## B. H. BULL & SONS - Brampton, Ontario

**Laurentian Producing Jerseys**—The oldest bull we have at present is a year old youngster, and by our herd sire, Broadview Bright Villa, No. 5630, and from Brampton Astoria, one of the best imported cows in the herd. We also have other younger of similar breeding, as well as a few heifers for sale. FREDERICK G. TODD, Owner, 801 New Birks Bldg., Montreal, P.Q. Farm at Morin Heights - F. J. WATSON, Manager

**Edgeley Bright Prince**—a son of Sunbeam of Edgeley, R.O.P. champion, sired by a son of Viola's Bright Prince, is for sale. He is 3 years old, and active. Won third prize in aged class at Toronto and London, 1919. Write for price. JAMES BAGG & SONS (Woodbridge C.P.R., Concord G.T.R.) EDGELEY, ONT.

**DON HERD OF PRODUCING JERSEYS**  
 We have three young bulls of serviceable age—good individuals and priced right. Could also name a few choice bred heifers. Visitors welcome.  
 D. DUNCAN & SON, TODMORDEN, ONT.

**THE CANADA'S MOST BEAUTIFUL JERSEY HERD**  
 Woodview Farm Herd headed by Imported Champion Rower, winner of first prize with five of his daughters on the Island of Jersey, 1914, second in 1916, and again first in 1917. We are now offering for sale some very choice bull calves, ready for service, sired by imported bulls and from Record of Performance imported winning cows. Also some cows and heifers. Prices right. We work our own cows and show our work cows.  
 JNO. PRINGLE, Prop.

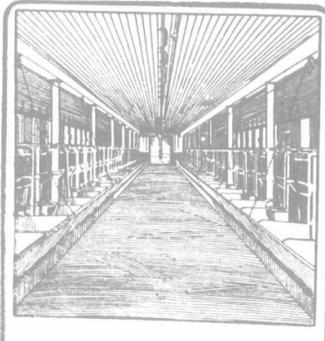
**WESTSIDE AYRSHIRES AND YORKSHIRES**  
 I have one young bull, 10 months old, from high testing dam and would sell my herd bull, 3 years old—St. Nicholas of Orkney—57087—, whose dam gave 11,140 lbs. milk, 394 lbs. fat as a 3-year-old, and whose sire's dam is the famous Milkmaid of Orkney—39834—, with 3-year-old record of 14,000 lbs. milk, 534 lbs. fat. Write DAVID A. ASHWORTH, Denfield, Ont. (Middlesex Co.).

**SPRINGBANK R.O.P. AYRSHIRES**  
 Our Ayrshires win in the show ring and they fill the pail. We hold more present R.O.P. Champion records than any other herd in Canada. Young bulls and females by present herd sire Netherpton King Theodore (Imp.).  
 A. S. TURNER & SON, (Railway Station Hamilton) - RYCKMAN'S CORNERS, ONT.

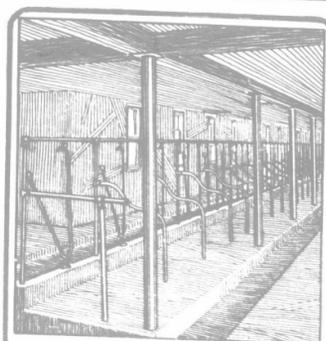
**Stockwood Imported and Canadian-bred Ayrshires**—Write me for your next herd sire. I have own herd sire, Killoch Gold Flake (Imp.) 51225, and from imported dams that are still in the herd. Call and see the kind we breed. Also pricing a few young cows safe in calf to herd sire.  
 D. M. WATT, St. Louis de Gonzague, P. Q.

**CITY VIEW AYRSHIRES**  
 Three bulls ready for service. One two-year-old heifer, bred. Bull calves, all have several direct crosses of R.O.P. blood.  
 James Begg & Son, - St. Thomas, Ont.

