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AND HOME MAGAZINE

PERSEVERE SUCCEED

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

LV. LONDON, ONTARIO, AUGUST 5, 1920. No. 1454

## The Day

when children stay in the kitchen  
forgetting their games and play  
trying so hard to be helpful and good  
is a

### PURITY

baking day



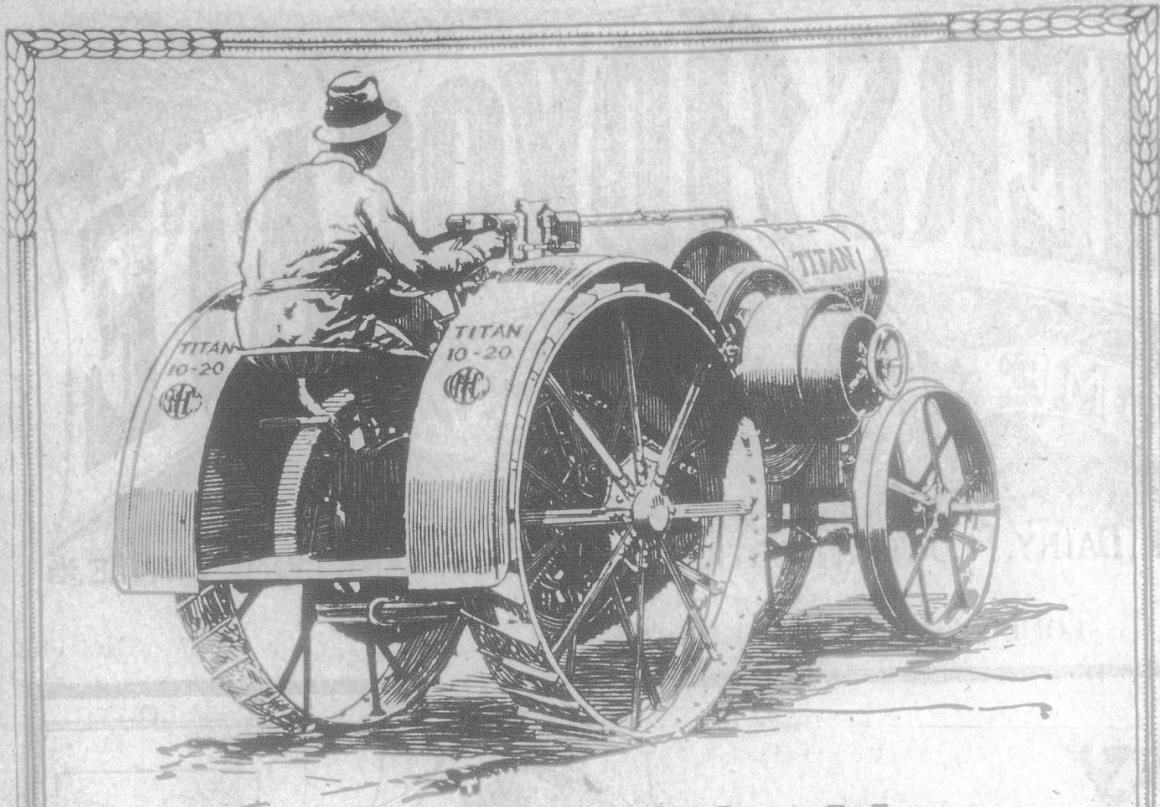
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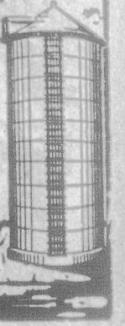
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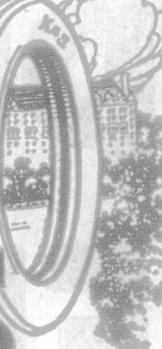
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**"I have found  
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—to get more power out of my tractor, automobile and other farm engines without wearing them out quickly. After trying other lubricating oils, I decided to stick to En-ar-co.

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**White Rose Gasoline**  
 Gives greater power and puts "pep" into your engine.

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this vapor is condensed and further refined, you have En-ar-co Motor Oil—an absolutely perfect lubricant.

It forms a strong, velvety cushion for all moving parts of your engine and will not clog them with excessive carbon.

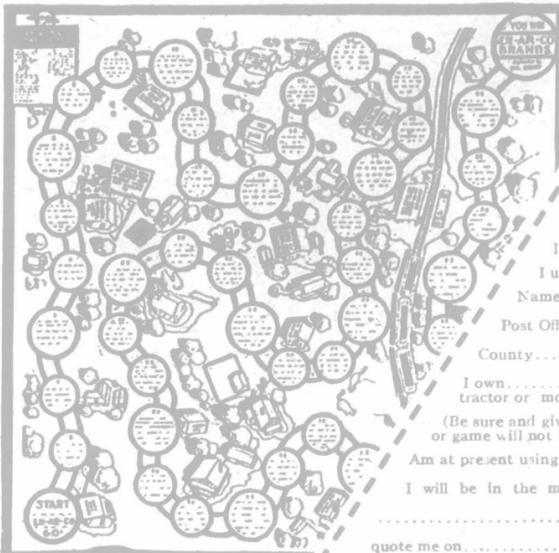
Only trained workmen—no "green-horns"—are entrusted with this process. That is why every barrel of En-ar-co Motor Oil is of the same high grade.

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 I use.....lbs. Axle Grease per year.

Name.....

Post Office.....

County..... Province.....

I own.....(make of auto, tractor or motor boat.)

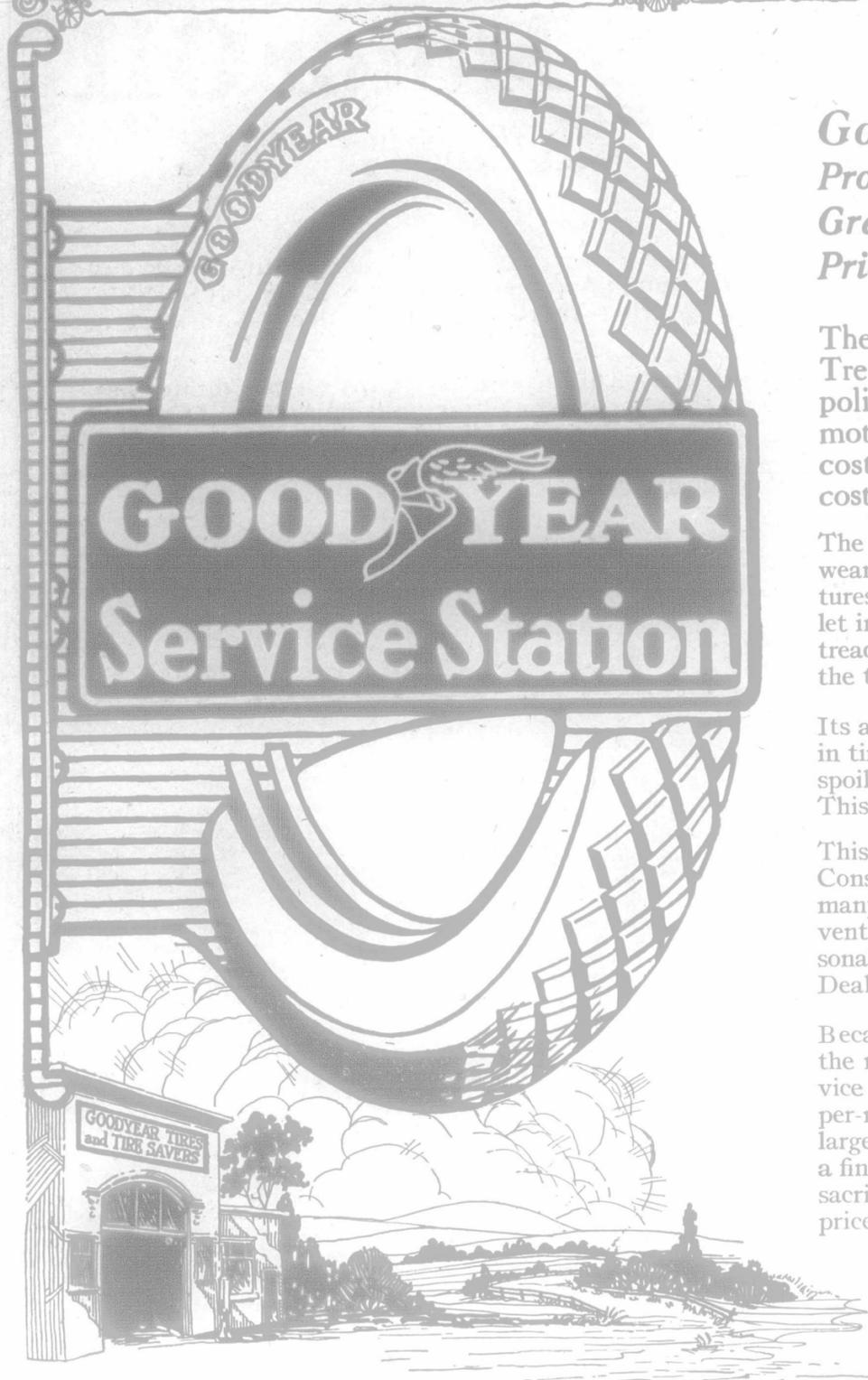
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The All-Weather Tread is tough and long-wearing, adding extra miles. It resists punctures and cuts which, so frequently neglected, let in water and sand to rot the fabric. This tread combats skidding which wears down the tread and weakens the tire carcass.

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# The Farmer's Advocate and Home Magazine

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LV.

LONDON, ONTARIO, AUGUST 5, 1920

1454

## EDITORIAL.

Boost Better Bulls!

Banish the non-producers!

Cull the flock and market the non-layers!

Salt the live stock on pasture regularly. Salt is cheap but essential.

It may still be possible to do a great deal of good in the corn field with single cultivators.

Keep the calf-pails clean and scald them frequently. Sunlight is also a good disinfectant and the cheapest obtainable.

The Resolute won the great yachting victory, but Sir Thomas Lipton won the respect and esteem of all true sportsmen.

The hay-fork always breaks on a busy day. The time lost in splicing a rotten rope is worth more than a new rope would cost.

The Hessian fly should not be allowed to prevent wheat growing in Western Ontario. Proper methods employed by all would control the fly.

A little extra care in selecting and caring for next year's seed grain will pay handsomely. Seed grain handled in an indifferent manner will yield an indifferent crop.

The farmers' movement got away to a good start in Nova Scotia on July 27. The Peninsular Province will be the better for some strong agricultural influence in the legislature.

The flocks in the Townships of West Zorra were culled last week under the direction of Professor W. R. Graham and G. R. Green, the Agricultural Representatives for Oxford County. Watch egg production jump in West Zorra!

The frequent summer rains have kept the pastures good, but August is usually a dry month. Don't allow the cows to want for feed, or the milk flow to fall off. A little extra green feed will keep the milk or cream cheque up to par.

Young men entering the O. A. C. this fall must decide before they commence their studies whether the course is for two or four years. We understand that one cannot complete the two-year course and then make up his mind whether it is advisable to continue and obtain the degree. The courses are entirely separate. The new regulations will be an improvement, so far as the two-year course is concerned, but it is a question whether graduates will surpass, on the average, those turned out prior to the change.

The Bureau of Statistics at Ottawa have announced the estimated acreage devoted to field crops in Canada this year and in practically all staple crops there is a decrease from the estimated acreage last year. The total crop may be good this year, may be good indeed, owing to favorable conditions, but these decreases in acreage do not augur well for agriculture. Farmers are forced by labor conditions to curtail their operations, but labor as a class will be the first to suffer from the ill effects of crop reduction. There is a great national problem involved which requires the sympathy of all classes and their efforts to solve it.

### The Herd Bull Always a Menace.

Farmers are not cowards, but matched with a vicious bull man is but a willow wand. Thousands of men daily are risking their lives in the presence of herd sires without suitable weapons of defense or safe and open channels of retreat. "Oh, he's quiet," is heard time and again, but perhaps the following day, or the next, the "quiet" animal turns upon his trustful attendant and another's name is added to the long list of tragedies caused by vicious bulls. Three deaths from this cause were reported week before last, and we knew of other near tragedies and miraculous escapes occurring during the same period. It is the quiet bull that is the most dangerous. It is seldom that a vicious bull gets the chance to harm or injure any one. One never throws the reins down when driving a runaway horse, and likewise a cross bull is never trusted.

It is a mischievous and exceedingly dangerous practice to permit children to handle the bull, but it is often done just to show how docile the animal is or how courageous the boy or girl may be. The dairy breeds as a rule are perhaps a little hotter blooded than the beef breeds, but a bull is a bull regardless of breed, and anyone entrusted with the care of one ought not to hazard his own life or the lives of others by carelessness or foolhardiness. It should be remembered, too, that a club is a poor weapon with which to fight a furious bull; a fork is more efficient, and then the odds are little more than even. Fatalities, which are all too common, are in ninety-nine cases out of a hundred due to carelessness. The danger is slight when a bull is properly handled with a staff, and never trusted, but slipshod, careless treatment of a bull will sooner or later bring one to grief.

### Wheat versus the Fly in Western Ontario.

In Western Ontario farmers are obliged to combat the Hessian fly intelligently and consistently if they are to continue growing fall wheat. There are only two alternatives, fight the fly, or cease growing wheat. The odds, at present, are in favor of the fly, but farmers, nowadays, are too well equipped with information regarding the growing of crops and the methods of combating insect and fungous pests, to give up without a stiff fight.

The wheat stubble now standing in most fields is harboring the fly in the pupa stage, and the adult will emerge in August. H. F. Hudson recommended in the last issue of "The Farmer's Advocate" that wheat stubble, where the fly has been prevalent, should be plowed down and rolled. It is quite a general practice to seed down with wheat, and on Weldwood Farm we have a twenty-five acre wheat field where the seeds have caught splendidly. It is impossible in this case to plow the stubble, and we shall be obliged to resort to other means of fly control. A good many farmers will find themselves in a similar position. However, one can do a good deal to prevent fly infestation this coming autumn. The fly, which emerges in August, will soon begin to lay its eggs, and if a small patch of wheat be sown early and then plowed down vast numbers would be trapped. Late sowing must be practiced by one and all; if one grower sows early, his field will become a breeding ground for the community, and neighboring farmers will suffer from his bad practices regardless of their own good methods. The dates for seeding will vary in different districts, and growers of wheat in the various sections of Western Ontario should get together and arrange to sow their fall wheat not earlier than a definitely fixed date. "The Farmer's Advocate" will make a survey of the whole field, and in an early issue will suggest seeding dates that may be adapted to the various sections in Western Ontario where the fly is proving a menace.

### It's Time for a Change.

If we may be allowed to use an out-worn political slogan, it can well be said regarding our present social conditions that "it's time for a change;" not in our laws and institutions only, but in the hearts of Canadian citizens. Nine-tenths of the people have been kicking and knocking and slamming for five years, while the other tenth have been lining their pockets and waiting for something to happen. But nothing does happen, because there is no solid, sane, reliable leadership. One must rant and "knock" to be a leader, while a booster is looked upon with suspicion or rushed away to the nearest alienist and examined as to his sanity. The cool, level-headed, conscientious servant of humanity is swallowed up in the mob, and the sound of his voice is not audible. Governments, good and bad alike, are tottering; the church is struggling against heavy odds to retain its grip on the people who were once sober and devout. Soap-box orators with nothing at their command but a flow of invectives and indescribable verbiage will draw a crowd, while a sane lecturer would not attract twenty-five people in a small town if there happened to be a moving-picture show or some other place to go. Some farmers, too, are so dissatisfied with conditions that they go about reforming the world while the thistles grow up in their fields and infest the neighboring farms whose owners are prosperous and contented. Every one has a different tale to relate, a different desire to be gratified, a different rule for the universe. It is a time for some good hard thinking. "Divine discontent" has brought about many good reforms, but discontent is carrying all classes out into the night. Agitation is all right when we agitate for something definite, something tangible. There should be some well-defined principle for which to strive. Let us construct; let us build something, rather than tear down and demolish.

### Grape Growers Organizing.

The grape growers of the Niagara District endeavored in 1919 to form an organization for the marketing of the grape crop, but met with only an indifferent success. Probably 200 members were secured who went so far as to pay a nominal membership fee and declare their desire for a better price for grapes. The grape crop was a bumper one, and it was reported that prices being paid across the line were much higher than those being offered Canadian growers. These factors were, no doubt, the principal incentives to organization. The organization was able to make no noticeable impression on market prices, although it must be said that it was late in being formed. This year there is again a movement on foot to organize on more or less of a centralized basis, and there is another good crop in prospect. For some reason the tender fruitmen—those who usually operate on high-priced land—have always found it difficult to organize co-operative marketing associations on a permanent basis. There are, it is true, a very few successful organizations in existence, but they are localized, and so far as we know are not making much progress toward organization in a larger way.

If, as we understand to be the case, the grape growers are organizing in such a way that they hope ultimately, to be able to sell in large quantities through the organization, so that a buyer who wants 100 tons of Concord, say, will be able to make his contract with the marketing association and not with the individual grower, it will be interesting to watch the result of the attempt. This is the type of co-operative organization toward which agriculture must progress, but there is a lot of prejudice and other impedimenta to overcome before it will be quickly taken up. Despite the progress of organization there is yet to be developed that "sticking" quality without which no organization can grow. The efforts of those farmers who will stay by an association and

## The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE  
DOMINION.

Published weekly by  
THE WILLIAM WELD COMPANY (Limited).

JOHN WELD, Manager.

Agents for "The Farmer's Advocate and Home Journal,"  
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1. **THE FARMER'S ADVOCATE AND HOME MAGAZINE** is published every Thursday. It is impartial and independent of all cliques and parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers of any publication in Canada.
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give it a fair trial and their unstinted support for a reasonable period, are frequently nullified by the men who can never be depended upon until their product is delivered at the loading platform. A dollar membership fee can never open the road to better prices. Common sense, fairness, confidence, and a first-class manager are of far greater importance. The grape growers of the Niagara Peninsula can organize efficiently if they want to. The question that time alone can answer is how badly they want to. The same is true of other fruits and farm products as well.

### A Trip Through The Rockies.

By SANDY FRASER.

In taking a trip across Canada one gets the idea that Nature is something o' an extremist. From the swamps an' rocks o' New Ontario ye come to the level prairies where, for hundreds o' miles, ye see hardly a tree or a stone. And then, first ye ken, again ye're into the country o' forests an' mountains, an' that on a bigger scale than ever ye were lost in, in yer worst dreams.

I'll have tae admit that I didn't see vera much o' British Columbia, on my visit to the West, except what could be seen from the railway. Apart from the week or so that I spent in the Okanagan Valley, (that second Garden o' Eden that we hae all heard sae muckle aboot,) I was maistly on the cars, straining my eyes an' my neck tryin' to see to the tops o' the mountains an' to the bottoms o' the canyons that pass by yer car window for hour after hour till the darkness comes an' ye can see na mair.

Calgary is the last city one sees on the prairie, and an' unco' nice city it seems tae be, from the passin' glimpse I had o' it. The cleanest an' best-kept in the West, they say it is. As to the truth o' that I canna say. I spent a day in Regina an' there was certainly naething that could be said against the cleanness o' it. It might hae juist recently been swept by another cyclone, like they had a few years ago, judging from the looks o' their streets. There's na discount on their toons, oot there. There's plenty "git up an' git" in all o' them, I'm thinkin'.

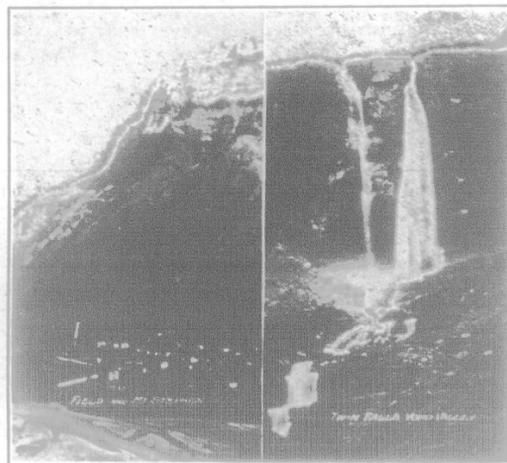
But I'm supposed to be tellin' ye somethin' o' British Columbia an' the impressions I got while wanderin' aboot among its hills an' valleys.

As I was going to say, it was from Calgary that I got my first sight o' the "Rockies". I was still a lang way from them, as I found oot, but their snow-capped peaks can be seen for some little distance, when the morning sun is shining on them, as ye may imagine. And in an hour or twa we were through the foot-hills

an' fairly among the the rocks that have been piled sae high by Nature in one o' her sick spells, a few million years back, that the snow never melts on them, and when there's ony clouds passin' it's half-way doon the sides o' the mountains ye will be seeing them and not over the top, as ye might expect.

Since I cam' back hame I hae tried, once or twice, to tell the folk what I had been seeing, especially during that day I spent in the "Rocky Mountains." But I discovered that I didn't ken the right words that wad mak' them see it in ony way to get some idea o' what it's like. I took a look through the auld dictionary to find oot if there was ony words there to fit the case but I didna find one that was ony good. Sae I've come tae the conclusion that there's ony one way for ony man to get an idea o' what like a quarry the "Rockies" are, and what a poor place they wad be for growin' potatoes on a large scale. And that is for him to go an' juist look at them for himsel'.

An' such twistin' an' turnin' as oor train had to get by some o' the places that it couldn't climb over. They say that there's some switch-backs on the railroads o' British Columbia where the engineer can shake hands from his cab window wi' the conductor when he is standing on the platform o' the rear coach. I canna swear tae the truth o' this, but frae what I've seen I wouldna want to say that it was an impossibility.



Scenes in the Rockies.

And when there were the tunnels. We went through one that was mair than five miles long. It was one thing after another the whole day lang. There's no monotony aboot British Columbia anyway, whatever is to be said against some o' the ither provinces on that score. It wad make a great picture for the "movies", that day's trip I had. I was thinkin' at the time that it was a sort o' movie show an' preaching service combined. Ye can get the effect o' a good sermon among those hills, if ye are that kind. It happened to be Sunday, that day, and I thought tae mysel'; "if ever there was a place for a church it's here." The auld folk used to speak o' going to church as "going to worship." Ye couldn't separate the two things wi' the peaks an' the cliffs o' the "Rockies" above ye on every hand. For mysel', I dinna think I ever kept the Sabbath day sae weel in my life.

But it doesna effect everyone that way. I saw a young lassie that hardly bothered tae look oot o' the window once the whole day lang. She was readin' a

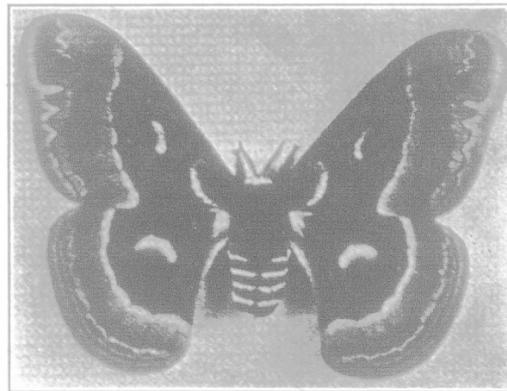


Fig. 1—Cecropia Moth.

magazine called "Snappy Stories" and, apparently, she found it mair interesting than the stories that Nature had written in the mountains around her. I wad hae begrudged the vera time I spent at my meals if it hadna been for the fact that there were windows in the dining-car as weel as elsewhere.

Na mistake, these hills are worth a trip to the West, even if one didna see another thing on his journey. It's something tae think aboot for the rest o' yer natural life. There's ony on thing, that I ken aboot, that can beat mountain scenery and that is—mair o' the same. To see the water comin' doon precipices hundreds of feet high, and as white as the snow that it had started from, was a new one for me. I juist kept lookin' an' lookin' at things till my brain threatened to gae on strike and I had to shut my eyes against my will. There's

such a thing as mental indigestion, I suppose, as weel as the ither kinds, and a whole day of travelling through the Rocky Mountains might be calculated to gie a man a touch o' it.

But the climate up there ought to be healthy enough, I'm thinkin'. That is, if the pine trees an' the cool air are as guid medicine as they say. It was aboot the end o' the first week o' June when I was there and, in some places, there was a foot o' snow beside the railway track. They've named one place "Glacier" and it gives ye a vera good idea o' the temperature thereabouts, almost ony day in the year. Ony person living there will have a good chance to get used to it. Like what one chap was telling me. He said that he had seen mayflowers, growing up through the snow, in the woods around Glacier. He didn't seem to be like a man that was a heavy drinker, either. It's hard to tell what to believe when ye get sae far from hame. The flowers maybe got used to the climate, workin' in there by degrees, ye see.

Weel, aboot nine o'clock that night we got to a place called Sicamous, which is pretty well oot o' the "Rockies," and I left the train to try sleeping in a bed in a hotel, for a change. Providin' the weather was fine in the morning and my health somethin' as usual, it was my intention to tak' a short cut, by another line, across to the Okanagan Valley, that I mentioned a while back, where they grow apples instead o' pine trees, and where it snows on ony one day in the year.

If ye hae the time an' care to listen I'll tell ye later o' a country where dry weather is the rule, but where nobody, to my knowledge, ever thinks o' prayin' for rain.

### Nature's Diary.

By A. BROOKER KLUGH, M. A.

THE GIANT SILK-WORM MOTHS.—I.

We have in Canada four large moths which, while none of them are abundant species, are sure to come to the attention, sooner or later, of anyone who takes an interest in nature. Because of their large size these moths are frequently preserved by people who come across them and taken to the naturalist for identification, and school teachers engaged in nature-study are almost certain to have them brought in by their pupils.

These four moths are the Cecropia, Polyphemus, Promethea and Luna, and they belong to the family Saturniidae or American Silk-worm Moths.

The Cecropia is our largest moth, its wings sometimes reaching an expanse of six and a half inches. The wings are dusky reddish-brown, and are crossed beyond the middle by a white band which has a broad outside margin of red. There is a red spot near the apex of the front wing and each wing bears a crescent-shaped white spot, bordered with red, near its centre.

The eggs of the Cecropia are laid on many different species of trees, and the larvæ have been recorded as feeding on the leaves of more than fifty species of trees and shrubs, among them being the maple, basswood, elm, birch, poplar, cherry, apple, pear, alder and willows.

When the Cecropia larva hatches from the egg it is about a quarter of an inch in length and is black. In about four days it moults and emerges as a dull orange or yellow caterpillar with black tubercles. In about a week it moults again and is then yellow, with two large blue tubercles on the first segment, two orange-red tubercles on the second and third segments, and two greenish-blue tubercles on all the other segments except the eleventh, which bears a single large yellow tubercle, ringed with black. In this stage the tubercles along the sides are blue. After five or six days a third moult occurs and the caterpillar is then bluish-green in color, with two blue tubercles on the first and last segments, two large deep orange tubercles on the second and third segments, and two yellow tubercles on each of the other segments. After the fourth moult the caterpillar is of the same color as in the preceding stage but is much larger, being about three inches long and nearly an inch in diameter.

After feeding for about two weeks the caterpillar spins its cocoon. In this operation it first makes a framework by stretching a few strands of silk, which, as is the case with all caterpillars, is spun from a gland which opens on the lower lip. It then makes a loose net-work upon these supporting strands and then begins laying on the silk in the form of 8's and M's, until a dense layer is constructed which hides its subsequent operations from our view. The completed cocoon consists of two walls of silk, the outer one being thick and paper-like, the inner one thin and firm, and between the two is a matting of loose silk. At one end of the cocoon the silk is laid lengthwise, instead of crosswise, and thus forms a valve through which the emerging adult can push its way in the spring. When the cocoon is completed the caterpillar sheds its skin for the last time and changes into a pupa.

The pupa is oval, smooth and brown, the cases containing the developing wings are folded down around the body, and the antennæ are outlined just in front of the wing-cases.

In the spring, after the leaves of the trees are well expanded, the adult emerges from the cocoon. At the moment of emergence it is very moist and wrinkled with much crumpled wings, but the wet wings soon expand and harden, the furry body becomes dry and fluffy, and the adult takes to the air as our largest, and one of our most beautiful, moths.

(To be continued.)

## THE HORSE.

Use some fly repellent when flies are bothersome.

You cannot keep a horse "good at the ground" if the feet are neglected.

A little flaxseed will put gloss on the horse's coat, but grooming keeps the skin in the proper condition and the hair right.

Keep the harness oiled and clean—it pays in dollars and cents. Leather goods are very dear, in spite of the fact that hides are cheap.

Bad manners in the show-ring spoil many a good horse's chances of success. Thorough, consistent training prior to the show is essential.

Keep the stable clean and well ventilated during hot weather. Decomposing manure soon fills the stable with strong odors that are unpleasant for man and beast.

Water the horse in hot weather as frequently as circumstances permit. There is no set time for watering. Like a man the horse should have water when he can get it, and when he wants it.

When weaning the foal place it in a box-stall or paddock suitable for the purpose. Many foals are injured at weaning time because they are not confined in a safe enclosure. Low windows, low walls, and low doors are dangerous.

Heavily fed horses that do not get out on grass occasionally are the better for a bran mash once or twice a week. Saturday night is a convenient time for a mash and the animal can be worked back on to full feed before Monday morning.

Horses require rest just as much as the man who drives them. Keep the stables well bedded and tie the horse loose enough to permit his head free play when lying down. A light weight attached to the tie-strap and of sufficient weight to take up the slack is preferable to tying at the manger. With this device a greater length of strap or rope is permissible.

Practically everyone accustomed to horses knows that it is not advisable to allow the foal to suck when the dam comes into the stable in a heated condition, but a good many take chances. Even if the young animal does not give outward signs of distress after nursing there is a possibility that some injury has been done. It is better always to allow the mare a few moments to cool off before permitting the foal to suck.

The laws of this land are rather lenient in regard to the working of horses with sore shoulders or other parts where the harness bears heavily. Many horses have tender skin which is easily wounded, but in the majority of cases sore shoulders are directly due to negligence. If the collars fit properly and are kept clean, and the shoulders bathed and rubbed there is not much danger of bruised flesh or open sores. A real horseman is seldom found driving horses with bruised flesh or raw sores.

### Breeding Fall Colts.

The advisability of having mares produce foals in the fall rather than in the spring, depends greatly upon existing conditions. In cases where the breeder does not require his mares for work purposes during the spring and summer, and where he understands the desirable manner in which pregnant mares should be fed and handled during the winter months, and sees that the details of such are observed, the production of colts in the spring is doubtless the most advisable. At the same time there are many reasons why the practice of having mares produce in the fall, rather than in the spring, should be more common than it is. Of course, for show or racing purposes, when the animal is under four years of age, the production of fall colts is not advisable, as the ages of horses for these purposes is reckoned from the first of January of the year in which they were born; hence, a foal born in the fall would have to compete with those several months older, either in the show-ring or on the race track. But the breeder who does not show or race his horses until they reach maturity, would probably find it more profitable to have his foals born in the fall.

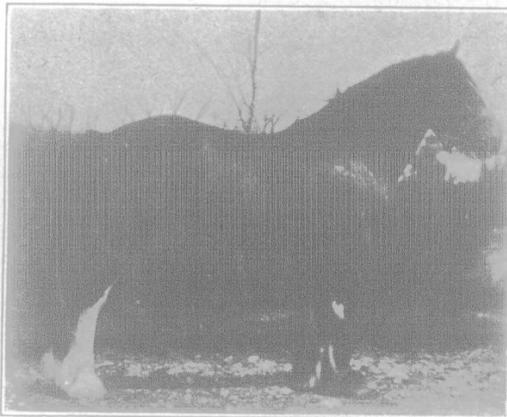
There is no doubt that a large percentage of the fatalities in spring colts is due to the manner in which the dams have been fed and taken care of during the last few months of gestation. Especially on farms where there are sufficient horses to perform the winter work and driving without using the pregnant mares. The latter are often allowed to pass the time in perfect idleness, often not even given box stalls to stand in, but are tied in single stalls and well fed on hay and oats, and when the weather is not fine, are not even allowed out in the yard or a paddock to take a little exercise during the day. It is an established fact that the produce of a mare that has been kept in only moderate condition and given daily exercise or light work during the whole period of gestation, especially the latter months, with few exceptions, produces a better and stronger foal than her sister which has been kept in the stable and pampered.

Then again, even where there is a disposition on the part of the owner, to exercise his pregnant mares, conditions often forbid it for a greater or less portion

of the winter months. When the ground is slippery it is dangerous, even though they may be well shod, and when the snow is quite deep it is also dangerous, as the driver cannot always keep his horse or team, as the case may be, out of the deep snow, where more or less plunging often occurs, and all breeders know that undue nervous excitement or muscular exertion should be avoided in pregnant animals. All experienced breeders will admit that regular, but not excessive labor is beneficial, and all observers have noticed in the majority of cases, (as already stated) the mare that has had such during pregnancy, especially during the later months, produces a stronger foal than the one that has been pampered and kept in idleness.

When breeding mares are not required for work, the necessary exercise is obtained on pasture in the summer time, much better than by being turned out in a yard or paddock for a few hours daily during the winter. When the services of the mare are required, either during pregnancy or after parturition, we get more satisfactory service before than after the birth of the foal. All will admit that to get the best results the mare nursing a foal should be well fed, and live in comparative or complete idleness, hence we claim that, on this account, fall production is the better, as the mare can perform the ordinary work on the farm during the spring, summer and early fall, and then, after foaling, her labor is not usually required. She can then be given comfortable and roomy quarters for herself during the late fall and winter months, and in the spring after the foal has been weaned, it will be in good condition to be turned out on pasture, while the dam, if again pregnant, will be in a condition to have a season's work and reproduce again in the fall.

The feed that the mare consumes during the months in which she can be on pasture during the night tends to nourish the unborn foetus better than the feed usually given when horses are necessarily fed in the stable, and by breeding her mare as above a farmer loses practically none of her services, and at the same time increases his stock. It is seldom that the foal of a mare that has been on pasture during the later months of pregnancy is weak or delicate. Of course, the same danger of mal-presentation, causing difficult parturition, exists in one case as in the other, but the foals are usually



Bonnie Bydand.

Grand champion Clydesdale stallion at the C. N. E. in 1918 as a yearling, and winner of the Watson Challenge Shield. Champion at Guelph and C. B. champion at Toronto, 1919. Owned by Sir Henry Pellatt.

stronger and smarter when born after the dam has been on grass for some time. There is also less danger of joint-ill when the mare foals on grass, from the fact that the germ that causes the disease is not so liable to be present in the pasture field as in the stable.

All breeders know that the production of late-fall or early-winter foals is not an easy matter, as mares do not usually show oestrus in cold weather, but we advocate breeding the mares while still on pasture. The fall colt, as stated, cannot, with equal chances, compete in the show-ring or on the race track, during colt hood, with the spring colt, but when mature should be as good or a better animal, especially if the dam of the spring-born foal has been worked during nursing, hence we think that the advisability of breeding mares in the fall is worthy of consideration.

WHIP.

### Horsemanship.

In these busy times grooming is becoming a lost art and good horsemanship is getting rarer and rarer. Horses are well fed, as a rule, on the farm especially during the busy season, but the teams do not get the care that brings them out of the stable in the morning glossy and prancing. Heavy work horses are not disposed to do much prancing at any time, but the appearance of the coat and condition of the harness tells the tale. Farmers and their sons do not take the interest in their horses that was common ten or fifteen years ago. The horse is made a beast of burden and little more and much of the pleasure that can be derived from holding the reins over a "bang-up" good team is not sought after or experienced as it formerly was. It is unfortunate indeed when one loses his zeal for a good horse; the most intelligent and most faithful servant of man. The Boston Work-horse Relief Association, organized to improve the horses and give them better care on that municipality, has published a book in which are many

hints and much good advice. The Stable Rules given by the association and published below are a good guide to teamsters and horsemen everywhere. They may not lend themselves to farm practice at all seasons, but they are sound in principle, and worthy of consideration:

#### STABLE RULES.

1. The best order in feeding is: Water, hay, water again, grain.
2. Never give grain to a tired horse. Let him rest and nibble hay for an hour or two first. Grain in the manger before the horse comes in looks bad.
3. Water the horses as often as possible; but let the horse that comes in hot drink a few swallows only, until he is cool.
4. Always water the horse after he has eaten his hay at night. Do not go to bed leaving him thirsty all night.
5. Do not forget to salt the horse once a week; or, better yet, keep salt always before him. He knows best how much he needs.
6. Give a bran mash Saturday night or Sunday noon; and on Wednesday night also, if work is slack. After a long day in very cold or wet weather, a hot mash, half bran and half oats, with a tablespoonful of ginger, will do the horse good. Put very little salt, if any, in the mash.
7. If the horse does not eat well, or slobbers, examine his teeth.
8. Keep a good, deep, dry bed under the horse while he is in the stable, day or night, on Sunday's especially. The more he lies down, the longer his legs and feet will last.
9. In order to do well, the horse must be kept warm. Give him a blanket on cool nights in late summer or early fall, and an extra blanket on an extra cold night in winter.
10. In cold rains do not tie up the horse's tail. The long tail prevents the water from running down the inside of his legs, and keeps off a current of air from his belly.
11. Take off the harness, collar and all, when the horse comes in to feed. He will rest better without it.
12. Never put a horse up dirty or muddy for the night. At least brush his legs and belly, and straighten his hair.
13. In hot weather, and in all weathers if the horse is hot, sponge his eyes, nose, dock, the harness marks, and the inside of his hind-quarters when he first comes in.
14. When the horse comes in wet with rain, first scrape him, then blanket him, and rub his head, neck, loins and legs. If the weather is cold, put on an extra blanket in 20 minutes. Change the wet blanket when the horse dries. Do not wash the legs. Rub them dry, or bandage loosely with thick bandages. It is far more important to have the legs warm and dry than clean.
15. To prevent scratches, dry the horse's fetlocks and heels when he comes in, especially in winter; and rub on a little vaseline before he goes out in snow or mud.
16. Examine the horse's feet when he comes in, and wash them if he does not wear pads. If a horse in the city is not shod in front with pads, tar and oakum, which is the best way, it is absolutely necessary to keep his feet soft by packing them, or by wrapping a wet piece of old blanket or carpet around the coronet, or by applying some hoof dressing or axle oil, inside and out, at least three times a week.
17. Let the horse have a chance to roll as often as possible; it will rest and refresh him. Give him a little clean earth or a piece of sod to eat now and then; he craves it, and it is good for his stomach and blood.
18. Speak gently to the horse, and do not swear or yell at him. He is a gentleman by instinct, and should be treated as such. The stable is the horse's home, and it is your privilege to make it a happy one.
- N. B. It is very important that stables should be well ventilated; but do not let a draft blow on the horses. Horses in stalls near a door or open window should be blanketed accordingly.

## LIVE STOCK.

### What is Pedigree?

A succession of female names of one denomination in a table is not pedigree. You may have ten successive Prides in an Aberdeen-Angus table, and yet have only a fractional proportion of Pride of Aberdeen blood in the animal that is being sold. Brawith Bud may be the tenth dam of a Shorthorn bull, and yet the constituents of Brawith Bud's blood be only an infinitesimal proportion of the blood of the animal in question. A succession of Orange Blossoms in a pedigree record is not necessarily proof that the blood of the animal catalogued is greatly influenced by the blood of the first of that line. It is not possible to tabulate a pedigree record otherwise than through the female line, but that record has to be read with discrimination. On the other hand there is such a thing as predominant family resemblances, which persist, in spite of a succession of out-crosses having no relation to the family in which these particular characteristics appear.

Pedigree and its record are two different things, but pedigree is of no value unless it be recorded. It is undoubted that many of the so-called unpedigreed Shorthorns of the north of England—these first-class dairy cattle—are really as well bred and as true to Shorthorn type and character as many of the animals with the longest recorded pedigrees in Coates's Herd Book. But the unrecorded pedigree, however valuable it may be as a contribution towards the production of good cattle, is valueless as a guide to breeders. As one

speaker at the Perth Shorthorn dinner well expressed it, "breeding from animals with short pedigrees is always a bit of a gamble." Breeding, under any circumstances, has something of the gamble in it, but it is not wholly so when the record of pedigree is accurate and full. This raises the question, How to read a pedigree?