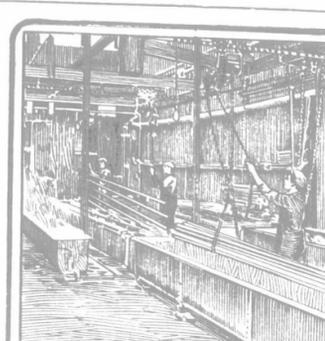
**Glencairn Ayrshires**—Herd established 40 years. Producing ability from 8,600 to 11,022 lbs. If that sort of production appeals to you, we have heifers all ages and young bulls for sale. Thos. J. McCormick, Rockton, Ont. Copetown Station, G.T.R.



**1.** When you put equipment in your stable you want it to last. A big advantage of Steel Stalls is their durability. But if steel is not properly protected it rusts. There is only one way to protect Steel Stable Equipment thoroughly, and that is to galvanize it. All BT Steel Stalls are galvanized.



**2.** We have our own galvanizing plant for this purpose. The rust-resisting coat of zinc is united Chemically and Electrically with the steel. Before this is done all impurities are removed from the surface of the steel by a strong acid bath and careful scrubbing. Neither damp nor Stable Acids affect BT Stables.



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

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BIRTH TO 6 MONTHS

10 lbs. - - - \$65.10

5 lbs. \$ 6.20  
4 lbs. \$ 4.00  
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**AND SAVE MONEY.**  
Experiment shows the saving on

with all other methods of use of Blatchford's Calf Meal. It is by far the most economical. No matter what method you use, we will show you that it is Blatchford's Calf Meal.

**THING TO WHOLE MILK**  
**Canada, Limited**  
Toronto, Ontario  
You write us.

**ERSEYS**  
British Empire

First prizes. We now have for sale females of all ages.

**Brampton, Ontario**

The oldest bull we have at present is a year old youngster, Brampton Astoria, one of the best in the world, as well as a few other new bulls, as well as a few new cows, all registered. Prices reasonable.

**ATSON, Manager**

**GERSEYS**

and priced right. Could also be used for other purposes.

**TODMORDEN, ONT.**

**YORKSHIRES**

and would sell my herd bull, 3 years old, 394 lbs. fat as a 3-year-old, with 3-year-old record of 14,000 lbs. milk in 1 year.

**field, Ont. (Middlesex Co.)**

**SHIRES**

old more present R.O.P. Champion and females by present (imp.).

**RYCKMAN'S CORNERS, ONT.**

**Yrshires**—Herd established 40 years. Producing ability 11,022 lbs. If that sort of production you, we have heifers all ages and for sale. Thos. J. McCormick, Copetown Station, G.T.R.

Send this coupon for the 352-page **Barn Book**. Tells how to plain and built the barn, how to ventilate, how to time, how to save steps, or, time and feed, gives you hundreds of illustrations.

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**Maple Shade Farm**

Imported Shropshire ewes served by best imported rams, very desirable for foundation flocks.

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**Shropshire Yearling Ewes** bred to Bibby's 84 (imp.) ram and two lambs sired by him. Two Shorthorn bulls Two Clydesdale stallions.

**W. H. PUGH, Myrtle Station, Ont.**

**Oxford Down Sheep** for Sale—25 choice shearing ewes safe in lamb to our selected flock headers; 10 two-shear ewes and 15 ewe lambs; all registered. Prices reasonable.

**JOHN M. ROSS, Embro, Ont.**

**AUCTION SALE OF**  
**Pure-bred Yorkshires**  
and Holstein Cattle

on Thursday at 1.30 p.m. sharp  
**February 26th, 1920**  
on Lot 10, Con. 2, Brantford Township

one and a quarter miles south of High School, Paris, the following stock will be sold at auction:

**SWINE**—8 Pure-bred Yorkshire sows, born April 27th, 1919; dam Oak Lodge Pride 211-57777; bred December 28th, 1919, to Jan. 18th, 1920.