A great advance in the tabulating of cattle pedigrees was made when those responsible for catalogue compilation gave the name of the breeder of every bull in the pedigree as set forth. By this means a certain guarantee of the value or weight to be attached to the particular pedigree was indicated. If one were to seek an explanation for the phenomenal prices realized by bull calves bred by Mr. Duffie or Sir George Macpherson Grant, the explanation would be found in the prices realized for stock having what are called three or four top crosses of the blood of sires bred by either of these gentlemen. An analysis of the recorded pedigrees of the highest-priced bull and heifer calves in both Shorthorn and Aberdeen-Angus breeds bears ample testimony to the predominance of certain sires and sires bred in certain herds. The two breeders named are not alone in this respect in their respective breeds, but this year the success of sires bred by them has been pronounced.

Even the points named do not exhaust the list of things which must be taken into account in reading a pedigree record. It is not enough to know that a sire was bred at Collynie. What is further wanted is to know what kind of a sire he was. Was he a good bull in himself—not necessarily was he a show bull—but was he well-fleshed, and did he leave good selling stock? In what respects did he excel? Were his female produce better than his male produce, or vice versa? Such information can only be gleaned by a careful study of contemporary history, of the records of shows and sales, and perhaps, above all, by frequent intercourse and exchange of opinion amongst breeders. To this end such gatherings as take place annually in connection with bull sales are invaluable. This applies not so much to the more formal gatherings as to the less formal and more free-and-easy intercourse of the lounge and smoke-room.

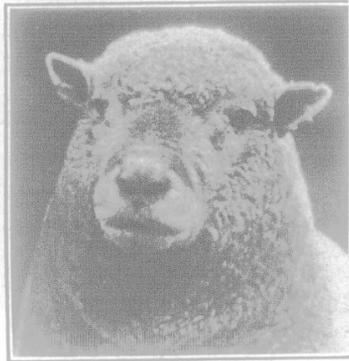
Reverting to the point whence we started, in reading the record of a pedigree it is not enough, e. g., to designate an Aberdeen-Angus bull an Erica because the famous cow bred by Lord Southesk in or about 1865 was his tenth or, it may be, his twelfth dam. It is conceivable that that may be the only Erica link in his genealogy. The breeding of the sires named in the pedigree must be analysed. If they were in anything like reasonable numbers descended from Erica and their blood constituents were in more than fractional quantities of Erica descent, then it may plausibly be said that the animal catalogued is an Erica. Were this discriminating test applied in pedigree reading there would be fewer illustrations of the divorce between merit and pedigree, which exposes the whole fabric of pedigree breeding to ridicule.—Live Stock Journal.

### Feeding the Brood Sow.

One of "The Farmer's Advocate" readers writes requesting an expression of opinion as to the best ration for a sow due to farrow the last of August. The sow has been running in a large pasture. Many feeders have many ways of rationing and caring for the brood sow. Too many are inclined to let them take "pot luck", and pretty much lookout for themselves during the summer. A clover pasture will furnish a good deal of nourishment, and for a short time will satisfy the average sow. We have found that the sows have not done nearly so well on pasture the past month or six weeks as they have in former years. Neither did they flesh on a luxuriant growth of oats and barley. We have fed more grain this year than formerly. The continued wet weather in July tended to make the grass "washy" which may account for the sows and shoats not doing as they should. At Weldwood we try to have the sow gaining in flesh at time she is bred. Once she gets conditioned we feed grain so as to hold the flesh. The amount fed varies considerably but ground oats form the basis with a little corn added if the sow is thin. Sows are kept on grass during the summer and run in the barnyard in winter so that they get exercise. While it is important to have them in the farrowing pen a few days previous to farrowing so that they will get acquainted with their new quarters it is not advisable to confine them to close quarters for too long a time. We have never had as satisfactory results when the sow was penned a couple of weeks as when she was only in a day or two. If the sow is quiet she may be let out during the day and shut in a pen by herself at night, towards the end of the gestation period. Just previous to farrowing we feed a laxative ration in which bran forms the major portion. However, there is little danger of a sow running on grass suffering from con-

stipation, but there is danger if the ration is changed suddenly from grass to meal. After farrowing the sow is given a drink at intervals during the first twenty-four hours, but no grain. Then a small amount of oat-chop and bran is fed, the quantity being gradually increased until she is getting all she will eat at the end of ten days. Few sows will properly nourish a litter of a dozen pigs or over after the pigs are three or four weeks old so the youngsters are encouraged to take milk from a trough when three weeks old.

Prof. Day in his book "Productive Swine Husbandry" claims that during the gestation period the sow should be kept in good strong condition, but not overloaded with fat. A ration of equal parts ground corn, ground oats and wheat middlings is mentioned, but a meal ration of equal parts ground oats and middlings is preferred. Care should be taken not to feed corn in too large quantities as it is fattening and heating and does not furnish enough bone and muscle-forming constituents to properly develop the unborn pigs. The feeder must be guided in the quantity of meal to feed by the condition of the sows. Constipation is mentioned as the bane of the swine breeder. If a sow becomes in this condition before farrowing she is likely to lose her pigs. Taking a sow off a pasture and confining her to a pen on an exclusive meal ration is to invite trouble. A good plan is to cut green feed and throw it in the pen. Young pigs soon learn to pick at clover, green corn and weeds, such as lambsquarter, pig-weed, etc. "Feeds and Feeding," by Henry, advises a limited amount of sloppy feed as farrowing time approaches. Costiveness is forestalled by feeding bran, oil meal, roots, legume hay, etc. Exercise is mentioned as being very important. Twenty-four hours after farrowing a ration of ground oats, wheat middlings and linseed meal may be commenced and



A Real Southdown.

gradually increased in amount, as the sow shows her need for more feed. The above rations and treatment of sows before and after farrowing have given results. No doubt some of our readers have a different system of feeding and management which give good results and would benefit other feeders if the methods were given through these columns.

### Keep the Herd Sire in Condition.

The herd sire is too frequently neglected during the spring and summer months. Outside work demands attention, and the head of the herd receives little attention other than being fed. He may stand for days at a time in a dirty pen and receive no respite from the attacks of flies or from the intense heat. Where possible the bull should have a paddock where he can take exercise at will, summer or winter. This must of necessity be strongly fenced. The sire which has regular exercise and a proper ration is more virile and prepotent than the one that is closely housed. Some turn the bull on pasture with the herd, but this is not a practice to be advised, as there is always the risk of someone becoming injured, or of the bull breaking into a neighbor's field. Where a paddock is not available the barnyard could be used for an exercising place. An over-fed bull becomes lazy and may refuse to work, while an underfed one very often is not virile. There is a happy medium which should be aimed at for the breeding animal.

Green feed is important during the season. It has a beneficial effect on the system after a ration of dry feed for some months. Oats, bran and oil cake make a splendid concentrate ration. The quantity to be fed depends upon the size and condition of the animal. One that is heavily worked requires more feed than the one only used occasionally.



The Dryden-Miller Offering, Which Sold on July 21, Under Inspection in the Field.

It is important that the feet receive attention. If the toes are allowed to get too long it throws the animal back upon his ankles, making walking more awkward and difficult than it should be. A sharp chisel is frequently used for trimming the feet, and a saw has been found useful. A small hack-saw is preferable to a large hand-saw.

Care should always be exercised in handling a bull. One never knows when they may carry their playfulness too far and injure the attendant. It is the supposedly quiet bulls which frequently do the damage. Safety first should always be practiced.

### The Trend of Our Export Trade.

The following figures tabulated by the Live Stock Commissioner, H. S. Arkell, show the trend of our export trade in live stock. It will be noticed the past year has shown a marked increase in number of live cattle exported while at the same time the export of beef has been high. More and better cattle are needed to supply the demand.

The following table showing the comparative variations in our exports of beef and live cattle during the past decade indicates that the marked increase in the export surplus of live animals has not in anyway reduced the exportable surplus of dressed meat. The most marked increases in both articles occurred simultaneously. To be able to increase our meat exports in both directions is of immense value to the live stock industry and the further development of a diversified trade in connection with the exportable surplus from the industry will help stabilize our markets and give increased confidence to the producer and the trade."

Year	Lbs. of Beef	No. of Live Cattle
1910.....	1,318,397	157,386
1911.....	974,411	124,923
1912.....	948,711	61,517
1913.....	15,709,979	44,296
1914.....	13,617,707	219,849
1915.....	19,670,701	185,924
1916.....	48,905,565	241,535
1917.....	45,546,176	166,136
1918.....	86,565,104	191,359
1919.....	125,802,700	341,496
1920.....	103,899,500	515,525

### The Trend of the Hog Industry.

An obvious moral may be drawn from the present market prospects for hogs. It is that the "in-and-outer" in breeding and feeding is usually the man who fails. Look at the facts a little.

Last fall prices for hogs dropped rapidly. Two of the causes for this were the condition of export markets and the high price of feeds. So much American bacon had been purchased by the British Government under war contracts that, in the few months after the armistice, there was an unprecedented glut in Great Britain. In addition, the British people, being relieved of the stern necessity of eating a class of bacon to which they had never before been accustomed, refused longer to buy it. The reduction of hogs undoubtedly was accelerated by the unprecedented rise in the domestic prices for feeds. Hundreds of hog raisers concluded it would be better to sell at any price rather than to carry over the winter. The combination of conditions resulted in a rush of hogs to the market. Prices went down naturally, because, while farmers were selling wildly, buyers were temporarily embarrassed with the stocks they had on hand.

To-day, however, things have swung back. Prices have considerably recovered. There is a scarcity of breeding sows throughout the Dominion. In the West, which is almost hogless, they are beginning to think about and talk about hogs once more, and a big harvest will put hogs back on the map again.

Meanwhile the man who dropped out because he saw no immediate profit in sight must to-day pay high prices for renewing his breeding stocks.

Had he only had a longer faith last fall, he would have "stayed in the game." He would have made a little temporary sacrifice to keep moderately stocked and would have been in a position to take full advantage of a rising market.

"We find our farmers going into certain lines of production for a year or two and then getting out of them in a hurry, leaving the market short," said the Minister of Agriculture in the House of Commons on May 14th. He added: "An excellent illustration of this is the hog industry, which requires stabilization to a certain extent. Hogs have been brought from Winnipeg to the Pacific Coast merely to meet local requirements. In addition, hundreds of carcasses have been imported from the American side. This should not be. It is largely due to lack of faith on the part of farmers in the present market conditions."

The quick change in hog prospects is only another proof of the shrewd observation that the producer of live stock who "stays in the game" in the unfavorable season, will be best able to recoup his losses and make good average profits when the inevitable turn in the market comes.

But the real tragedy caused by the "in-and-outer" is the way he destroys the markets. During a period of high production the packer extends his markets. He establishes a demand for the product of the farmer's

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No. of	No. of Live Cattle
3,397	157,386
4,411	124,923
8,711	61,517
9,979	44,296
7,707	219,849
9,701	185,924
5,565	241,535
5,176	166,136
5,104	191,359
2,700	341,496
9,500	515,525

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animals. If during a period of temporary depression breeding stock is heavily disposed of, it causes great fluctuations in supply. This destroys the customer's confidence. If he cannot secure steady supplies from one source, he must abandon that source and look elsewhere. Thus the "in-and-outer" not only loses money himself but he becomes a disturbing factor throughout the whole industry.

There is both virtue and profit in reasoned patience, especially in the live stock industry.

**What Co-operative Live Stock Shipping Did.**

A very strong testimony to the value of co-operative shipping of live stock was given by F. S. Fulthorpe, Live Stock Commission Department of the United Farmers' Co-operative Company, Toronto, when speaking recently before the Agricultural Representatives at Guelph. Discussing the results from co-operative marketing attained to date, Mr. Fulthorpe said that the principal factor that will kill co-operative live stock shipping in the local clubs is an indifferent manager or agent. One club alone, during the past year, shipped 140 cars of stock. The stock when it reaches the yards is unloaded and fed. The salesmen reach the yard early in the morning and grade the stock, because it is believed that all live stock should be sold on merit. The market usually opens at nine o'clock, and not until then are the buyers allowed in the pens. The salesmen must have expert knowledge of the classes and market value of live stock, if only for the fact that the packers employ men whose buying knowledge is almost uncanny. Individual buyers for large packing houses may buy from \$50,000 to \$100,000 worth of live stock in one day, and it can easily be seen that their time is valuable. A salesman may antagonize a buyer by asking 50 cents per hundred pounds too much, and the buyer will not take the time to argue the matter out. As an instance of the expertness of some buyers, it was pointed out that one man recently out of a run of eighty-seven head of cattle, varied only three-quarters of one per cent. in his estimate of the live animals, from their actual dressing percentage. Some of these buyers may get from \$25 to \$50 per day for four days' work. Sales are made quickly, and on the market value of the stock, not on the speculative value. The U. F. O. has, said Mr. Fulthorpe, satisfied about 30,000 farmers during the past year that the competitive basis of marketing live stock is much better than the speculative basis. The speaker also referred to the f. o. b. selling of hogs, and it was pointed out that a plan is now projected which, if successful, will mean the sale of all hogs on a co-operative basis. Some of the benefits of co-operation may be gleaned from the fact that one packer paid for live stock purchased during one year through co-operative associations, \$150,000 more than he would otherwise have paid. It costs another packer \$50,000 more for the hogs alone that were purchased on a co-operative basis. During the period of three months and a half in 1920, the live stock commission department has done a business of \$1,801,200 over and above the amount of business done in the same period a year ago when the office was first opened up.

The show season will soon be opening in Eastern Canada. Are you prepared to meet strong competition?

A man showing stock should be a good loser and recognize points of merit in the other animals in the ring. No one breeder has all the good things, and no stockman is so experienced that he has nothing more to learn.

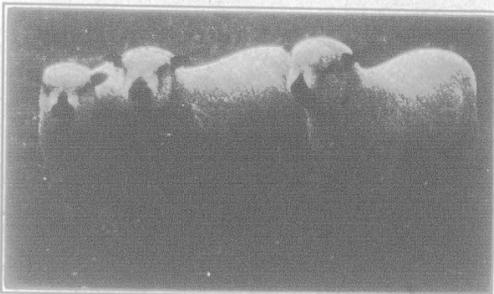
A summer silo with ten or twelve feet of silage in it at this time of year saves a stock man a lot of worry when he sees the pastures getting bare. In many districts the corn crop is promising while in others it is almost a failure due to white grubs or excessive rains early in July. A good corn crop helps out the other feeds.

**Calgary and Edmonton Exhibitions.**

The progress that is being made yearly in Western Canada as regards live stock can be noted by the strength and quality of the entries for the big summer shows held annually at Calgary, Edmonton, Saskatoon, Regina and Brandon. These started off at Calgary this year in the last week of June, and Edmonton followed the next week.

**HEAVY HORSES.**

**CLYDESDALES.**—Clydesdales at Calgary made by far the best showing in the draft classes, but at Edmonton the entries were not so heavy. The stallion classes at Calgary were not so strong as the mare classes, but there was some good competition, nevertheless. Bonnie Woodside, owned by Massie Bros., Midnapore, Alta., defeated Thornburn & Riddle's Baron Marcus for first place in the aged class, and gave the three-year-old, Burgie's Last, shown by A. J. Dollar, High River, Alta., a close win for the grand championship. The latter horse possessed less size but more quality. Nicomen's Chief was second prize three-year-old and Canadian-bred champion. Neither Massie Bros. nor



**Winning Sheep at the Royal.**

A winning pen of Shropshire ewe lambs shown by B. E. Birch.

Thornburn & Riddle were showing at Edmonton, and Vanstone & Rogers won the aged class and the grand championship on Major Mascot. Entries were not heavy in the younger classes, but Collyne Cominie King won the two-year-old class for Wm. MacDonald, Strome, and later on the Canadian-bred championship.

Brood mares with foals showed strong at both shows. Rosa of Kilallan, owned by Norman Weir, Ohaton, Alta., won this class at both shows, as well as both grand championships. Her yearling daughter, Rosetta of Kilallan, was reserve grand champion at Edmonton and a close contender for the same honor at Calgary. Here she was defeated by Thornburn & Riddle's Maggie Fleming, the thirteen-year-old black mare that was one of the champions of the West for several years. Blossom of Buchlyvie was reserve Canadian-bred mare at Calgary for Massie Bros, and Queen Benedict won the Canadian-bred championship at Edmonton for Lawrence Rye, Edmonton.

**PERCHERONS.**—Percherons were a disappointment at Calgary and at Edmonton too the showing was light in many classes. Mercier, carried off the aged-stallion class and the grand championship at both shows for Layzell & Parr, while Westwood Peter, a handsome black with superb action, was reserve at Calgary for H. M. Edy, Carstairs, Alta., Chieftain securing equal honors at Edmonton for N. F. McClain, Acme, Alta., after winning the three-year-old class at both places.

Nina Bell won the Edmonton female grand championship for the same owner, while the reserve was Peggy, a yearling, also winner of the futurity and Canadian-bred championship. At Calgary only two exhibitors showed mares, E. A. Davenport winning the championship on Brilliantine of Acme, first in the brood-mare class and bred by himself. The futurity brought out fewer entries at Calgary than at Edmonton; Sentinel by Halifax winning at Edmonton for Geo. Lane & Co. In the younger classes the get of Keota Jalap were always prominent. Sentinel was Canadian-

bred champion, and Pippin of Acme second in the futurity class, and a Keota Jalap, was reserve.

**BELGIANS.**—Belgians were of good quality, although not strong in numbers at Calgary, but at Edmonton they surpassed the Percherons and vied with the Clydesdales for numbers. Lefebure's Clarion, the three-year-old International champion stallion, again won at both shows, followed at Calgary by Lois 2nd, a roan five-year-old for reserve, both being owned by Layzell & Parr, Calgary. At Edmonton Vanstone & Roger's Bismarck took first in a class of seven topnotchers, and was made reserve champion only after much consideration.

The female classes at Calgary were not large, but Creston Brunette, a handsome brood mare, won the grand championship for Layzell & Parr from a pair of excellent contenders, Rosa de Canada, owned by J. J. Miller, Huxley, Alta., and first dry mare and Lefebure's Bubbins, first three-year-old filly shown by the same owner. At Edmonton Lefebure's Bubbins won out in the absence of Creston Brunette, and Rosa de Canada followed her as reserve champion female.

**SHIRES AND SUFFOLK PUNCH.**—T. Rawlinson, Innisfail, was the only exhibitor of Shires at Calgary, except in the aged-stallion class, where his Dunsmore Lad was picked for first and grand champion. Kenby Cornet stood third for J. M. Martin, of De Winton, and was later made Canadian-bred champion. At Edmonton Rawlinson & MacKenzie Bros., Lacombe, Alta., were the only Shire exhibitors, and the former won stallion honors with the aged stallion Saxon Lad. Coulee Princess and Narcissus Gem, from the same stable, won first and second in the dry mare class, and were later made champion and reserve champion females.

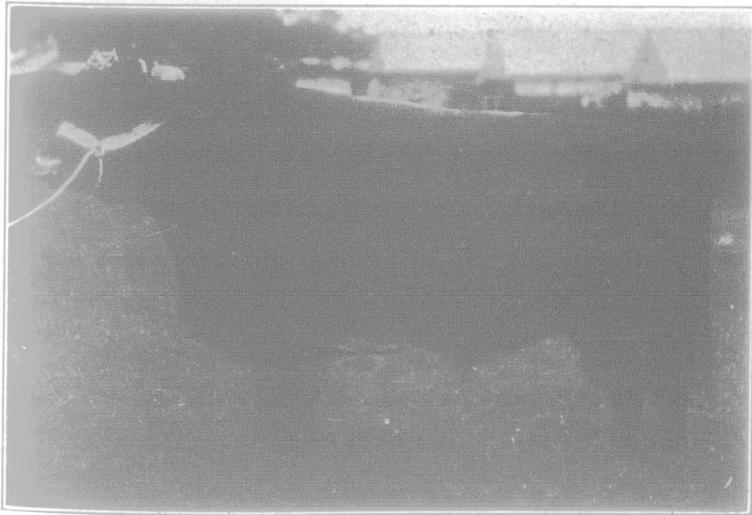
F. J. Hartell, of Alix, had the only string of Suffolk Punches at both shows.

**BEEF CATTLE.**

**SHORTHORNS.**—There were some fine Shorthorn classes at both shows, the showing being much the same at each place. Full classes and keen competition were general. Lancaster Lord won the aged-bull class for J. G. Barron, Carberry, Man., but was defeated by Carpenter & Ross' two-year-old Maxwalton Monarch for the senior and grand championships. Capt. T. A. Robson at Edmonton agreed with Dean Curtiss' placing of this bull at Calgary, and made Lancaster Lord reserve. In the senior and junior yearling and senior calf classes Carpenter & Ross won with Maxwalton Ornament, Maxwalton Evolution (junior champion at both shows) and Maxwalton Rodney 2nd.

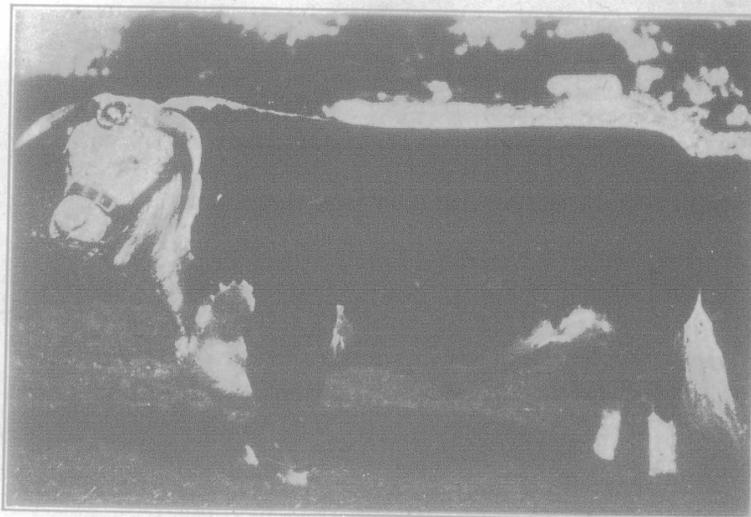
At Calgary Dean Curtiss said the aged-cow class was the best one he had ever seen in the United States or Canada. It was a close tussle between Bowe's Collynie's Best and Carpenter & Ross' Carrie's Last, but the latter won her way to grand championship honors over the grand champion of 1919. Barron's Rosa Hope 20th was reserve-grand champion, and won junior honors at Edmonton, where Carrie Last repeated her Calgary performance. The winning get of sire trio at Calgary were by Maxwalton Revolution. Barron got the class for three calves under a year, as well as the junior herd, and second in senior herd and second in get of sire.

**HEREFORDS.**—Herefords were the outstanding beef breed at both shows in point of numbers. L. O. Clifford, Oshawa, exhibited from Ontario. The aged-bull class was led at both shows by Beau Perfection 48th, owned by the Curtice Cattle Company. He was senior champion at both shows, but lost grand champion honors to Panama 81st, owned by A. B. Cook, Townsend, Montana. Lady Joy 2nd, the two-year-old winner, won senior and grand female honors with Panama's Joy 2nd, in reserve and junior champion female. Both are from Montana. The latter heifer also won the heifer futurity class. She gave way in Edmonton, however, to Collicut's Willow Spring Melody 2nd in the junior yearling class. Lady Joy 2nd was grand champion again at Edmonton. Clifford included among his winnings at Calgary, second aged cow, and third in futurity heifers, while at Edmonton he secured first junior calf with Cavalier Perfection, second aged cow with Perfection Lass 5th, and first in graded herds.



**Sanquhar Grand Courtier.**

Grand champion Shorthorn bull at the Royal for O. W. Porritt.



**Resolute.**

Grand champion Hereford bull at the Royal for T. R. Thompson.

**ABERDEEN-ANGUS.**—Grand champion honors in the bull classes at Calgary and Edmonton went to the aged bull Prince Idyll of Maismore from the Carpenter & Ross herd. C. H. Richardson, Bowden, Alta., won the junior champion at Calgary with Eric, of Willow Park 2nd, that was also first junior yearling at Edmonton. Pride of Meadowlawn also won the two-year-old class as well as senior and grand championships for Carpenter & Ross at both shows, while Elsa Erica of Glenrose, owned by S. C. Pritchard, of Camrose, was made junior champion female at Edmonton.

#### DAIRY CATTLE.

**HOLSTEINS.**—Four herds of Holsteins were represented at Calgary, including the herd of A. E. Hulet, Norwich, Ont. The showing at Edmonton was scarcely as strong as at Calgary. At Calgary Jos. Laycock won the aged-bull class with Korndyke Posch Pontiac, and at Edmonton A. E. Hulet won senior and grand championship honors with Ladoga Prince Abbekerk. Hulet also won first and second in aged cows, Lady Tensen Abbekerk getting first. Abbekerk Pauline Posch also was first junior yearling heifer for Hulet. At Calgary Hulet won first in the yearling and junior calf classes.

**AYRSHIRES.**—There were three Ayrshire exhibitors at Calgary and two at Edmonton. Rowland Ness won the aged-bull class at Calgary, and Jas. Baden, Lacombe, won this class and the grand championship at Edmonton with Prince Orange of Fairmont. Baden also had the first four places in aged cows at Edmonton.

**JERSEYS.**—There were no Jerseys at Calgary and only one herd at Edmonton. Neither show brought out Guernseys or Brown Swiss.

#### SHEEP.

Sheep appeared much the same at both exhibitions. Peter Arkell & Sons, Teeswater, Ont., and Archie McEwen, Brantford, Ont., showed Oxfords and Shropshires respectively, the former breed making the best showing of any breed. Arkell & Sons had the champion

mosaic stock is planted in some seasons, no mosaic is observed in the resulting crop. In Northern Ontario there appears to be no such suppression of mosaic, it apparently appears in infected stock year after year. Mosaic evidently spreads in the one year from diseased to healthy plants, and one of the chief agents in its transmission appears to be the leaf hopper (*Empoasca mali* Le Baron).

Leaf roll and mosaic are characterized as "running-out" diseases in a small pamphlet recently published by the Manitoba Department of Agriculture, and are briefly described as follows:

"Leaf roll may be recognized by the upward rolling of the leaves. The lower leaves are affected first and most seriously. The diseased plants are smaller than normal and the leaves are crisp, rigid and brittle, so that they rattle when brushed. The whole plant has an erect, stiff and slightly yellowish appearance. Few potatoes are formed, and these are set close to the stem. Mosaic is distinguished by a mottling of lighter green with the darker, normal green of the potato leaves. This mottling is not always found, but the leaves may show instead a crinkled, corrugated appearance. In more severe cases the whole plant becomes unthrifty and dwarfed, and the term mosaic dwarf or curly dwarf is applied. The affected plants set fewer potatoes than normal plants, and these potatoes are sure to carry the disease when they are planted the next year. The lower leaves may die and drop off sometimes on plants affected by a dwarf disease similar to mosaic.

"These 'running out' diseases mentioned are carried over from year to year by planting potatoes that were produced by affected plants. It has also been recently shown that insects such as plant lice may spread the diseases from plant to plant in the field, or the roots of diseased plants may come in contact with healthy roots and thus spread the disease. The diseases are rather slow in making their appearance on affected plants, so that one cannot be sure that the plants are healthy

small and irregular, and set close to the stem, or may even occur in the axils of the leaves. In the fall the fungus gathers as little black specks that look like dirt, but which will not wash off, on the surface of the potatoes. This is called black scurf. If the potatoes are not treated, the dry stem rot may be expected when such seed is used."

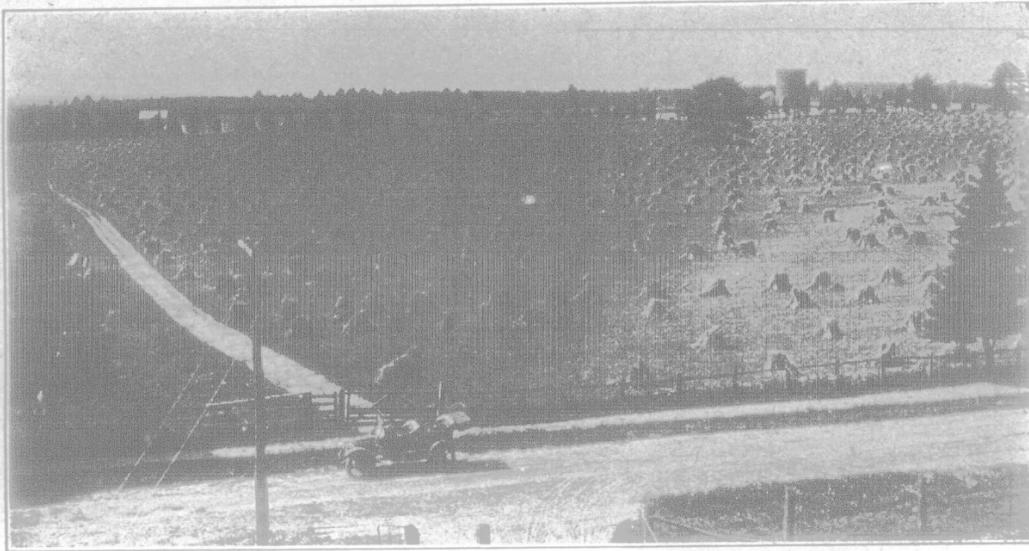
Some experiments in connection with dry stem rot, or rhizoctonia as it is called, were conducted at the O. A. C. Botanical Department, Guelph, to see if the amount of rhizoctonia could be reduced by selecting seed tubers free from the characteristic little black lumps or sclerotia, and what strength of corrosive sublimate and what times of immersion gives the best results in the control of this disease. Selecting tubers free from sclerotia and planting them without any treatment was found to reduce the amount of badly disfigured tubers from 31.1 per cent. to 13 per cent. Seed with sclerotia planted without any treatment with corrosive sublimate yielded a crop of which 31.1 per cent. of the tubers were markedly disfigured by this disease. Immersing seed potatoes in corrosive sublimate, one part by weight to 1,000 of water for two hours reduced the disfigured tubers to 5.2 per cent. Immersing similar seed in corrosive sublimate, strength one to 2,000 for two hours reduced the disfigured tubers 14.1 per cent. Corrosive sublimate one to 2,000 for three hours reduced the disfigured tubers to 7.2 per cent., and corrosive sublimate one to 1,200 reduced the disfigured tubers to 8.5 per cent. The results of these experiments show that the amount of this disease can be very materially reduced both by selecting seed potatoes showing no signs of little black lumps or sclerotia and by disinfecting the seed with corrosive sublimate. For the most satisfactory results, both election and treatment should be practiced.

#### Various Disinfectants for Farm Use.

Disinfection is very commonly employed to destroy disease germs so as to prevent the spread of infectious diseases about the farm. Such diseases as tuberculosis, anthrax, Black Leg, contagious abortion, foot-and-mouth disease, hog cholera and others, can be partially controlled by thorough disinfection which will prevent the contamination of stables and healthy stock. Many different kinds of disinfectants are in use, some of which such as carbolic acid, milk of lime, chloride of lime, etc., are simple materials which can be purchased at any drug store, or home mixed. Others, such as the various coal-tar disinfectants, are commercial preparations, and are used with varying degrees of success. One should always remember that before applying disinfectants, the walls, floors, and fittings of the building should be cleaned as thoroughly as possible, the refuse being saturated with disinfectant and removed or burned as quickly as possible.

Milk of lime is one of the cheapest and most useful of farm disinfectants according to the Department of Bacteriology, Ontario Agricultural College, Guelph. Quicklime must be used, and this is first slaked by adding a pint and a half of water per quart of lime, or sixty parts of water by weight to each one hundred parts of lime. The result of the slaking is hydrate of lime, a dry powder, to one quart of which four quarts of water are added to make the milk of lime. It is necessary to freshly prepare and apply the milk of lime if it is to be an effective disinfectant. It soon loses its value if exposed to the air, but it may be kept a day or two if tightly corked up. Air-slaked lime is of no value in the preparation of this material. Milk of lime may be applied with a sprayer or a whitewash brush, the former being the best. In this case, however, the material must be strained through a fine sieve in order to prevent clogging of the nozzle. Quicklime is sometimes used in the disposal of carcasses of animals dead from infectious diseases. An amount equal to twice the weight of the body should surround the carcass in a deep hole.

Chloride of lime is a widely used disinfectant and deodorizer. It quickly loses its strength if exposed to the air, and should, therefore, be preferably kept in glass sealers. The powder should contain 33 to 35 per cent. of available chlorine, and very frequently those products put up in cardboard or tin packages contain only 20 per cent., and once in a while as low as 5 per cent. available chlorine. It may be used either in liquid or powdered form, the former being prepared by adding six ounces of the powder to one gallon of water, first mixing with a little of the water to break up the lumps. Made in this way, however, the powder must be full strength to be effective. Because of its rather uncertain strength and because it is somewhat destructive to metal, with a permeating odor, this material cannot be considered as most desirable for stable use, except for disinfecting non-metallic milking machine tubes and teat cups, or for disinfecting drinking water. A stock solution for the latter purpose may be prepared as follows: according to Prof. D. H. Jones, O. A. C., Guelph; Mix one-half pound full strength Chloride of lime with one pint of water, stir fifteen minutes with a wooden spoon, and add water to make one gallon. Dissolve thirteen ounces of washing soda in two quarts of luke warm water, and dilute to one gallon. Then mix the two solutions in a barrel or crock and filter or allow to settle over night. Pour off the clear solution and fill into well-stoppered bottles, keeping in a cool, dark place. This solution will contain approximately 1 per cent. available chlorine, and 3 per cent. chloride of lime. One ounce can be added to five gallons of drinking water and after stirring, the water should stand for half an



**Twenty-five Acres of Abundance Oats Yielding 65 Bushels per Acre.**  
Grown on the farm of J. B. Snowball Company, Northumberland County, New Brunswick.

ewe at both shows, and gathered in a good share of the money in other classes. McEwen won all but one first at Edmonton and nearly every prize of importance at Calgary as well, including the open championships. Arkell & Sons showed Southdowns as well, and McEwen showed Hampshires.

#### SWINE.

Berkshires and Poland China classes were fairly well filled at Calgary, but Tamworths, Yorkshires, Hampshires and Duroc Jerseys were light. At Edmonton the swine exhibit was the stoniest ever held. There were no Eastern exhibitors.

## THE FARM.

### Potato Top Diseases.

During the months of July and August potato top diseases such as leaf roll, mosaic, blackleg, and dry stem rot are most noticeable. Immense losses are suffered each year from these diseases, and unless the grower is careful to note their first appearance and to take such care of the crop as investigation and experience has shown to be effective in control of them, the most favorable results cannot be secured. A summary of experiments regarding potato diseases conducted from the Ontario Agricultural College during the last few years shows that seed potatoes grown in Northern Ontario are freer from leaf roll and mosaic and give larger yields per acre than those grown in Southern Ontario and New Brunswick. Leaf roll is especially prevalent and severe in the southern and south-western portions of Southern Ontario. In most sections of Southern Ontario, leaf roll appears to spread and cause more loss each year than the same seed is used. In Northern Ontario, leaf roll does not seem to spread, nor to increase appreciably in amount from year to year in the same stock. Under climatic conditions such as we have in Southern Ontario, mosaic appears to be suppressed some years. That is, when seed from

unless there are no affected plants nearby. It is, therefore, important to select seed from fields which show uniform, healthy, vigorous plants."

Describing blackleg, wilt and dry stem rot, the pamphlet says: "Blackleg, as the name indicates, is a blackening of the lower stem of the plant. The stem is rotted with a soft, inky-black, slimy rot, beginning usually at the seed-piece, and extending often considerably above the ground. The rotted stem may, later, dry out and appear brown. The whole plant becomes yellow, then wilts, and usually dies. The young potatoes of affected plants are often rotted, beginning at the stem end, with a soft, foul-smelling, slimy rot. Such affected potatoes should not be put in the bin with healthy potatoes, for the rot will spread in storage, and the disease may be produced again if such potatoes are used for seed. All varieties are affected, and the disease is worst in cool, moist seasons. Besides removing plants showing blackleg from the part of the field from which seed is to be saved, it is a good plan to treat the potatoes before planting with a solution of formaldehyde or corrosive sublimate.

"Wilt occurs as a result of the stoppage of the water tubes in the lower stem. When the stem is cut across, a brown ring will be seen. In severe cases, the stem below the ground may become brown throughout. Affected plants droop, wilt, turn yellowish and often die. Wilt attacks all varieties, but does not usually occur until rather late in the season, so that a fair crop of potatoes may be produced. These potatoes may, however, also show a brown ring in the stem end, and should not be used for seed. The provision of good growing conditions will enable the plants to resist the disease.

"Dry stem rot, caused by the fungus rhizoctonia, is recognized by the dry, brown, sunken spots on the underground stem. The tender tip of the sprout may also be attacked. This dry stem rot often kills the sprouts before they reach the surface of the ground, and results in misses in the field. Later in the season, the girdling of the plant may result in overgrowth of the tops at the expense of the potatoes, which are often

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hour, when injurious bacteria would have been de-  
stroyed and the water rendered safe for drinking.

For disinfecting milking machine tubes, mix one  
pound full-strength chloride of lime with ten pounds of  
water in an enamel pail or crock or wooden tub, and  
allow to stand with an occasional stir for two or three  
hours, then take the clear liquid and add enough water  
to make one hundred pounds, throwing away the white  
sediment. Rubber tubes and teat cups may be im-  
mersed in this solution, which will last for about two  
weeks in summer, and about three weeks in winter.  
Before and after immersion in the solution, rinse the  
parts with cold water. Commercial preparations of  
chloride of lime are satisfactory disinfectants, and al-  
though more expensive than the solution made at home,  
are more convenient and ready for immediate dilution.

Carbolic Acid is known as a good disinfectant, but  
the pure acid or phenol, is not a satisfactory general  
disinfectant for farm buildings because of its high cost,  
its corrosiveness, and the fact that it is not altogether  
effective. Crude carbolic acid is a mixture of oils and  
tar acids, the latter being the active principle. The  
percentage of tar acid in commercial crude carbolic acid  
varies considerably so that the percentage which  
a sample contains should be known so that it  
can be diluted to the proper strength. Thorough stirring  
is necessary to bring about complete solution of the  
acid which should be diluted so as to make a two per  
cent. solution. The oils are insoluble and will float when  
mixed with water. It is better to apply this material  
with a spray pump and the solution should be agitated  
during the spraying so that the oils will be evenly dis-

tributed. Crude carbolic acid, like the pure acid,  
is somewhat corrosive.

Cresol is a mixture of materials that are all superior  
to carbolic acid as disinfectants. It contains practically  
no coal tar oils and usually contains from 90 to 98 per  
cent. of tar acids. Generally it is relatively cheap and  
suitable for disinfecting stables. A two per cent.  
solution is approximately as effective as a 5 per cent.  
solution of pure carbolic acid. It should be thoroughly  
dissolved in warm water before using. Cresol is not  
quite so poisonous as pure carbolic acid. The best  
practice for stable use is to make a compound of cresol  
with soap which will be readily soluble in water. Warm  
the cresol and stir in an equal quantity by weight of  
green soap until it is completely dissolved. Green soap  
may be bought at a drug store. Make a 2 or 3 per cent.  
solution with soft water. Hard water will cause the  
soap to break up and separate in sticky masses.

Speaking of some of the commercial disinfectants  
Circular 29, O. A. C. Guelph, says: "Such commercial  
disinfectants as Zenoleum, Germol, Disinfectall, Carbo-  
leum, Kresol, International Dip, Car-Sul-Dip, Daytho-  
leum, etc., are widely advertised and much used. In  
general they all contain coal-tar products belonging to  
the phenol and cresol groups to which they owe their  
active properties. In general appearance they are  
very similar and their odors are nearly alike. Some  
appear heavier and thicker than others. They mix  
with water in all proportions forming an emulsion  
which is more or less milky in appearance. They are  
non-corrosive. On account of these properties they  
are preferable in many ways to crude carbolic acid.

Used as spray disinfectants for stables etc., they are  
very effective in 2 or 3 per cent. solutions in water.  
They should be kept well stirred up when being applied."