4 Pure-bred Yorkshire sows—open; born May 29th and June 5th; dams Bonny Vista Pride 63758 and 63759.

1 Pure-bred Yorkshire boar—born July 26th, 1919; dam Bonny Vista Pride 63760.

All the above are sired by Oak Lodge Famous 222-64008, whose full sister was "Grand Champion at Chicago International," 1919, and whose dam was "under-six-months" Champion at Guelph and Ottawa, 1917.

1 Pure-bred boar, Oak Lodge Masterpiece 42-57774; born Sept. 23rd, 1917; dam Oak Lodge Maiden 104-52501; sire Pine Grove Record 4-43606.

A number of Grade sows and shoats will also be offered.

**TERMS**—Ten months' credit is given, or six per cent. discount for cash.

**R. SCHUYLER, Proprietor, PARIS**  
Alfred Perley, Auctioneer R. J. Thomas, Burford, Auctioneer

**Pine Grove Stock Farm**  
The Home of the Berkshires

Offers for sale boars fit for service, sows bred and ready to breed, younger ones coming on. The Crompton and Wandsworth strains, the best strains of the breed.

**W. W. Brownridge, Georgetown, No. 3, Ont.**  
Milton C. P. R. Georgetown G.T.R.  
Milton Phone.

**YORKSHIRES**

We are now booking orders for Fall pigs, both sexes, 6 weeks to 4 months old. Several large litters to choose from.

**WELWOOD FARM**  
Farmer's Advocate, London, Ontario

**Berkshires**—Boars ready for service and boar pigs, rich in the blood of Lord Premier's Successor 161500, Grand Champion, 1914, Champion Sire of 1915, 1916, 1917. His descendants have won Grand Champion honors at the largest and strongest shows of 1919. The Champion Berkshire barrows of 1918 International were double grandsons of Lord Premier's Successor. We have shipped many Berkshires to Canada with satisfaction to customers. Prices on request.

**HOOD FARM, INC., Lowell, Mass.**

**TAMWORTHS**

Young sows bred for May and June farrow, and boars for sale. Write or phone.

**JOHN W. TODD - Corinth, Ontario**

**Lakeview Yorkshires**

If you want brood sows of any age, stock boars of any age, or young pigs, write me. All bred from prize-winners for generations back.

**JOHN DUCK, - Port Credit, Ont.**

**Big Type Chester Whites**—We cleaned up at London and Toronto Exhibitions, 1919. Now offering pigs from our 805-lb. sows, and sows bred to our 1,005-lb. boar

**JOHN ANNESSER, Tilbury, Ont.**

"Advocate" advts. Pay.

**Gossip.**  
**Grand Sons of Avondale Pontiac Echo.**

It is something over a year ago since Avondale Pontiac Echo, the noted son of the world's champion milk producer, May Echo Sylvia, went to Carnation Farm to assist his illustrious brother, Carnation King Sylvia, known as the \$106,000 calf. Therefore, it is impossible to obtain any more sons of Avondale Pontiac Echo, but attention is here drawn to the offering of young bulls now advertised by R. W. Walker & Sons of Port Perry, all of which are sired by Sylvius Walker Raymondale, a son of Avondale Pontiac Echo. This bull, it will be remembered, was purchased some two years ago, from R. W. Burnaby, who for a year used Avondale Pontiac Echo under lease, and as seen recently by a representative of this paper, the calves by this sire are well worthy of their breeding. In many instances these young bulls are from dams got by Messrs. Walkers' former herd sire, King Segis Pontiac Duplicate, a son of King Segis Pontiac and from a daughter of King of the Pontiacs. Very few of these daughters of King Segis Pontiac Duplicate have as yet been officially tested, but they have exceptional promise and many have milked upwards of 55 lbs. per day, as two-year olds. This is breeding that should be welcomed by all good breeders of to-day, and when mated with this young grandson of May Echo Sylvia, it is only reasonable to expect that the get will be very much in demand. As there are only five calves of this breeding, which are as yet of servicable age, breeders wishing to secure one of them for their next sire, should make their choice early. Messrs. Walkers are also pricing a few females of this same breeding, as well as a few young cows which are calving early to the service of Sylvius Walker Raymondale. See advertisement elsewhere in this issue and address R. W. Walker & Sons, Port Perry, Ont.