## THE DAIRY.

Hot weather milk needs careful attention if it is to  
be marketed in good condition.

Protect the young calves from the hot sun and the  
flies. They will be more thrifty and will grow more  
rapidly.

Are you planning to show a few of the best animals  
of the herd at the local fair this year? It would pay to  
do so if it can be managed.

If none of the cows have been tested either for  
quantity or quality of milk the sooner it is done the  
better. Anyone will make a mistake if he works in the  
dark.

The dry cows should be given a chance to flesh up  
before freshening. At least a six to eight weeks rest  
is desirable and grain fed before calving is worth more  
than the same amount afterward.

Watch the feed market and provide for next winter's  
feed. Cows cannot milk well in winter without a proper  
ration and the more economically it can be fed the lower  
will be the cost of producing milk.

# What Scotsburn Means in Nova Scotia Dairying.

## How a Creamery Reformed a Neighborhood and Influenced a Whole Province.

THE word "Scotsburn" in Nova Scotia is the short  
for good creamery management and large pro-  
duction, while in the produce trade it is a synonym  
for butter of the highest quality. In 1912 Dr. Cumming  
took W. A. McKay from the little creamery that was  
fast becoming famous, and commissioned him to "Scots-  
burnize" Nova Scotia, and for almost eight years Mr.  
McKay has been endeavoring to inoculate into the  
dairy industry of Nova Scotia a vaccine cultured from  
the co-operative and enterprising spirit that has made  
the Scotsburn creamery an outstanding institution in  
the Maritime Provinces.

Early on a June morning a representative of "The  
Farmer's Advocate" strolled into the Scotsburn creamery  
looking for information that would explain the success  
of what was once known as "Ruddick's Pet Lamb."  
There at a bench stood the genial manager, Robert  
Stewart, soldering the bottom into a can that on the  
previous day had voluntarily opened and spilled a  
patron's cream. "I cannot send this can back to that  
fellow without a bottom in it," Mr. Stewart remarked,  
"for he has no means of mending it." "Will he lose the  
cream?" he was asked. "Oh no, it was an accident,  
and no one will lose." This incident typifies in a strik-  
ing manner the workings of the little creamery of Scots-  
burn. It is a patron's factory, and no stone is left  
unturned to produce the last ounce of first-class butter  
from every can of every patron's cream. Service is the  
guiding motto of the staff. Alvin Graham, the butter-  
maker, and his efficient help, are not working to put  
in time, they are working to put out good butter.  
The manager and his staff are serving not one in-  
dividual but one thousand farmers around the little  
hamlet of Scotsburn and along the Short-Line towards  
Oxford.

### AN UPHILL ROAD.

The history of the Scotsburn creamery is unique and  
intensely interesting. When Dr. J. W. Robertson was  
Dairy Commissioner he recommended that a creamery  
be established at Scotsburn, and that the Government  
should meet all deficits for a period of three years.  
Scotsburn has not, nor did it have any advantages to  
recommend it over other locations in Nova Scotia, for  
such a venture, except that it was just an ordinary  
farming district like hundreds of other localities in  
Nova Scotia, and the people were Scotch. The feeling  
was entertained, no doubt, that if a creamery could be  
made a success under these circumstances, others  
would thrive in typical Nova Scotia districts. The  
Dominion and Provincial Governments supported the  
project financially as well as morally, and a local com-  
pany was formed with shares selling at \$5 each. The  
investment for the farmers was gilt-edged, but it will  
never be allowed to pay more than 5 per cent.; never-  
theless, the eighty farmers who purchased stock are  
keeping these modest little documents as souvenirs of  
an investment that brought something good to their  
neighborhood and became a guiding star to the dairy  
industry in their Province.

Like many other good things, this creamery was  
not a success from the beginning. It was a hard struggle  
to keep it alive from 1901, when it was started, until  
1908, and a great deal of credit is given locally to the  
continued support and determined efforts of Com-  
missioner J. A. Ruddick and Geo. Barr to make the  
Scotsburn creamery a success. The plant came to be  
known as "Ruddick's Pet Lamb," and Geo. Ransome,  
the manager, worked hard indeed to keep life in the  
delicate young thing.

For seven years whole milk was received and separ-  
ated, but such a system did not permit of growth or  
expansion. In 1908 Hugh McLeod happened to be  
visiting in the State of Wisconsin, and there he saw for

the first time a thriving cream-gathering creamery. He  
brought the news home, and the supporters of the local  
plant adopted the new method with considerable  
hesitancy. That was the turning point, however, and  
since then Scotsburn has gone rapidly ahead. In 1909  
the creamery was without a manager, and they found  
in W. A. McKay a good dairyman and one tempera-  
mentally qualified to put Scotsburn on the map. Since  
1912 Mr. McKay has been busy Scotsburnizing Nova  
Scotia, and Robert Stewart, Secretary-Treasurer since  
1903, has been the efficient manager of an increasingly  
prosperous concern.

SEVEN HUNDRED PATRONS SUPPLY THE CREAMERY.  
Last year seven hundred patrons shared in the



The Guernsey Herd of Alex. McKay, a Patron of Scotsburn Creamery.

success of the creamery; 446,171 lbs. of butter, or ap-  
proximately 223 tons, were manufactured, and this was  
worth in the neighborhood of \$243,235. Cream came  
in from a distance of 70 miles, and patrons received  
63 cents per lb. butter-fat, net. The books revealed  
the accounts of many successful patrons, some herds  
averaging from \$150 to \$200 per cow, gross. One herd  
of five cows returned their owner \$909, gross, last year,  
but the largest contributor was E. G. Stevenson, who  
totalled \$3,126 in 1919, from a herd averaging fifteen  
milkers.

On the day of our visit to the creamery, 2½ tons of  
butter were manufactured from the cream received.

Up to that time there was a 40 per cent. increase in the  
make over last year. Mr. Stewart was certain that  
they would make 45 tons of butter in June, and the pro-  
duction for 1920 would approximate 300 tons.

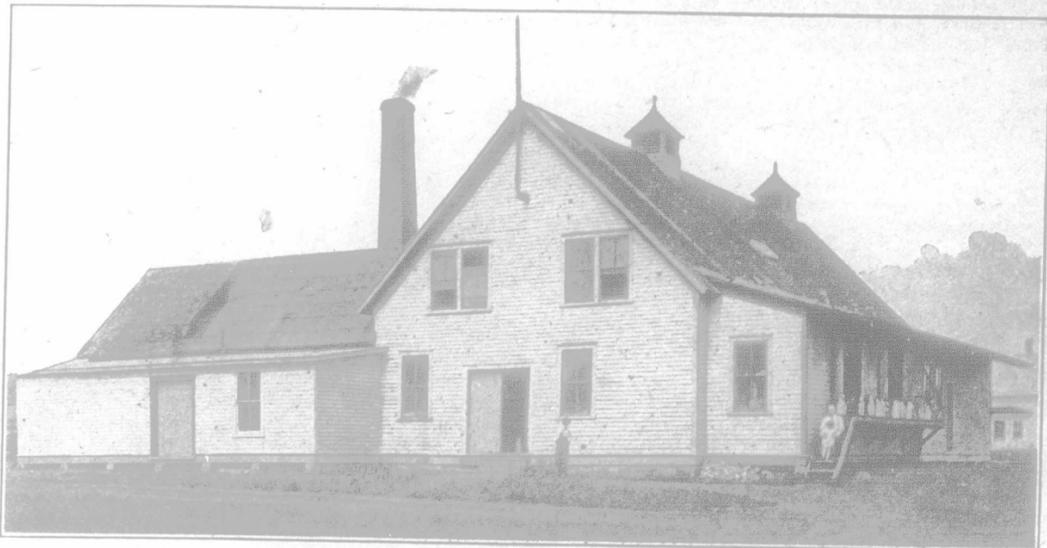
As the County of Pictou supplies practically all the  
cream, it has the first call upon the butter made at  
Scotsburn; this takes about ten tons per month. There  
is a keen demand throughout Nova Scotia and New  
Brunswick for Scotsburn butter, and connections are  
enjoyed with a very select trade as far west as Montreal.  
Needless to say the highest market price is obtained.

### THE CREAMERY.

Efficiency is the most outstanding thing about the  
Scotsburn creamery. The equipment is not elaborate,

but it is complete. The  
patrons are urged to send in  
good cream and then an  
effort is made in the factory  
to manufacture every ounce  
of butter-fat it contains  
into first-class butter. Space  
will not permit us to men-  
tion in detail several little  
devices which contribute to  
the over-run and the excel-  
lence of the product, but  
suffice it to say that nothing  
is overlooked. Mr. Stewart  
considers it his duty to see  
that a patron's cream is

efficiently handled, and that no leaks occur between the  
farm and the market. The over-run in this creamery  
sometimes amounts to 22 per cent. One feature we  
desire to mention, however, and that is the storing-room,  
which was built according to Government specifications.  
It has a seventeen-inch wall, and the rooms are perfectly  
dry and sweet; no mold was in evidence anywhere.  
The insulation is so perfect that only about fifty tons  
of the ice stored melts during the summer. The ice-  
storing compartment has a capacity of about 150 tons,  
and there is ice in the bottom of this room that has been  
there for years.



Scotsburn Creamery Where Approximately 300 Tons of Butter Will Be Made this Year.

SCOTSBURN CREAMERY CO.  
LIMITED

Patron No. ....

Weight of Cream .....

Date .....

SCOTSBURN CREAMERY CO.  
LIMITED

Patron No. ....

Weight of Cream .....

Date .....

#### The Checking Tag.

##### A GOOD CHECKING SYSTEM.

A complete set of books is kept in the office, but a simple checking device originated by Mr. Stewart, is worthy of mention. The tag, which forms a part of this system, is shown in the accompanying illustration. On each can is placed a small wire bent into the form of a key-ring, and into this ring is drawn one-half of the tag herewith illustrated. This has the patron's number, the weight of cream in the can, and the date on which it was received. The other half of the tag, a perfect duplicate, is kept in the office, each patron having a compartment in the tag-holding device also illustrated herewith. The first rack for holding these small tags was made by the manager himself, but he later had metal racks made according to the same principle. These racks provide for 250 separate compartments and hang on the wall, close at hand but out of the way. The patron thus has the same information as is received at the office, and if there is anything wrong regarding the weights he is asked to make a complaint at once and have the matter adjusted. This plan has been found a very satisfactory method of reducing errors and grievances.

##### A LETTER TO THE PATRONS.

On the 15th of every month the patrons receive a statement for the previous month, and a cheque to balance the account. The statement conveys information regarding the number of pounds of cream supplied, test of the cream, number of pounds butter-fat, and the total value at prevailing prices of fat. When the patron obtains supplies, butter, buttermilk, cans and locks, etc., this is deducted and a cheque mailed to balance the account.

Along with this statement usually goes a letter to keep them informed regarding the conditions at the creamery, and how they can assist in removing any obstacles. The following is a typical letter sent to patrons, and happens to be the letter sent with the May statement, 1920:

##### "A HINT TO OUR TRAIN PATRONS."

"The amount of cream being now received by train is immense, the shipment of Saturday making 3½ tons. Now it is not best to carry too much cream over Sunday, so we would greatly appreciate your sending all possible on Thursday, and thus relieve the Saturday pressure a little. By remembering this you will do us a kindness.

"A word about cans. Some cans, as they come in, indicate that the patron is particular, as the cans are polished as clean as new; others again come in covered with dust and show considerable carelessness. How would it do if patrons vied with each other as to which would send in the cleanest? Just a little scrubbing on the outside and covering cans on the way to the station would do the trick, always remember that they are 'CREAM CANS.'

"Stir your cream morning and evening."

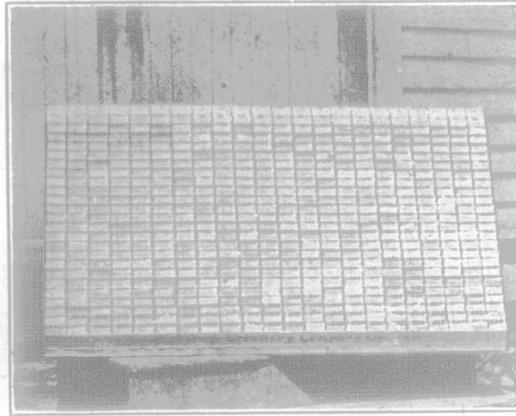
##### EDUCATIONAL WORK IN THE DISTRICT."

It is necessary to carry on educational work in connection with the Scotsburn creamery in order to get new patrons and to keep the old patrons informed. Mr. Stewart attends a good many meetings during the fall and winter months, and explains fully all phases of butter production in a creamery and the handling of cream in order that a good product may be obtained from it. In order to drive home his points, he distributes, just before the meeting opens, a little sheet which has printed on it twenty-three relevant questions. People in the audience who wish any of these questions answered simply call out the number of the question, and it is answered in full. Mr. Stewart said that he is frequently kept on his feet for two hours at a time answering these

questions, and the topics are the very ones that can be most profitably discussed.

##### QUESTIONS ON THE MANAGEMENT OF THE SCOTSBURN CREAMERY, "BY THE SECRETARY."

- No. 1. What is a creamery?
- No. 2. Is it an expensive plant to erect?
- No. 3. Are the running expenses heavy?
- No. 4. Has the organization of a creamery been a good thing for the farmer?
- No. 5. Is it a paying investment for the shareholder?
- No. 6. Is there more money for the farmer in sending his cream to the factory, than making his butter at home?
- No. 7. How can the patron best care for his cream before shipping to the factory?
- No. 8. How rich in fat should cream be?
- No. 9. Explain the Babcock test and is it trustworthy?
- No. 10. Why does the cream test vary?
- No. 11. What do you mean by the "over-run" and what becomes of it?
- No. 12. Why does the company pay for "butter-fat" instead of butter?
- No. 13. How often does the company pay for cream?
- No. 14. Does it hurt the cream to freeze?
- No. 15. Who pays the freight on cream?
- No. 16. What becomes of the buttermilk?
- No. 17. Where can one secure cream cans, and at what price?
- No. 18. Is it necessary to lock the cans?
- No. 19. How often do patrons ship cream, and on what days?
- No. 20. Should cream be kept sweet?
- No. 21. How guard against bad flavors?
- No. 22. What effect does feeding of turnips have on cream?
- No. 23. What separator do you consider the best?



A Rack for Holding Checking Tags.

##### THE INFLUENCE OF A GOOD CREAMERY.

About 8 years ago the Pictou Presbytery made a survey of its territory and found all the rural churches suffering a serious decline. There was one notable exception to this untoward condition, however, for the Scotsburn church was more prosperous and vigorous than ever. This has never been accounted for in any other way than that the co-operative creamery thriving in their midst engendered a spirit of co-operation in the people and brought prosperity to the community. Whatever the reason may be the Scotsburn Presbyterian Church is one of the strongest of the country churches in the Maritime Provinces, and many are inclined to think that a good creamery has more than a little to do with the building up of a strong kirk. Mr. Stewart voices the opinion that the creamery has made the people just a little colder and a trifle more mercenary. Nevertheless, they are 500 times better off. They can pay cash for everything at the store, and they are obliged to want for nothing. Every patron is doing better financially; they have better stock and their farms are better equipped. "Our business follows your creameries," said the general manager of a large implement firm operating in the East to the Secretary for Agriculture in Nova Scotia. The same is true everywhere. A dairyman must be industrious, careful and eager to produce a clean article when he is the patron of a good creamery; when a man combines these virtues he is a prosperous farmer and a good citizen.

There are plenty of potential "Scotsburns" in Nova Scotia, and the modest little creamery in Pictou County stands as a beacon light to dozens of districts that have all the resources necessary to make just as great success in the creamery enterprise. Scotsburn had no special advantage. It was determination, patience and efficiency that made the Scotsburn creamery what it is. These are not found in broad meadows or fertile uplands, but in the minds and hearts of men.

It is a common practice in some parts of Eastern Ontario and Quebec to select a sow from the spring litter and dispose of her after weaning her litter the following summer. Young sows are not so prolific, neither are they as good mothers as older sows. It is not good swine husbandry.

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#### Notes on the Babcock Test.

The market value of milk largely depends upon the amount of fat which it contains. Therefore, the profits in dairying are based upon the quality, as well as upon the amount of milk produced by the cow. Since the Babcock test is used almost universally as a basis for determining the fat content of milk and since not even the smallest producer can afford not to know the actual production of his cow or cows, more general understanding of the test is necessary. The following data regarding the test will make clear the process of testing the more common dairy products—milk, cream, skim-milk, buttermilk and whey.

##### EQUIPMENT.

The equipment for testing need not be expensive. Ten or twelve dollars will buy all the apparatus needed to make a test on the ordinary farm, which includes a few milk, cream and skim-milk bottles, a pipette, an acid measure, sulphuric acid of 1.82 to 1.83 specific gravity, a pair of calipers, and a Babcock tester.

##### SAMPLING.

The purpose of the test is lost if a proper sample is not used. It must represent the average of the whole milk in fat content. Since the fat is suspended in the milk in very minute globules or particles and is free to move about, proper mixing is necessary to ensure an average sample. This is accomplished by pouring all the milk obtained at one milking from each cow, from pail to pail at least four times, and then immediately taking the sample to be tested.

Composite Sample.—A composite sample is a proportionate amount of milk kept from each of a series of milkings of one cow. The essentials needed in order to have accuracy of results are: (1) a preservative tablet (corrosive sublimate); (2) tightly corked bottles and a cool place for storage. To prepare for testing this sample should be properly mixed by heating to 110 degrees and shaking, and later cooling to 60 degrees. A sample of cream or whole milk can thus be kept for a period of two weeks or a month, and the reading represents the average percentage of fat for the time covered.

##### THE PRINCIPLE OF THE TEST.

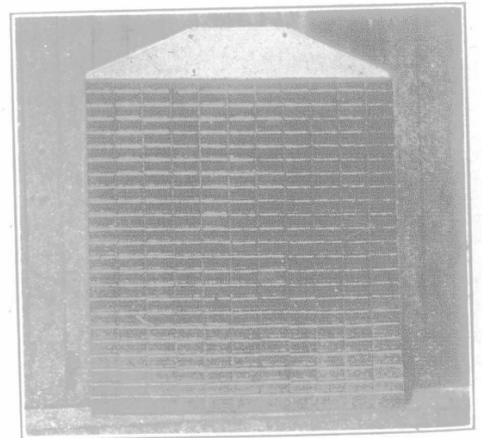
Dr. Babcock based the test on two scientific principles:

(1) Strong sulphuric acid acts upon and dissolves the solids of milk that are not fat, especially the casein—or curd forming material—and thus liberates the fat globules, and makes their separation more easy. Heat, which is the result of the chemical action, too, causes the fat particles to run together and be more readily separated.

(2) The difference in weight between fat and the mixture of acid, water, dissolved casein, and ash, is very great. The phenomenon of centrifugal force throwing the heavy material to the outer portion and the lighter coming towards the centre when a liquid is whirled, underlies the invention of the centrifuge or whirling machine, which same principle is made use of in the standard cream separator bowl.

##### THE TEST FOR THE MILK.

1. Bring the milk to a temperature between 60 and 70 degrees Fahrenheit.
2. Thoroughly mix the sample by pouring from glass to glass four times at least.



The New Metal Rack for Holding Tags.

3. Using a 17.6 c.c. (cubic centimetres) pipette, measure to the mark on the stem of the pipette, and deliver the milk to the milk test bottle. Care must be exercised to deliver exactly the amount required to the inside of the bottle neck.

4. Sulphuric acid of 1.28 to 1.83 specific gravity and between 60 and 70 degrees in temperature is then measured to the mark in the small measuring flask and gently poured down the side of the neck of the test bottle.

5. With a gentle rotary motion the acid and milk are mixed, which mixing must be continued until all the curdy matter is dissolved.

6. Balance the bottle in the centrifuge, and whirl at the correct speed (indicated on the machine) for five minutes.

7. Using a pipette, add hot water (180 degrees or over) sufficient to float the fat to the bottom of the neck.

8. Centrifuge for two minutes again.

**Check Test.**

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**TEST.**

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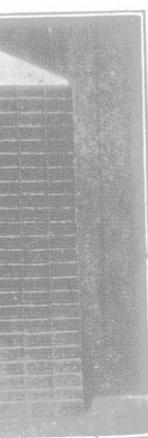
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**MILK.**

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.83 specific gravity temperature is then measuring flask and the neck of the test

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ater (180 degrees or e bottom of the neck, again.

9. Add hot water to float the fat in the neck between the lower and upper graduation marks.

10. Whirl again for two minutes.

11. Place the bottle in a bath of water at 130 degrees to 140 degrees Fahrenheit. Make certain that the portion of the neck containing the fat is immersed. Leave there for three to five minutes.

12. Immediately after removing the bottles from the bath, extend the points of the calipers from both extremities of the fat column. Transfer the calipers so that the lower point is on zero and without changing the extension of the points make reading, which will be given direct in per cent. and tenths of per cent.

13. A test of 3.5 per cent. means that 100 pounds of milk contain 3.5 pounds milk fat.

**NOTES ON TESTING.**

1. Government stamped glassware should be used.  
2. Bottles must be cleaned immediately after use. Use washing soda to remove the grease and rinse out with hot water.

3. Perform each test in duplicate to allow for any accident and to ensure accuracy. The check reading should correspond within .1 of one per cent.

4. A clear golden, yellow colored reading should be obtained. Light or cloudy readings result from cold temperature of acid or milk, weak acid, insufficient acid, improper mixing or too slow speed. Burned or dark readings result from warm temperatures, too much or too strong acid, direct falling of acid on the milk, or allowing the milk and acid to stand too long before mixing.

**TESTING CREAM.**

Since cream varies greatly in the amount of fat it contains, the weight of different samples differs and always is lighter than milk. A larger sample then is necessary. In order to ensure accuracy in obtaining the sample, actual weighing is essential. Manitoba legislation demands that any cream that is bought or sold according to the Babcock test must be sampled by weighing. Eighteen grams are weighed on a special cream test scale and delivered to a cream test bottle, which is graduated to read as high as 50 per cent. An 18 c.c. pipette will measure approximately the amount of cream used for a test and might be used by a farmer to get a fair estimate of the test of his cream; but in no case could he sell cream on this basis. Cream testing resembles in detail the test for whole milk, once the sample is properly obtained.

A little less acid is needed as a rule. Sufficient to give a rich chocolate color is plenty for the test. The reading, too, is a little different, and should be made from the bottom of the fat column to the bottom of the meniscus (the shadowed and curved portion representing the upper surface.)

**SKIM-MILK, BUTTERMILK AND WHEY.**

Skim-milk, buttermilk and whey, which might be

classified as milk by-products, can also be tested for fat by the Babcock tester. A minimum loss of fat in these is important, and the cream separator, the churning conditions, or the cheese making operations should be put to the test of efficiency and improvement made if necessary. The bottle for this test is double-necked and reads to one one-hundredth of one per cent. fat. Since skim-milk is high in curdy matter, a slightly larger amount of acid is required to dissolve the casein. Considerably less acid is used when whey is tested.—By Norman James and R. W. Brown, Manitoba Agricultural College.

**HORTICULTURE.****Fruit Crops and Conditions in the Niagara District.**

About ten days ago a representative of "The Farmer's Advocate" spent a day visiting sections of the Niagara District with a view to ascertaining the state of the fruit crop and conditions generally. On the whole there is no discount for the size of the crop; almost everything is good from grapes to peaches. One need not particularize as to the various fruits to any extent, because with only minor exceptions crop conditions are entirely satisfactory. The growers of whom we enquired made few or no distinctions in their remarks about the quantity likely to be harvested of the various fruits. Some older patches of red raspberries were severely injured by the winter, and consequently have small crops, while blackberries are also light as a rule, and for the same reason. Black currants are light all over, and in this case no one seems to know just why. Grapes are a first-class crop, although not perhaps quite so good as last year, which was exceptional. Plums are very heavy, and some growers are beginning to be rather anxious as to how the market will turn out. Cherries were universally good, and more than good. Sweet cherries having done extraordinarily well while there is a good crop of sour. Peaches, too, are heavy, and there are few sections where poor orchards can be found in any numbers. Elbertas are beginning to drop some, we were informed in the St. Catharines district, but there is sufficient crop to make a good deal of thinning necessary for best results.

Prices, too, have been good, and one very successful grower said, "We never had such a crop (of fruit generally), and prices have been extremely satisfactory." Whether or not this sentiment would be echoed by the majority of smaller and perhaps less successful growers we cannot say, but we did not hear any complaints at any rate. Sweet cherries were just going at the time of our visit, and in spite of a heavy crop and the sugar

scarcity the price rose instead of lowering as the picking progressed. Canning factories this year have played the part of a dog in a manger, and growers have not known to the slightest extent in what direction factory prices were going to jump. The factories seem to have been very consistent in refusing to tell growers whether they were going to can or not, much less offer a fair price for raw fruit. The canning factory in the district is so well established as a market for a great deal of the fruit, and so many of them are controlled by one firm that perhaps this firm does not feel it need concern itself about the grower. Wisdom even in moderate quantity might well remind it of the time-worn phrase that "pride goeth before a fall." It is inevitable that the farmer's share in the delivery of canned goods to the consumer must ever be the largest, and that, therefore, he has the most at stake, and can never be treated indifferently by any set of persons for any great length of time. The fruit grower is more important to the canning factory than the factory is to the grower, and when anyone walks into one's house and makes himself at home without invitation, it is about time for an understanding all round. The difference between the grower and the canner or any other distributor of food products is that the former is in business because someone must supply food for the nation, while the latter is permitted by both producer and consumer to engage in his business so long as he behaves himself reasonably well. If he forgets his place in the community there are ways of providing discipline just as effective as the discipline provided for children in the home or unruly members of society generally.

The chances are, however, that any organization that practically controls an industry over a wide area can continue to fool all of the people all the time so long as the latter continue to market their products individually to one big company.

The basket problem is the biggest immediate problem facing the grower to-day. Probably because baskets are so difficult to obtain, those who are fortunate enough to have a supply on hand will be able to market their peaches and other fruits to good advantage in spite of the high price of sugar. There seems to be sufficient sugar in the country, but it is held at exorbitant figures. Another reason for high fruit prices is probably the reduced acreage. This holds true particularly of small fruits which require a lot of labor to grow them successfully. Even the tree fruits, such as peaches, have not been planted in the recent years in anything like the usual quantities, and the result is a firmer market.

Just what the condition of the tender-fruit industry is in the Province is hard to estimate. A few growers at best are making money at a goodly rate, but there are many complaints from others who have bought at high prices that the fruit industry is not on the whole a very profitable one.

**A Clean Crop of Apples in a Bad Season.**

IN the early nineties C. M. Ruscoe began setting an orchard near Centreville, in the Annapolis Valley, Nova Scotia, and all the encouragement he received from the apple enthusiasts at that time was the local opinion, verbally expressed, that it would land him in the poor-house. Had Mr. Ruscoe respected neighborhood customs and traditions, and only set about five acres of orchard, he would have had the good will and best wishes of the community; but the fortunate mistake he made was to obstinately keep on setting apple trees until he had fifteen acres in one block. That was more than local prophets could tolerate, and the writer remembers how unreservedly they consigned "Cad." Ruscoe to the House of Refuge, because of his wild and untraditional venture. A good deal of water has flowed under the bridges in the Annapolis Valley during the last twenty years. Markets have been good, some

years, and in others there have been practically no markets at all. Crops have been good and bad, clean and dirty; but all the time this fifteen-acre orchard has been growing in the size and productiveness of the trees, until last year Mr. Ruscoe marketed 2,800 barrels of apples. He "sold them well," and to a representative of "The Farmer's Advocate," he naively remarked "It is quite encouraging to make a dollar once in a while."

The prophets of fifteen and twenty years ago were wide of the mark.

There is another feature of this story which we wish to dwell on, namely, that C. M. Ruscoe's orchard was reputed to be the cleanest in the Valley last year. Other orchards might have been as good in respect to late fall and winter varieties, but in one of the worst seasons experienced in Nova Scotia Mr. Ruscoe's Gravensteins showed only 9.6 per cent. of scab, and the cleanness of

this variety won the reputation for the orchard heretofore being discussed. Mr. Ruscoe himself made no claim for the superiority of his fruit last year; the statement regarding the cleanliness of the orchard came from fruit experts, as well as from apple buyers, and on the strength of information so obtained the honor has been thus bestowed without any responsibility on our part.

**WHERE DUST PROVED EFFICIENT.**

Early in the spring of 1919 Mr. Ruscoe had a worn-out, unsatisfactory spraying outfit on his hands, and one day when it proved uncommonly exasperating, he went to town and ordered a complete dusting outfit. He applied one-and-a-half tons of dust during the season, and found that he could dust in 2½ hours what had formerly required 1½ days to spray. It has been customary so far, in the Annapolis Valley, to dust



Harvesting a Splendid Apple Crop on the Farm of Joseph Kinsman, near Lakeville, in the Annapolis Valley.

in the early morning or in the evening, when there is no breeze and the foliage is moist with dew. The general practice is to dust the trees from one side, and give the tree-row, on the other side of the dusting outfit, a light blast as the team walks along. In this way the trees are dusted thoroughly from one side, but very indifferently from the other side. Mr. Ruscoe's practice is to dust the trees from one side thoroughly, and when the wind veers, the same trees are dusted from the other side; this, he considers, one application. Experiments and tests have shown that the best results from dust are obtained where liberal applications are made, and Mr. Ruscoe's method of putting on the "two-in-one" application possibly had a good deal to do with the superiority of his fruit last year. Sulphur dust, containing 15 per cent. of lead, was used in 1919; his plans for 1920 were to use the Sanders dust, which is a modified Bordeaux, for all except the application just after the petals have fallen, when the sulphur dust would be resorted to in order to prevent any russetting.

#### ORCHARD RATIIONS.

Growers in the Annapolis Valley are beginning to feed their orchards systematically, and supply them according to their needs. As a live stock producer would figure out the rations for his cattle, so are the growers basing their fertilizer applications on the actual needs of the orchards and the soil. The applications now made appear liberal, compared with those of five or ten years ago, but it may be found that the amount fed annually into the orchards at the present time is inadequate. The treatment given the orchard under discussion is worthy of study, because it typifies to a certain extent orchard feeding practices in the Valley. One hundred trees of this orchard were set in 1889, two hundred trees were set in 1891, and the 8½ acres were completed in 1893; six-and-a-half acres, to complete the fifteen-acre block, were set eighteen years ago, and Wagener fillers in this section were set in 1911. The yield in the fifteen-acre orchard in 1919 amounted to 2,400 barrels, with Baldwins and Spys off, the other 400

barrels making a total of 2,800, marketed last year, came from an older orchard which is additional to the orchard under discussion. The fifteen acres in 1919 received an application of 3,000 lbs. of nitrate of soda, the older part receiving more per acre than the younger trees. The younger trees also received an application of fifteen two-horse loads of manure per acre, and in addition to the nitrate, the first-set trees were given about 600 lbs. to the acre of a fertilizer containing 16 per cent. phosphoric acid and 1 per cent. of nitrogen. In 1918 the whole orchard received one-half ton of slag per acre, the young orchard was given a coat of manure, and the older part about 200 lbs. of nitrate of soda per acre. The plan for 1920 was to use about 300 lbs. of nitrate of soda to the acre, and supply phosphoric acid in the form of ground limestone or basic slag. In Mr. Ruscoe's opinion, nitrate of soda is worth \$200 per ton in an orchard. He also expressed the opinion that the soils in the Annapolis Valley are tremendously deficient in lime. For this reason basic slag or ground limestone was sure to give results.

#### ORCHARD CULTIVATION.

The practice in this orchard is to plow in the spring, as soon as the frost is out of the ground. It is then harrowed a great deal, especially during the month of May, when an effort is made to harrow at least once a week with the old-fashioned spring-tooth harrow. Cultivation is continued up to June 25, and then crimson clover is sown at the rate of ten pounds per acre. This seed is rather expensive, but Mr. Ruscoe considered it very valuable as a cover crop. Crimson clover does well with him; it makes a good growth, standing up about eight inches high, and continues green on into the

winter, thus making an excellent cover crop. Buck-wheat is not liked as a cover crop, but it is used occasionally to smother out couch grass. A strip of grass about four or five feet wide is left along each tree row, the cultivation and fertilization being focused on the intervening space between the trees.

#### THE FUTURE OF APPLE GROWING.

Nature undoubtedly designed the Annapolis Valley especially for apple production, and no local prejudices or pseudo-optimists can prevent the development of the industry. In former years the man who had five or ten acres of orchard and produced a thousand barrels of apples annually was a big grower; now the five-thousand-barrel man is not unknown, and the Apple King of the Valley last year filled 22,000 barrels. Many are asking themselves, "What are the prospects for apple growing in the Annapolis Valley?" Some are inclined to think that the limit has been reached, while those who took chances ten or fifteen years ago setting out large orchards, are the most optimistic of all. Unless something unforeseen occurs to dampen enthusiasm, Nova Scotia will be producing very close to 3,000,000 of apples, and then it will be a question of markets. But the market problem loomed large when the crop was only half a million or less. Over 20 years ago



C. M. Roscoe in His Orchard with the Dusting Outfit.

discouraged growers sharpened the axes and swore vengeance on their plantations because they received a polite request from commission houses in England to please remit certain named amounts to cover expenses on consignments of apples which had sold badly. If the commission houses had not been so far away there might have been some real tragedies to record. However, with increased production have come new and bigger markets, and the future will, no doubt, provide for what the Valley has to offer. The future is always a blank. Some guess correctly and come out on top; others guess badly and go under. There is no gamble though where one endeavors, with assistance of science and modern methods, to produce first-class fruit. The demand for superior fruit will never be entirely satisfied.

## POULTRY.

### Rearing the Young Turkeys.

When about six weeks old the young turkeys are old enough to go to roost. Practically all turkey raisers allow the birds to roost in the open trees or on fences or other roosts especially provided for them. In sections where high winds prevail it is customary to build the roosts next to a barn or shed, where there is some protection; when this is done posts are driven into the ground and poles laid across them 4 to 5 feet from the ground. By driving them to the roosting place and feeding them there every evening just before dark, young turkeys can be made to roost wherever desired. For the first few times it is sometimes necessary to keep them under

the roost until dark, but they will finally fly up, and after a week or two will no longer have to be driven, but will come up every night to be fed and to roost.

During the summer and early fall turkeys can find an abundance of feed on the average farm. Grass-hoppers and other insects, weeds and grass seeds, green vegetation, berries and grain picked up in the fields all go to make up the turkey's daily ration. When this natural feed is plentiful, very little need be added until fattening time, except for the purpose of bringing the turkeys every night to roost, and to keep them from straying from home. For this purpose one feed of grain every night just before roosting time is sufficient.

One of the greatest difficulties with which turkey growers have to contend is to keep their flock from wandering over too wide an area and invading neighboring farms. To some extent, feeding heavily night and morning reduces the area over which turkeys range, but even then they often go too far. When trouble of this kind occurs, the most effective plan is to drive them into an inclosure, and keep them there until about noon. In warm weather turkeys do most of their ranging early in the morning and by 9 o'clock they are usually as far from home as they will get during the day. As soon as the sun becomes very warm they spend most of their time in the shade until 3 or 4 o'clock in the afternoon, when they begin moving towards home, ranging for feed along the way. If the weather is not too warm they do not spend so much time lying in the shade, and consequently range over a larger area and may keep moving away from home until noon. By feeding in the pen every morning they soon learn to go there on coming down from roost and no time is lost in penning them. If they fly out of the pen, the flight feathers from one wing should be clipped.—By A. S. Weiant.

### Some Good Pens in Nova Scotia Contest.

Up to July 9, a pen of Rose-Combed Rhode Island Reds were leading in the first Nova Scotia egg-laying competition after 35 weeks work. They had laid 828 eggs and the poorest hen had laid 124 eggs in this time. The other four hens in the pen had laid 149,166,182 and 197 eggs respectively. The two best hens in this pen laid 37 more eggs than any other two hens among the 150 in the competition. Only 9 out of the 30 pens laid 150 eggs or over and only 3 pens averaged 140 eggs or more per hen. The 150 birds had up to this time averaged 113 eggs in 250 days.

## FARM BULLETIN.

### The Murray Government Returned in Nova Scotia.

The provincial elections in Nova Scotia, on Tuesday, July 27, resulted in a signal victory for the Murray Government. Twenty-nine Liberal, seven Farmer, six Labor, and one Conservative candidates were elected, giving the Government a straight majority of fifteen. The majority in the last House was twenty-one. Two new parties, namely Farmer and Labor, are to be found in the present Legislature, while Conservatives are quite conspicuous by their absence. Two Cabinet Ministers were defeated, namely, Hon. H. M. McGregor and Hon. E. H. Armstrong. The return of the Murray Government was not a surprise, but in a time when Governments are tottering and falling, it is considered a signal tribute to Hon. G. H. Murray, after twenty-four years in office, and on his sixth appeal to the people, that his administration should be so overwhelmingly endorsed.

### Referendum Vote Postponed in Ontario.

The Dominion Government has postponed until Sept. 18, 1921, the date of the prohibition referendum in Ontario, which was originally set for October 25 of this year, in response to a request from the Ontario Legislature. The reason given for the postponement of the referendum is that the Ontario voters' list needs revision and bringing up to date, and several organizations such as the Dominion Alliance, the Great War Veterans' Association and the Citizen's Liberty League had requested a later date. No other province but Ontario is given a postponement of its referendum on the prohibition question.

### Purchasing Commission of Canada.

Ottawa has dissolved the War Purchasing Commission, which will be replaced by the Purchasing Commission of Canada, to consist of a chairman and two members who will supervise and check all purchases made by the various departments of the Government with a view to obtaining economy. Col. L. R. Lafèche, Montreal, and A. E. Howard, Vancouver, are the two members of the Commission so far appointed. The chairman is yet to be named.

### Two By-Elections on September 20.

By-elections will be held in St. John City and County and in Colchester County, N. S., on Monday, September 20, to decide the fate of two ministers recently added to the Meighen Cabinet. Hon. Rupert W. Wigmore, Minister of Customs and Inland Revenue, will seek re-election in his own constituency, St. John, and Hon. F. B. McCurdy, Minister of Public Works, who represents Colchester, will again contest that seat.



There are Still Plenty of These Late-hatched Chicks Throughout the Country. For winter laying, chicks should be hatched in March and April.

# Toronto, Montreal, Buffalo, and Other Leading Markets

Comment on week ending July 29.  
Quotations on last Monday's Markets.

## Receipts and Market Tops.

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

CATTLE						CALVES						
Receipts		Top Price Good Steers		Receipts		Top Price Good Calves		Receipts		Top Price Good Calves		
Week Ending	Same Week	Week Ending	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	
July 29	1919	July 22	July 29	1919	July 22	July 29	1919	July 22	July 29	1919	July 22	
Toronto (U. S. Y.)	5,269	6,426	5,041	\$16.25	\$14.25	\$16.50	1,422	1,487	1,507	\$20.00	\$18.00	\$19.00
Montreal (Pt. St. Chas.)	1,101	1,170	833	14.50	14.00	14.50	933	3,065	1,338	15.00	16.00	14.00
Montreal (East End)	1,203	1,527	929	14.50	14.00	14.50	640	2,263	1,098	15.00	16.00	14.00
Winnipeg	4,246	7,873	2,821	13.50	12.50	14.00	674	1,146	532	13.00	12.50	15.00
Calgary	1,202	5,172	1,125	11.00	11.00	11.35	111	850	94	12.00	13.00	13.00
Edmonton	645	882	381	11.50	10.00	11.00	99	131	68	12.50	9.25	12.00

## Market Comments.

### Toronto (Union Stock Yards).

The offerings of cattle during the week were made up largely of common and medium grades, and while a few good to choice killers on hand were readily absorbed, trading was generally dull and draggy. Receipts were slightly in excess of those of the previous week, and consisted of 5,679 head, of which number 409 were on through billing. It is the opinion of drovers, commission men, and others that prices will remain fairly steady on the basis of light receipts. The weak undertone to the market will continue until such time as the quality of the cattle is improved; the expectation of heavy runs is partly responsible for the somewhat unsteady tone to trading. It is believed that the country is bare of well-fed stock, and as a consequence very few choice animals will be obtainable until the fall run of stock is well under way. Under these circumstances it is felt that the lack of quality in receipts can be partly offset by reasonably light movements. The opening market of the week was 25 cents to 50 cents per hundred lower, and commission men held back their offerings in an endeavor to steady the market; late in the day, however, sales were made at 25-cent decline. Light and common classes of stock were cut 50 cents to \$1 per hundred. Trading throughout the week was confined to the medium and common classes, the few head of choice stock offered being quickly bought up. The best draft consisted of ten steers which averaged 1,325 pounds, and sold at \$16.25 per hundred. Only two other sales were made as high as \$16. The top load moved at \$15.75, while most of the good steers were weighed up from \$13.50 to \$14.50. Butcher cows and heifers of good killing qualities moved from \$13 to \$14, and the general run from \$10.50 to \$12. Bulls were mostly of medium quality, and sales were made generally from \$10 to \$11.50. Cannors and cutters were fairly easy to move within a range of \$4 to \$5. Several loads of good feeders were on hand from the Winnipeg stock yards, and good prices were realized, especially on the good quality dehorned steers. Thrifty feeders were in good demand at firm prices; short-keep feeders sold mostly from \$11.50 to \$12.50, and as high as \$13.50 per hundred. Stocker cattle were scarce and demand only fair; loads of good stockers sold up to \$10.50, while common kinds moved from \$7.50 to \$8.50. Calf receipts were again light, and as the Buffalo market was quoted higher trading was keen. At the close of the week veal calves were fully \$1 advanced, tops selling at \$20 per hundred, and good quality from \$17.50 to \$18.50.