**Hearne's Shorthorn Sale March 4.**

Of the smaller pure-bred cattle sales, few should be of more interest to Shorthorn breeders than the herd of George M. Hearne, selling near Burford, Ont., on Thursday, March 4th. In all the herd numbers only thirty head but, on reviewing the catalogue, breeders will find that many of the pedigrees are topped with a lot of choice Scotch breeding and on sale day, it will be found that the majority of these are attached to good individuals. Mentioning a few of the more outstanding breeding cows, it would be well to include such individuals as Comely Strathallan 10th, a nice thick, red, five-year-old cow, a straight Strathallan on the dam side and got by Prince Victor. This pedigree comes in again with very few changes, attached to both the four-year-old, Comely Strathallan 12th, and the five-year-old cow, Comely Strathallan 11th. All three of the above cows are attractive individuals themselves, and each have year-old heifers listed, all of which are sired by the present herd sire, Oak Lodge Nero, a three-year-old son of Nero of Cluny (Imp.), which is also selling. Nero of Cluny (Imp.), as many breeders know, is one of the best breeding imported sires in Canada to-day and these three Strathallan-bred granddaughters, listed in Mr. Hearne's sale, should add greatly to the attraction of the sale on March 4th. Still another cow worthy of note in the offering is an eight-year-old Roan Duchess cow, that is the oldest cow listed and has one of the best eight months' roan heifers by her side that will be in the sale. She is bred again to Oak Lodge Nero. Next in age is a six-year-old roan cow, Cecilia, got by Mina Lad, and dam by Scottish Hero (Imp.). Before passing on to the younger things, we might add to those mentioned above, the four-year-old roan cow, Duchess 4th, by Lancaster Model. She is a thick, low-down cow, one of the smoothest in the offering, and is due in April to the herd sire. There are only three two-year-old heifers listed, two of which are by the herd sire, and three by the former herd sire, Cluny King, also a son of Nero of Cluny (imp.) The year-old heifers are, of course, all got by Oak Lodge Nero. In addition to these cattle, there are five horses selling, as well as all the implements and general equipment, which is usually found on an up-to-date 225-acre farm. For catalogues address Geo. M. Hearne, Burford, Ont.

**GROFAST CALF MEAL**



The meal that most successfully takes the place of new milk for raising calves. Farmers and breeders throughout the whole of Canada are using International Grofast Calf Meal with the greatest measure of success. Read what Mr. Archer of Ingersoll, Ont., has to say:—

"I have used Grofast Calf Meal for the past three years. It is just as good as whole milk. After my calves are three days old they get nothing but skim milk and your Calf Meal. I raise equally as good calves as I ever did on fresh milk and the cost is only a fraction of what the cost would be raising them on milk."

Sold in 25, 50 and 100 pound bags.  
For guaranteed results demand Grofast and refuse substitutes

Your dealer sells Grofast Calf Meal. Or write us  
**International Stock Food Co., Ltd. Toronto, Canada**

**Pure-bred Yorkshires**

We have a number of sows due to farrow in March.

**F. W. DARBY, FERGUS, ONT.**

**BERKSHIRES**—My Berkshires for many years have won the leading prize at Toronto, London and Guelph. Highcleres and Sallys, the best strain of the breed, both sexes, any age.

**ADAM THOMPSON, R. R. No. 1, Stratford, Ont.**  
Shakespeare Station G. T. R.

**Berkshires**—At the great Smithfield Show, London, England, in December, the Berkshires won the Grand Championship for fairs, and made the remarkable showing in the four classes of the Carcass Competitions for pigs of all breeds by winning all the four prizes in the four classes; all sixteen pigs being pure-bred except one. We have over eighty head of splendid stock. Come and see them, or send for our breeding list.

**J. B. PEARSON, Manager. CREDIT GRANGE FARM, Meadowvale, Ont.**

**ELMHURST LARGE ENGLISH BERKSHIRES**

From our recent importation of sows, together with the stock boar, Sudden Torredor, we can supply select breeding stock, all ages. Satisfaction and safe delivery guaranteed.

**H. M. VANDERLIP, Breeder and Importer, R.R. 1, BRANTFORD, ONTARIO**  
Langford Station on Brantford and Hamilton Radial.

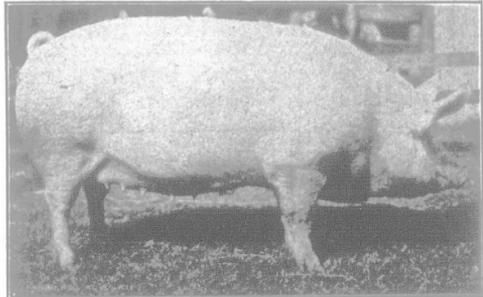
**Meadow Brook Yorkshires**—We have a choice offering of sows bred and boars fit for service. Also a number of large litters ready to wean. All show the best of breeding and excellent type.

**G. W. MINERS, R.R. No. 3, Exeter, Ont.**

**Inverugie Tamworths**—Sows carrying second litters for March farrow, a few choice 200-lb. boars, gilts bred for April farrow; a splendid lot, either sex, 3 to 5 months old. Wee lads and lassies just weaned.

**L. Hadden, Box 264, Sunderland, Ont.**

**YOU CAN HAVE**



**A Pure-bred Yorkshire — FREE**

In return for assisting The Farmer's Advocate and Home Magazine in its work, by sending in the names of 25 New, Yearly Subscribers; each subscription being accompanied by Postal Note or Money Order for \$1.50.

**The Farmer's Advocate and Home Magazine**

Breeds these hogs on its own farm; and when you have completed a list of 25 New, Yearly Subscriptions, will send you a young hog of weaning age, boar or sow, whichever you prefer.

**THE FIRST WINNER** gets the first pig ready for shipment, and other winners will receive their pigs in turn, according to the completion of their lists.

**IMPORTANT!**

When sending in subscriptions, write your name and Post Office and that of each new subscriber **PLAINLY**, and state that you want to earn a pig as advertised.

Each subscription sent must be for one year, and must be a bona fide new subscription.

Renewal subscriptions, or changes of name from one member of a family to another, do not count. Address:

**The Wm. Weld Co., Ltd., London, Ontario**



## That Would Buy 100 Dishes Of Supreme Food—Quaker Oats

Consider that—the steak for an average family meal would serve 100 dishes of the food of foods.

Quaker Oats cost one cent per large dish. One egg would buy five dishes. One chop would buy twelve dishes, based on prices at this writing.

You can serve ten breakfasts of Quaker Oats for about the cost of serving one with meat or eggs or fish.

Based on Prices at  
this Writing



Two Eggs  
Would buy 10 dishes of  
Quaker Oats



One Chop  
Would buy 12 dishes



1 Slice Bacon  
Would buy 2 dishes



Each Muffin  
Would buy a dish

### Save 80% On Your Breakfast

But the true way to measure foods is by nutrition. The calory—the energy unit—is used for this comparison.

Quaker Oats yield 1810 calories per pound, while round steak yields 890 and eggs 635.

This is the cost per 1000 calories in some necessary foods at this writing:

#### Cost Per 1000 Calories

Quaker Oats	- - -	6½c
Average Meats	- - -	45c
Average Fish	- - -	50c
Hen's Eggs	- - -	70c
Vegetables	- - -	11c to 75c

So Quaker Oats, compared with average meat foods, saves some 80 per cent on a breakfast.

And the oat is the supreme food. It is almost the ideal food in balance and completeness.

It is rich in elements which growing children need. As a vim-food it has old-age fame.

Make Quaker Oats your basic breakfast. Start the day well-fed. Use this saving to bring your average food cost down.

# Quaker Oats

Flaked from Queen Grains Only

Serve Quaker Oats for its delightful flavor. It is flaked from queen grains only—just the rich,

plump, flavory oats. We get but ten pounds from a bushel. Yet it costs no more in price.