The sheep market closed \$1 higher on all classes excepting heavy sheep, for which prices were steady. Straight decks of lambs sold as high as \$18.50 during mid-week; a number of sales were consummated at \$19, and sheep sales from \$12 to \$14 for yearlings, and \$6 to \$10

TORONTO					MONTREAL (Pt. St. Charles)				
CLASSIFICATION	No.	Average Price	Price Range Bulk Sales	Top Price	No.	Average Price	Price Range Bulk Sales	Top Price	
STEERS									
heavy finished	184	\$16.00	\$15.75-\$16.25	\$16.25	12				
STEERS good	279	14.50	14.00-15.00	15.35	162	\$14.00	\$13.50-\$14.50	\$14.50	
1,000-1,200 common	99	12.75	12.00-13.50	13.50	323	12.00	11.00-13.00	13.00	
STEERS good	353	14.00	13.50-14.50	15.00	127	13.00	11.50-13.50	13.50	
700-1,000 common	661	12.00	10.50-12.75	13.00	166	10.00	8.00-11.00	12.00	
HEIFERS good	384	13.75	13.25-14.25	15.00	43	11.50	10.50-12.00	12.00	
fair	578	11.75	11.50-12.00	12.50	160	9.50	8.50-10.00	10.00	
common	375	9.75	8.10-10.50	10.50	192	7.50	6.00-8.50	8.00	
COWS good	476	11.25	10.50-12.00	13.50	231	10.25	9.50-11.00	11.50	
common	1,067	9.00	8.00-10.00	10.25	479	7.75	6.00-9.00	9.25	
BULLS good	68	10.50	9.50-11.50	12.50	16	10.00	9.00-10.50	10.50	
common	186	8.00	7.00-9.00	9.50	249	6.00	5.00-7.00	7.00	
CANNERS & CUTTERS	106	4.50	3.50-5.50	6.00	74	4.50	3.00-5.50	5.50	
OXEN	19				21				
CALVES veal	1,413	18.00	17.50-18.50	20.00	1,218	12.00	10.00-14.00	15.00	
grass	9				355				
STOCKERS good	200	9.50	9.00-10.00	10.50					
450-800 fair	133	8.50	8.00-9.00	9.00					
FEEDERS good	97	12.00	11.50-12.50	13.50					
800-1,100 fair	31	10.00	9.50-10.50	11.00					
HOGS selects	3,825	21.50	21.25-21.75	21.75	1,031	21.60	21.50-21.75	22.00	
heavies	5	20.50	20.25-20.75	20.75	648	19.25	19.00-19.50	20.00	
(fed and lights	276	19.50	19.25-19.75	19.75					
watered) sows	221	18.50	18.25-18.75	18.75	552	17.00	16.50-17.50	17.50	
stags					34				
LAMBS good	3,682	17.50	17.00-18.00	18.75	1,667	14.00	14.00	15.00	
common	104	15.50	14.50-16.00	16.75	1,843	12.25	12.00-12.50	13.00	
SHEEP heavy									
light	799	9.00	8.00-10.00	10.00	155	8.00	8.00	8.50	
common	335	7.00	6.00-8.00	8.00	536	6.75	6.00-7.00	7.00	

for other kinds. A weaker undertone developed at the close on lambs, and a weaker market is possible if heavy shipments are made.

Light receipts again marked the movement of hogs, and as a consequence the market continued firm. Most of the hogs offered during the week sold at \$21.50 per hundred on a fed and watered basis; a few extra good decks moved at \$21.75.

The total receipts from January 1 to July 22, inclusive, were 159,824 cattle, 51,345 calves, 183,732 hogs and 38,453 sheep, compared with 173,602 cattle, 40,896 calves, 207,569 hogs and 44,309 sheep, received during the corresponding period of 1919.

### Montreal.

The offerings of cattle at the two yards were comparatively heavy, the majority being on sale on the Monday markets. Prices ruled at least 50 cents per hundred lower, some sellers claimed a loss of \$1 or more per hundred on some sales. The best load of cattle was held unsold throughout the week, as the highest bid that could be obtained was \$14.50. A buyer from Quebec city purchased two loads of good cows at \$11.50, a few choice young cows were sold to another buyer at \$12, but the majority of the good cows moved under \$11. Some very fair heifers, cows, and light steers were weighed up

together within a range of \$9 to \$9.50. A large percentage of the poorer grades of butcher cows were disposed of from \$7 to \$7.50 per hundred, and cannors around \$3.50. Yearling bulls sold down to \$5, and common fleshy bulls around \$7, while top for bulls was \$10.50. The market for veal calves was somewhat stronger, and odd sales were made up to \$15, and two or three at \$16. Fairly good drafts of dairy fed veal calves sold from \$13.50 to \$14, and thin grass calves from the East at \$7.

There were approximately 4,500 sheep and lambs for sale on the two yards during the week. Prices for lambs were lower, but the demand was keen at the new level. The most common price for good lambs was \$14, and the lowest price for poor lambs, \$10. Sheep were weighed up from \$6 to \$8.50.

The supply of hogs was insufficient to meet demand, and buyers paid up to \$22 per hundred for selects at off-car weights. The percentage of sows in the shipment was large. Any material increase in receipts would have a tendency to weaken the market, especially in the cattle classes.

PT. ST. CHARLES.—The total receipts from January 1 to July 22, inclusive, were 17,482 cattle, 45,977 calves, 38,388 hogs and 13,696 sheep; compared with 18,394 cattle, 48,764 calves, 47,046 hogs

and 12,386 sheep, received during the corresponding period of 1919.

EAST END.—The total receipts from January 1 to July 22, inclusive, were 19,500 cattle, 37,186 calves, 26,347 hogs and 11,953 sheep; as compared with 20,702 cattle, 33,993 calves, 28,402 hogs and 12,732 sheep, received during the corresponding period of 1919.

### Dominion Wool Market Report.

The wool market has been stronger during the past week, and wools are commencing to move more freely. Sales amounting to some 700,000 pounds of graded wool have been noted. Buyers are more in evidence, and the Canadian mills have been in the market for considerable quantities of the domestic product.

Quotations on graded wools follow, the prices varying somewhat according to shrinkage and general conditions:

Canadian Western wool.—Fine staple, 55c. to 59c.; fine clothing, 49c. to 52c.; fine medium staple, 56c. to 60c.; fine medium clothing, 53c. to 57c.; medium staple, 45c. to 48c.; medium clothing, 37c. to 42c.; low medium clothing, 35c. to 35c.; low staples, 25c. to 30c.; coarse, 20c. to 22c.

Canadian Eastern wool.—Medium staple, 50c. to 55c.; low medium staple, 42c. to 45c.; low staple, 30c. to 34c.; coarse, 23c. to 25c.

## Toronto Produce.

## Breadstuffs.

Manitoba Wheat (in store, Ft. William).—No. 1 northern, \$3.15; No. 2 northern, \$3.12; No. 3 northern, \$3.08.  
 Manitoba Oats (in store, Ft. William).—No. 2 C. W., \$1.09½; No. 3 C. W., \$1.06½; extra No. 1 feed, \$1.06½; No. 1 feed, \$1.04½; No. 2 feed, \$1.03½.  
 Manitoba Barley (in store, Ft. William).—No. 3 C. W., \$1.43; No. 4 C. W., \$1.33; rejected, \$1.10; feed, \$1.10.  
 American Corn (track, Toronto, prompt shipment).—No. 3 yellow, \$2.30, nominal.  
 Ontario Oats (according to freights outside).—No. 3 white, nominal.  
 Ontario Wheat (f. o. b. shipping points, according to freights). No. 1 winter, per car lot, \$2 to \$2.01; No. 2 winter, per car lot, \$1.98 to \$2.01; No. 3 winter, per car lot, \$1.92 to \$1.93; No. 1 spring, per car lot, \$2.02 to \$2.03; No. 2 spring, per car lot, \$1.98 to \$2.01; No. 3 spring, per car lot, \$1.95 to \$2.01.  
 Peas (according to freights outside).—No. 2 nominal.  
 Barley (according to freights outside). Malt, \$1.84 to \$1.86.  
 Buckwheat (according to freights outside).—No. 2 nominal.  
 Rye (according to freights outside).—No. 3, \$2.20 to \$2.25.  
 Manitoba Flour.—Government standard, \$14.44, Toronto.  
 Ontario Flour (prompt shipment).—Government standard, \$12.90, nominal, in jute bags, Montreal; nominal, in jute bags, Toronto.  
 Millfeed (car lots, delivered, Montreal freights, bags included).—Bran, per ton \$52; shorts, per ton, \$61; good feed flour, per bag, \$3.75 to \$4.  
 Hay (track, Toronto).—No. 1, per ton, \$31; mixed, per ton, \$27.  
 Straw, (track, Toronto).—Car lots, per ton, \$15 to \$16.

## Hides and Wool.

Hides f. o. b. country points—Beef hides, flat cured, 10c. to 12c.; green hides, 9c. to 11c.; deacon or bob calf, 75c. to \$1; horsehides, country take off, \$3 to \$5; No. 1 sheepskins, \$1.25 to \$2; yearling lambs, 50c. to 60c.; horsehair, farmers' stock, 38c.  
 City Hides.—City butcher hides, green, flats, 15c.; calf skins, green flats, 20c.; veal kip, 15c.; horsehides, city take off, \$4 to \$5.  
 Tallow.—City rendered, solids, in barrels, 9c. to 10c.; country solids in barrels, No. 1, 8c. to 9c.; cakes No. 1, 13c. to 14c.  
 Wool.—Unwashed, coarse 18c.; medium, 26c.; fine, 34c.

## Farm Produce.

Butter held firm at unchanged prices, fresh-made creamery prints selling at 59c. to 62c. per lb.; solids at 59c. to 60c. per lb.; choice dairy at 50c. to 52c. per lb., wholesale.  
 Eggs again firmed slightly in price, No. 1's selling at 59c. to 60c. per dozen, and selects at 62c. to 63c. per dozen, wholesale.  
 Cheese.—The small quantity of old cheese on the market advanced 1c. per lb., selling at 37c. per lb., while the new kept firm at 32c. to 33c. per lb., wholesale.  
 Poultry was a steady trade, with slightly heavier receipts and a good demand; the following prices being quoted to the producer: Chickens, spring lb., live weight, 40c.; dressed, 50c.; ducklings, spring, per lb., live weight, 30c.; dressed, 35c.; hens under 4 lbs., per lb., live weight, 26c.; dressed, 28c.; hens, 4 to 5 lbs., per lb., live weight, 28c.; dressed, 30c.; hens over 5 lbs., per lb., live weight, 32c.; dressed, 32c.; roosters, per lb., live weight, 23c.; dressed, 25c.; turkeys, per lb., live weight, 40c.; dressed, 50c.

## Wholesale Fruits and Vegetables.

Raspberries, sour cherries, blueberries and tomatoes have been shipped in quite freely the past week and prices have declined slightly.  
 Sweet cherries, gooseberries and red currants are gradually decreasing in quantity and prices, therefore, have advanced.  
 Plums, peaches and pears are beginning to come in, but they are very poor varieties.  
 Corn.—The first corn for this season came in Thursday last from G. C. Brown of Fonthill and sold at 40c. per dozen.  
 Beets, carrots and beans continued to be shipped in large quantities with prices keeping about stationary at their low levels of last week.  
 Cabbage were still a glut on the market. Potatoes have declined materially,

and it looks as if they would continue to do so.

Apples.—40c. to 65c. per 6-qt. basket; 50c. to \$1 per 11 qts.  
 Blueberries.—\$2 to \$3.50 per 11-qt. basket.  
 Cherries.—Sours, 50c. to 75c. per 6 qts.; \$1 to \$1.35 per 11 qts; sweets, \$1.50 to \$2 per 6 qts.; \$3.50 per 11 qts.  
 Currants.—Red, 16c. to 20c. per box; 75c. to \$1.25 per 6 qts.; \$1.50 to \$2 per 11 qts. Black, 23c. per box; \$1.50 to \$1.75 per 6 qts.; \$2.50 to \$3 per 11 qts.  
 Gooseberries.—75c. to \$1.50 per 6 qts.; \$1.75 to \$2.50 per 11 qts.  
 Pears.—65c. to 75c. per 6 qts.  
 Plums.—75c. to \$1.25 per 6 qts.; \$1.50 to \$2 per 11 qts.  
 Peaches.—40c. to 85c. per 6 qts.  
 Raspberries.—25c. to 32c. per box.  
 Tomatoes.—No. 1's, \$2.25 to \$2.50 per 11 qts.; No. 2's, \$1.50 to \$2 per 11 qts.  
 Beans.—25c. to 60c. per 11-qt. basket.  
 Beets.—25c. to 30c. per doz. bunches.  
 Cabbage.—\$1.50 to \$2.50 per large crate.  
 Cauliflower.—\$1.50 to \$3.25 per dozen.  
 Peas.—75c. per 11-qt. basket.  
 Potatoes.—85c. to \$1 per 11-qt. basket; \$2.50 to \$3 per bushel; \$4 to \$4.50 per bag.  
 Vegetable Marrow.—50c. to 75c. per 11-qt. basket.

## Buffalo.

Cattle.—Cattle trade for last week was a full quarter to a half lower on shipping steers, while about a steady trade prevailed on the very best grades of handy butchering cattle and fat cows generally, a medium and less desirable class of handy butchering grades showing a full quarter decline. Supplies for the week ran largely to the fair on down to common kinds, about the best in the yearling line landing around \$15 to \$15, with some few choice handy butchering steers selling up as high as \$15. Best native shipping steers sold on a range of from \$15 to \$15.75, with best Canadians from \$14.25 to \$14.85. Very few good handy butchering heifers were offered throughout the week, most desirable here ranging generally from \$10 to \$11, a few small lots up to \$12 to \$12.50, but ran to the yearling order. Choice fat cows sold up to \$10 to \$10.50. Trade was very slow and dull on stockers and feeders, some pretty decent quality stockers averaging around eight hundred selling at around \$9 to \$9.20. Bulls sold lower generally by a quarter and the trade was about steady on the best milk cows and springers, a medium and common kinds selling largely for beef. Receipts for the week totalled 4,325 head, as against 4,625 for the previous week and as compared with 5,550 for the corresponding week a year ago. Quotations:

Steers, Canadians.—Best, \$14.50 to \$14.80; fair to good, \$13.50 to \$14; common and plain, \$11.50 to \$12.  
 Butchering Steers.—Yearlings, good to prime, \$16 to \$16.50; choice heavy, \$14.50 to \$15; best handy, \$13.50 to \$14; fair to good, \$12.50 to \$13; light and common, \$9 to \$10.  
 Cows and Heifers.—Heavy heifers, \$12 to \$12.50; best butchering heifers, \$11.50 to \$12; good butchering heifers, \$10.50 to \$11; fair butchering heifers, \$8 to \$9.50; light, common, \$6 to \$6.50; very fancy fat cows, \$10 to \$10.50; best heavy fat cows, \$8.50 to \$9; medium to good, \$7.75 to \$8.25; cutters, \$5.50 to \$6; canners, good, \$4 to \$5.  
 Stockers and Feeders.—Best feeders, \$9.50 to \$10; common to fair, \$8 to \$9; best stockers, \$8 to \$8.50; fair to good, \$7.75 to \$8.25; common, \$6 to \$7; grazing cows, \$6.50 to \$7.25.

Bulls.—Best heavy, \$9.50 to \$10; good butchering, \$8.50 to \$9; sausage, \$7.50 to \$8; light bulls, \$6 to \$7.  
 Milkers and Springers.—Best, \$100 to \$125; medium to good, \$80 to \$90; common, \$55 to \$70.

Sheep and Lambs.—Last week opened with lambs selling steady, tops going at \$15.50 and \$16, with culls \$12 down, while sheep were a half dollar lower, best ewes landing at \$8.50 and \$9. The next two days the trade was steady; Thursday no top lambs sold above \$15.75, and Friday top was \$15.25, with not many selling above \$15, and culls ranged from \$12 down. The latter part of the week showed sheep selling steady with Monday. Receipts for the week totalled 5,100 head, as compared with 5,102 head for the week before, and 4,800 head for the same week a year ago.

Calves.—Market last week showed improvement as the week advanced. Monday, tops sold at \$19; Tuesday a few made \$19.50; Wednesday top was \$19.75; Thursday the best brought \$20, and Friday tops ranged up to \$21. On the cull grades sales ranged downward from \$17.50, some common drinkers going as low as \$8.50. Supply of Canadians the past week totalled around ten decks, and while some from this section sold at top prices, the majority landed 50 cents to a dollar under the natives. Receipts for the week were 5,150 head, the week before there were 4,953 head, and for the same week a year ago 3,100 head.

## Montreal.

Dressed Hogs.—The advance in the prices for live hogs is reflected in the market for dressed. Abattoir-dressed, fresh-killed hogs were quoted at 30c. to 30½c. per lb.  
 Poultry.—Prices of poultry maintained a steady tone; milk-fed chickens were 42c. to 45c. per lb.; fowl, 36c. to 38c.; geese, 30c.; turkeys, 57c., and ducks, 40c. per lb.  
 Potatoes.—Supplies of potatoes were being received freely, and prices displayed a tendency towards easiness. Canadian stock was quoted at \$4 per bag of 90 lbs., ex-store, and at \$3.50 to \$3.75 per bag of 80 lbs.

Maple Products.—There is no great demand for maple syrup, and prices were unchanged at \$2 per gallon in wood, and \$2.10 to \$2.25 per gallon in tins. Maple sugar ranged from 26c. to 28c. per lb.

Eggs.—A good demand continued for the best eggs, and prices were showing a firm tone. Quotations: Strictly new-laid eggs, 65c. per dozen; selected eggs, 64c.; straight candled, 61c.; No. 1 candled stock, 58c. and No. 2 candled, 50c. per dozen.

Butter.—Buyers have apparently sufficient stocks on hand to meet immediate requirements, and demand was consequently quiet. Pasteurized creamery was quoted at 59½c. to 59¾c. per lb.; finest creamery, 58½c. to 58¾c., and fine creamery, 57½c. to 57¾c. per lb.

Cheese.—The feeling in the market continued easy, and the lowest price for some weeks was recorded when 23¾c. was accepted for offerings. The decline in foreign exchange is having an adverse effect on the export market, cables being very discouraging.

Grain.—The local grain market was featureless. Oats were steady with No. 2 Canadian Western quoted at \$1.29; No. 3 Canadian Western at \$1.27, and No. 2 feed at \$1.23 per bushel, ex-store.  
 Business in winter wheat flour was slow. Choice grades were quoted at \$14.40 to \$14.50 per barrel, for odd lots in new cotton bags, and at \$14 to \$14.10 in second hand jute bags, ex-store.