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## Our School Department.

### Pure Air in Rural Schools.

BY JEAN E. BROWNE, SASKATCHEWAN.

We have heard a great deal about the advantages of the pure air in rural districts. At this time of year, with the thermometer often registering away below zero, one wonders to what extent children in rural schools are benefitting by it.

In order to discuss ventilation we must have the principles of good ventilation firmly fixed in our minds. As a result of experiments performed within the last seven or eight years, hygienists have concluded that in order to have good ventilation the air must be in motion, it must have the proper degree of moisture, and the temperature must not exceed 68 degrees.

Now, as a matter of fact, some of our rural schools still have the unjacketed stove in a school without a basement. In this climate it is impossible to keep the floor warm in any school without a basement. In the case of an unjacketed heater the pupils sitting near the stove are always uncomfortably hot, and those sitting farthest away from it are always uncomfortably cold. These conditions are certainly not conducive to mental alertness. Fresh air can only be admitted through open windows or ducts. Unfortunately, when there is such a difference as there is at this time of the year between the temperature of the air outside and that inside, the cold air thus

to take measures which would possibly prevent hundreds of children from developing tuberculosis. From another point of view I think it is fairly safe to state that the mental alertness of pupils of normal intelligence varies directly according to the ventilation of the classroom.

### Fertilizers and their Uses.

The study of fertilizers is a very large subject to be dealt with in the public school, and before one can understand the composition and need of fertilizers it is necessary to know considerable chemistry. Before attempting to teach a lesson on fertilizers all teachers should obtain literature and bulletins from the Provincial Department of Agriculture, or from the Dominion Chemist, Central Experimental Farms, Ottawa. The fundamental facts are these: soils become depleted of plant food, and that the soil will have to have different treatment or receive fertilization in some way before profitable crops can be produced on them. One difficulty is that a chemical analysis will not accurately reveal the actual requirements of the soil, and only by experiments can the real facts be obtained. Some soils only require lime, and when this is supplied the other plant foods become available; other soils are lacking in potash, phosphoric acid or nitrogen. All



A school fair boy and his plot of grain.

admitted drops to the floor and chills the feet, and is therefore not equally diffused throughout the whole room. It seems scarcely fair that children in rural schools should be submitted to such a handicap.

Better than this is the jacketed stove in the one-room rural school with the duct leading to the outside of the building to admit fresh air. The other end of this duct opens into the jacket. The cold, fresh air is heated as it passes around the stove, and because it is heated expands and rises into the class-room. This hot, fresh air gradually becomes chilled as it comes in contact with walls and windows and then drops to a lower level. Being constantly replaced by warmer air, it finally reaches the floor level and through a register at the bottom of the chimney, it is conducted out of the building. This means that the air is in constant motion, and by this means, the entire air contents of the room can be replaced in about 15 minutes. Connected with the jacketed stove are evaporating pans. If these are kept filled with water, a considerable amount of water vapour will pass into the air of the room. If the teacher is careful to see that the temperature does not rise above 68 degrees, this method should give fairly good results.

Better results, however, can be obtained in the school with a basement and the jacketed furnace. The principle of ventilation is the same, but it is easy to keep the floor warm. Of course, there are other advantages to be obtained from the basement, such as indoor play-room and indoor toilets.

As a people we are still more concerned with the cure of disease than with its prevention. There is a ready response when an appeal is made for the present need of a tuberculous child, but a much slower response when a request is made

soils are not the same in their requirements, and it is extravagant folly to purchase potash for soils that only need some lime or phosphoric acid to make them productive. On the other hand, some crops require potash more than any other plant food, some are lime-loving and still others need phosphoric acid most. All leafy plants must have a good supply of nitrogen, which usually comes from the breaking down of organic matter, but of course, it can be supplied in such forms as nitrate of soda, sulphate of ammonia, or dried blood. Some plot experiments with fertilizers would reveal a great deal and help to show the relation between the requirements of various soils and the contents of different kinds of fertilizers.

### A Hint For Teachers.

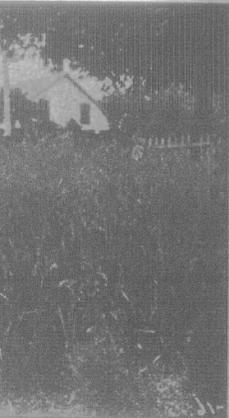
In last week's issue will be found complete reports of all the annual meetings of the various live-stock breed associations. These meetings are held annually in Toronto during the first week of February, and reports of them serve as an annual index to the progress made by those who are fostering the pure-bred live-stock industry. With each report will be found a list of officers, including the secretary, whose name and address should be good information for all public school teachers. It would be a good idea if school teachers, especially in the recognized live-stock districts, could get in touch with the secretaries of the various associations, who would be able to send them literature about the various breeds, as well, perhaps, as pictures of the prize-winning animals at some of the bigger shows. This information and these pictures could be used for instruction purposes in the school.

Department.

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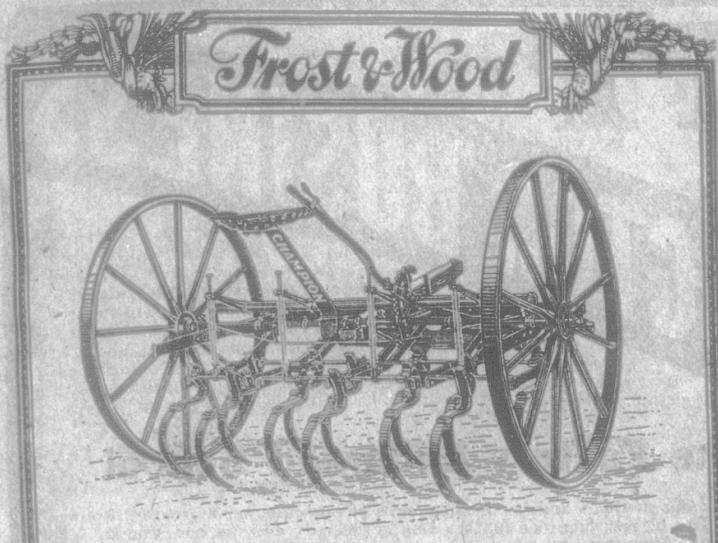


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SKUNK					
Short	12.50-10.50	9.75-8.75	8.50-7.50	7.00-6.00	7.00-1.00
Narrow	10.00-8.00	7.75-6.75	6.50-5.50	5.50-4.50	5.50-.75
Broad	5.00-3.75	3.75-2.75	2.75-2.00	2.00-1.25	2.60-.40
Fancy Dark	50.00-40.00	38.00-32.00	30.00-25.00	22.17-17.00	20.00-1.50
MINK					
Dark	38.00-33.00	30.00-26.00	24.00-20.00	16.00-13.00	15.00-1.00
Ordinary	32.00-26.00	24.00-21.00	18.00-15.00	13.00-10.00	11.00-.75
Muskrat	7.25-5.70	5.50-4.60	4.25-3.35	3.10-2.25	3.00-.25
White Weasel	4.25-3.10	2.80-2.50	2.00-1.60	1.40-1.00	1.25-.10
Red Fox	45.00-35.00	32.00-28.00	25.00-22.00	18.00-15.00	20.00-1.25
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not hesitate to give our graduates the preference. Your success in the Auto Business depends upon your training—what you are taught and trained to do correctly. Here at the M. S. A. S. you are thoroughly instructed in every phase of the Auto Industry. You learn every part of the work by actually doing it.

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The Michigan State Auto School, in our opinion, is the finest institution of its kind in the country. In fact, we endorse its method of instruction. We have recommended a great many students to them, and the results were satisfactory. The Michigan State Auto School ranks highest in the standard of schools. Its equipment and personnel is second to none. This school is thought very highly of by the automobile men of Detroit, and is considered one of the most efficient schools in the country. If you intend to visit any school, then by all means choose the best one. The Michigan State Auto School, so far as we know, is the best. You will make no mistake by entering for a course. Yours faithfully, HUDSON MOTOR CAR COMPANY, Service Department.

#### MAXWELL MOTOR COMPANY

DETROIT, MICH.  
Wish to say that this is one of the best schools in the country, and would not hesitate to recommend it to anyone who is desirous of learning the automobile business. It is a recognized institution among the automobile factories of this city. Their methods of instruction, their lectures and theories are 100 per cent. perfect. With all of their equipment and with the practical work that the students are able to get in their own organization, I really believe that mechanics throughout the country are missing one great opportunity if they do not take advantage of their course. I do not know of another place in the country that has the number of different type motors, chassis and the thoroughness of going into various electrical appliances and equipments as fused on modern motor cars, that I found in their school. MAXWELL MOTOR CO., INC., A. E. Richmond, Superintendent of Service.



DETROIT, MICH., U.S.A.  
The Michigan State Auto School enjoys a very enviable reputation and is probably one of the best of its kind in the United States. I have no hesitation in recommending it in every particular. Yours very truly, PACKARD MOTOR CAR COMPANY.

## Complete Training in Auto Electrics

Our course in Auto Electrics is complete. Standard electric equipment for autos, trucks and tractors is in actual operation for students to work on. Students are taught to quickly and easily locate electrical troubles. Hundreds of graduates are filling high-salaried positions in electrical service stations. Every quarter of the globe recognizes our school as the world's training place for Auto, Truck and Tractor Mechanics.

## Complete Tractor Course Included

You are given complete instruction on care and operation of Farm Tractors in our regular Auto Course. Constantly increasing use of tractors calls for trained tractor men. Manufacturers have placed machines with us to give our students the benefit of practical instruction. Hundreds of students are completing our course and returning to the farm, competent to care for their tractors and the tractors of their neighbors.

## Brazing, Welding and Tire Repairing Taught

These two subjects are taught in separate courses. Hundreds of students take them with the Complete Auto Course. Others take them separately. Competent men are in big demand in both fields. Brazers and Welders are needed in every field—Tire Repair men are always in big demand.

### Read What Graduates Say of the M. S. A. S.

I am making good (thanks to the "Old Reliable" M. S. A. S. faculty, par excellence), with every job that happens along, which is to say that I am kept more than busy, although I haven't opened a garage yet. I am out on the road nearly every day, starting autos and gas engines, locating electrical troubles, etc., etc. So you can see that I am busy. I can truthfully say that I have never regretted one minute of the time that I spent in the M. S. A. S. and would advise anyone who wanted a thorough training in the auto industry by all means to go to the "Old Reliable" M. S. A. S., and there they will find just the place for them. I intend to start a garage in this town, Vineland, next spring as I now own a nice large building, 36 x 60 feet, and intend to fix it up this winter when I have a little time. One of your satisfied graduates. FRED. HAIST, Vineland, Ont., Canada.

I am just getting along fine. Working in a Chandler Garage have more work than I can do, not just on Chandlers, but all makes. I have charge of the garage, am making \$300 per month at the least, have made \$375, but as an average between \$350 and \$375. That is pretty good, but will do better. Yes, and by the way, I'd rather hear a motor hit keep than eat. Your western M. S. A. S. friend and booster. ED. WAMHOF, Alva, Okla.

The fundamentals I acquired at the school stand me in good stead, and I have not struck a difficulty about autos yet that the knowledge acquired at the school has not helped me to solve successfully. Yours faithfully. H. D. LUKEMAN, Tulsa, Okla.

At present I am head mechanic at Chappels' Garage, with a nice salary of about three times what I could make at anything else. I have always been more than pleased with the training I received at your school. Yours truly, PAUL WARE, Bowling Green, Mo.

So far I have never been stuck on any kind of a job of electrical or mechanical repair of an auto. Yours sincerely. N. BURKETT, Waelder, Texas.

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