A better demand has developed for white corn flour and prices were firm at \$12.80 for shipment to country points, and \$12.90 per barrel in jute bags, delivered to the trade. Rye flour was \$12 to \$13, according to quality.

Millfeed.—Bran was quoted at \$55.50, and shorts at \$62.50 for broken lots with flour, including bags, delivered to the trade. Car lots of bran were quoted at \$54.25, and shorts at \$61.25 per ton, including bags, ex-track, less 25c. per ton for spot cash.

Baled Hay.—No. 2 timothy hay continued steady at \$29 to \$30 per ton; No. 3 timothy hay, \$27 to \$28, and clover and clover mixed hay at \$25 to \$26 per ton, ex-track.

Hides.—Quotations on hides displayed an easier trend, with steer and cow hides quoted at 16c. per lb.; bull hides 12c. per lb.; calf skins, 24c. to 26c., and kips 16c. per lb. Lamb skins were 24c. to 26c. each, and clips 16c. Horsehides were \$5 each.

## Cheese Markets.

The cheese market was weak last week, owing to another serious drop in Sterling exchange. Cheese exporters were at sea and afraid to make large commitments. Finest easterns sold at Montreal on Saturday last at 25 to 25½ cents, while St. Hyacinthe sold 377 packages at 24 cents. At Belleville white sold at 25½, and colored at 26½ cents. Cornwall sold white and colored at 25¾ cents. On Friday, July 30, the United Dairy Co-operative Limited, at Montreal, sold 10 special colored at 26½ cents; 1,404 No. 1 colored at 26½ cents; 65 No. 2 colored at 25½ cents; 100 special white at 25¾

cents; 901 No. 1 white at 25½ cents, and 141 No. 2 white at 25 cents.

## Monday's Live Stock Markets.

(Dominion Markets Service).

Toronto, August 2. Cattle.—Receipts, 3,410. The market was very dull and unsettled. Packers were not killing on Monday, so were indifferent as to buying. All classes were twenty-five to fifty cents lower. There was very little good stuff on the market, and it was mostly medium to common grades. Top load of twenty averaging 1,175 pounds sold at \$15.40. The bulk of butchers went from \$13.75 to \$14.50. Choice stockers and feeders were steady to strong. Quotations: Heavy beef steers, \$14.25 to \$15.25. Butcher steers, choice, \$14 to \$15; good, \$11.25 to \$13.50; medium, \$8.50 to \$10.50; common, \$7.50 to \$8.50. Butcher heifers, choice, \$12.50 to \$14.50; medium, \$10 to \$12.50; common, \$7.50 to \$9.50. Butcher cows, choice, \$10.25 to \$12.25; medium, \$7.50 to \$9.50. Canners and cutters, \$3.25 to \$5.20. Butcher bulls, good, \$10 to \$11.50; common, \$6.50 to \$8.50. Feeding steers, good, \$11.50 to \$12.75; fair, \$9.50 to \$10.50. Stockers, good, \$8.50 to \$11; fair, \$7.10 to \$8.50.

Calves.—Receipts, 652. The calf market was steady with weak undertone. There were a few tops at nineteen cents, with bulk of good calves from \$16.75 to \$18.25. Quotations: Choice, \$17 to \$18.50; medium, \$14.50 to \$16.50. Common, \$12.50 to \$14.50. Milch cows, choice, \$125 to \$180; springers, choice, \$70 to \$105.

Sheep.—Receipts, 3,136. The sheep market was steady. Yearlings brought \$11.50 to \$13.50. Lambs were \$1 weaker, with a few tops at \$13.75, with bulk of good lambs selling around seventeen cents. Quotations: Ewes, \$7 to \$9. Lambs, \$15 to \$17.25.

Hogs.—Receipts, 1,944. The hog market was steady to twenty-five cents weaker. The prospects were for a further fifty-cent decline for the next day's receipts. Quotations, fed and watered basis: Selects, \$21.25; lights, \$19.25; heavies, \$20.25; sows, \$16.25 to \$18.25.

Montreal, August 2. Cattle.—Receipts, 1,275. Although prices quoted are about equal to those paid last week, there is a better tone to the trading, and sales have been fairly brisk. There were no real good cattle for sale, \$12 being the top paid for steers. The best cows sold up to \$11.50, and a few fair lots of steers and heifers for \$11 to \$12. The majority of sales were made for \$10 and under. Canners were \$3.50. Bulls were a little firmer at \$5.50 up. Quotations: Butcher steers, good, \$11.50 to \$13.50; medium, \$9 to \$11; common, \$7 to \$9. Butcher heifers, choice, \$10.50 to \$12; medium, \$8.50 to \$10; common, \$6 to \$8.50. Butcher cows, choice, \$9.25 to \$11.50; medium, \$6 to \$9; canners, \$3 to \$4; cutters, \$4 to \$5.50. Butcher bulls, good, \$9 to \$10.50; common, \$5.50 to \$7.

Calves.—Receipts, 1,307. The ruling price for good veal calves was \$14, four choice calves have been sold for \$16, and a few lots for \$14.50; common calves from \$9 up. Quotations: good veal, \$13.50 to \$14.50; medium, \$9 to \$12; grass, \$7.

Sheep.—Receipts, 2,776. Good lambs were sold in car lots at \$14.25 to \$14.50, a common quotation being \$14. Twelve selected blackfaced lambs brought \$15.50. Light lambs from the east brought \$11 to \$13.50. Quotations: Ewes, \$6 to \$9; lambs, good, \$14 to \$4.50; common, \$11 to \$13.50.

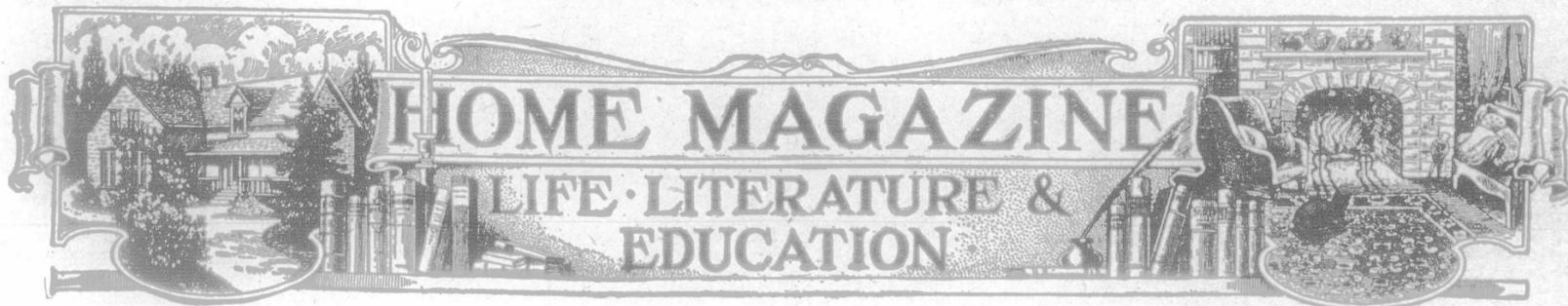
Hogs.—Receipts, 1,362. Hogs were quoted at \$21.50 for selects. Small picked lots were sold up to \$22; light feeders, \$19, and mixed lots, including sows and roughs, from \$17.50 to \$20. Quotations, off-car weights: Selects, \$21.50 to \$21.75; sows, \$16.50 to \$17.50.

Buffalo, August 2. Cattle.—Receipts, 4,700. Best shipping steers and choice handies were strong, medium and common were a quarter to a half lower. Best native shipping steers were \$16 to \$16.85. Best Canadians were \$14.85 to \$15.

Hogs.—Receipts, 6,500. Mediums and heavies were \$16.50 to \$17; lights generally were \$17.25.

Sheep.—Receipts, 2,400. Best lambs were \$15 to \$15.25; best ewes were \$8.50 to \$9.

Calves.—Receipts, 2,500. Tops, both Canadians and natives, \$19.



**"I Went Into My Garden."**

BY MARGUERITE WILKINSON.

I went into my garden at break of Delight Before Joy had risen in the eastern sky To see how many cucumbers had happened over-night

And how much higher stood the corn that yesterday was high.

I went into my garden where Rest had fallen away

From the tops of blue hills, from the valleys gold and green,

To see how far my beans had travelled up into the day

And whether all my lettuces were glad and cool and clean.

Oh, Rest had fallen away from the valleys green and gold,

From the tops of blue hills that were quiet all the night,

And the big round Joy was rising busy and bold

When I went into my garden at break of Delight!

**A Soldier Farm at Clarkson, Ont.**

THE two gentlemanly looking "chaps" in our illustration are returned soldiers. One is Mr. Ruthven ("Blondie") Wilson, son of Mr. J. Lockie Wilson,—and what farmer or farmeress in Ontario needs to ask who Mr. J. Lockie Wilson is?—As Superintendent of Agricultural Societies, Secretary of the Vegetable Growers' Association, and Secretary of the Horticultural Association, he has for many years been prominent in everything that makes for progress on the land in this Province.

Mr. Ruthven Wilson and Mr. R. Welton, after the War, settled down on the farm at Clarkson. Mr. Welton is now going to Nova Scotia to farm, but Mr. Wilson will still carry on at Clarkson, and so will still be identified with Ontario.

Briefly "Blondie's" career is as follows:

He took his degree of B. S. A. in 1916, his military training at the Royal Military College, Kingston, and stood among the first in his class and was over four years in the war, was twice recommended for bravery and received the Military Cross at the hands of the King at Buckingham Palace. When the Canadians broke through the Hindenburg line he was dangerously wounded, his right arm broken in three places, and shot through the left arm and was completely blind for four days in consequence of a gas attack. After being nine months in the hospitals of France and England he returned home and immediately purchased "Old Oaks" near Clarkson. The day after taking over the farm while leading a horse out of the stable he was kicked on the wounded arm, which was again smashed in several places.

He specialized in Horticulture and Bees and has now 30 swarms. He set out last year 425 cherry trees and a large number of pear and apple trees and several thousand raspberry bushes. He now has 300 white Leghorns and a poultry house lighted with electricity. This year's crop consists in part of 3,000 cucumber and 5,000 tomato plants. These two last crops are considered the best in the Clarkson district. The farm is kept in good order and he has entered in the Garden Competition of the Ontario Vegetable Growers' Association.

For his father's sake as well as his own, this soldier-farmer's career in the agricultural world will be of especial interest to the farmers of Ontario, whose good wishes will go with him.

**Interesting Meetings at Guelph.**

Summer School for Rural Leadership. Guelph, July 26th.

AT the time when this is being written, the first evening and the first half day of the Rural Conference at the Ontario Agricultural College, Guelph, are over, and already those present are saying that the attendance, if not the enthusiasm, is greater than at any preceding year's sessions. There are over one hundred whose names are on the roll, and these have come from every part of the Province of Ontario. Also they are of a considerable range in age, all the way from an ambitious lad who looks fourteen to gray haired folk of probably four times that. Surely rural progress in Ontario must go forward perceptibly faster because of such meetings as this, and the new life and inspiration that must be gained at them—to be carried out later on the concessions and sidelines in every part of the Province.

Perhaps the name, "Rural Leadership" is a bit misleading, for the men and women here assembled do not intend to go home and "boss the job" as some may imagine, but only to carry back to the folk at home ideas and experiments which all can join in working out.

One would like to stop right here and rave for a few minutes over the beauty of the college campus as it appears just now, green as emerald after the

many rains, bejewelled, just in front of the gray old school, with beds of pink snapdragon and many colored verbenas, but time presses, and it must suffice to say that the meetings are being held in "Massey Hall," and that, at the end of each lecture everyone, grave or gay, young or old, rollicking or dignified, hurries out on the green lawn for fifteen minutes of "play".—Yes, real play. The men were all at leap-frog this morning—even to your revered parson, dear sir or madam. For the Conference practises what it preaches, and recreation is recognised as a strong feature of the new community life to which this gathering seeks to give momentum.—But we anticipate.

The Conference opened at an organization meeting last night, with the Vice-President, Mr. Bethell, of Granton, in the chair. Mr. A. Maclaren, explained the objects of the organization, showing that its prime purpose is improvement and advancement of rural life conditions, and that for this great work all other organizations and all churches, both Roman Catholic and Protestant, are expected to unite. On his suggestion various committees were appointed to carry out the program of the Conference. The following speakers were then called upon and gave short addresses: Mrs. Courtice of the Board of Education, Toronto; Mrs. Todd, President of the Ontario Federation of Women's Institutes, and member of the Board of Education of Orillia; Miss McIntosh, Ontario's first

"Home Demonstrator," Assistant to the Representative of Agriculture, Brampton; Dean Tucker of London, and Rev. Mr. Bridgman of West China.—In passing it may be noted that Mrs. Courtice and Mrs. Todd both spoke of the great opportunity to serve that is open to women who work on School Boards; also that Miss McIntosh outlined the work that may be accomplished by the woman assistants to the district agricultural representatives, who are prepared to do for the homes what the Agricultural Representatives do for the farms. . . .

Dr. Tucker spoke a good word for his birthplace, Quebec Province, which some of us in Ontario do not know very well, but which is now rapidly forging ahead. Much work, however, still remains to be done, noted Dr. Tucker, in both Ontario and Quebec.

After a song "John Brown's Baby Has a Cold Upon Its Chest," conducted by Mr. Maclaren, the meeting adjourned until morning.

The program for the morning, July 27th included addresses by Prof. Reynolds, President of the O. A. C., whose lecture was the first of his series on "Rural Problems"; Mr. Maclaren, who spoke on Community Recreation and Athletics; and Mr. Agar of the Social Service Council of Ontario, whose address was on the work of that organization. Both of the latter will be reported more fully in next issue of this paper. This time there is space only for Prof. Reynolds' lecture, of which he very kindly gave a copy to the "Farmer's Advocate" reporter to pass on to you.

In beginning Prof. Reynolds suggested that some of the audience might think his ideas too radical. When the address was over the majority of comments heard on all sides were enthusiastically laudatory, two or three, however, wished there had been time for discussion. The address in full was as follows!

RURAL PROBLEMS (NO. 1.)  
BY PROF. REYNOLDS.  
The Town Dominant.

THE remarks that I shall make are to be understood as a statement of the point of view of farmers with respect to our modern industrial system and its effect on the national welfare. This point of view may seem to you extreme, and some of the conclusions may seem entirely wrong. But we shall never get anywhere in Canada until we learn to take into account the other fellow's views, and the other fellow's rights. And these views which I now attempt to give you explain what is known from East to West in Canada as the Farmer's Movement. Starting in Western Canada as a co-operative movement for the protection of the farmers' economic interests, it has spread to Eastern Canada. There it has taken political form and has resulted in a Farmer's Government in Ontario. The next Dominion election will probably see a strong contingent of farmers elected in nearly every province.

The occasion for this movement may be summed up in a phrase which has been on the lips and on the pen of every speaker and writer on the rural question for the last twenty years. The phrase is Rural Neglect. Evidences of rural neglect, of the neglect by government of rural interests are quoted from every English-speaking country, not only in Canada, but quite as much in the United States, and even more so in England. The decay of rural life in England has for more than a generation alarmed her economists and her statesmen. In the United States this decay prompted Mr. Roosevelt to appoint his Country Life Commission. In Canada experiment stations and agricultural colleges and rural credit societies and United Farmers organizations have thus far been unable to stop



Two Well-known Soldier Farmers.

Mr. Ruthven Wilson, son of Mr. J. Lockie Wilson, and Mr. R. Welton, who, for some time, were partners in the farm at Clarkson, Ont.

the rush of population to the cities. In Manitoba with the richest soil in the world there are only 49,000 farmers in a population of more than half a million, and more than half of that population lives within the city of Winnipeg. We have witnessed an era of industrial and speculative development, accompanied by the abnormal growth of cities and rural decline. It is time to pause and consider if all this change is for the good of the nation. Personally, I should prefer to come to you with a cheery message, and an assurance that all is well. But it is only the false prophet who proclaims "Peace peace", when there is no peace. So I take this occasion of presenting what is not merely a rural problem, but is essentially a national problem, and presenting it as fairly and accurately as I can from the farmers' point of view.

#### "Rural Depopulation in the U. S."

(From the Philadelphia Public Ledger)

Preliminary estimates of the United States census for the year 1920 are said to indicate that the farming population of that nation has dropped to 35 per cent. of the total. Forty years ago 70 per cent. of the people of the United States lived in the country. A decade ago 55 per cent. of the population was rural, but now it is estimated that only 35 per cent. live in the country."

The story that is told in this report is a true story of all English-speaking countries. In England, Ireland and Scotland, in United States and in Canada, slightly different causes have produced the same effects of hugely overgrown towns and a declining rural population. I propose to mention some of the causes, and to trace some of the effects of these changes as they have happened here in Canada within the memory of men who are still comparatively young. It may be that nothing can be done about it. It may be that a national change, a change in the life and character of a whole people, must be allowed to carry on to its proper conclusion. But in any event we should not close our eyes to facts and consequences of such great moment, nor mistakenly pronounce a thing good which may be evil.

I shall try in this address to show:

1. That the dominance of the town is the result everywhere of the industrial development.
2. That in Canada the dominance of the town has been fostered by our political and social ideals.
3. That the abnormal growth of towns is responsible for many of the economic and social ills from which we are at the moment suffering.

#### Industrial Development and Revolution.

The nineteenth century is distinguished among the centuries as the era of industrial development. Science and inventive genius in the nineteenth century accomplished more in speeding up the processes of industry than had ever been accomplished in all the centuries preceding since Cain began to till the soil and Tubal-cain worked in brass and iron. At the first half of the nineteenth century the sower went forth to sow just as did the sower of the parable, casting the grain with his dispensing palm aside and the harvester cut the grain with the sickle as did the harvester in the fields of Boaz. At the beginning of the twentieth century the seed was sown by clockwork in a huge drill drawn by two, three, or four horses, and with the self-binder one man could reap and bind as much grain in a day as ten men could do a half century earlier. Machinery has replaced hand labor in every industry. That is the industrial revolution.

The invention of machinery has been accompanied by an economic discovery of even greater significance,—namely, the principle of the division of labor. It was discovered that a man could do more work, could become more expert and "efficient," if he were kept at one single operation requiring the same motion hour after hour. The motions both of his mind and of his body became automatic, when confined to a narrow round. Greater accuracy and greater speed resulted, and consequently greater production and a higher economy in production. Any large factory to-day furnishes endless examples of this division of labor. I have never visited a Ford factory, but I am told the assembling of the machine takes place along the length of a great track, that the parts are added and adjusted by a multitude

of men each of whom gives a tap of the hammer or a turn to a screw as the car passes by him on the track. That may be an exaggeration, and I am not particularly anxious to know whether it is or not, but it illustrates the extreme length to which this division of labor may go.

Without guidance of the vision which forsee the finished whole, the skill of the individual workman will be in vain. He can make his wheel, his screw, but he can neither make the engine nor run it. He is not so unlike, as he may think, to that workman lent by special favor to one of the new munition factories in America. The man came with a record of five years service in the greatest motor works in the world. "What did you do there?" his new employer asked hopefully. "I put in bolt seventeen." "Not for nine years!" "Yes, for nine years."

It will be quite apparent that the division of labor is impossible in the system of small separate shops and factories such as existed in Canada a generation ago. Hence began the combination and amalgamation of separate industries in one big factory, and the elimination of the small village shop and factory. The craze for economy of production included transportation, and factories must be placed convenient

to lines of railway. The amalgamation of factories made necessary by the division of labor and the locating of factories at railway centres have produced the great modern manufacturing centres.



Home of Mr. Ruthven Wilson at Clarkson, Ont.

to lines of railway. The amalgamation of factories made necessary by the division of labor and the locating of factories at railway centres have produced the great modern manufacturing centres.

#### Manufacturer and Farmer.

Great combinations of capital, represented in the modern manufactory, have been made the means of securing political action which has favored the city industry by protective tariffs. Under a protective tariff, the manufacturer does not need to care how much he pays for his labor, for the protection enables him to charge a profit not only on the cost of his raw material, but also on the cost of his labor. Hence for forty years the farmer selling in an open market has competed in his bid for labor with the manufacturers selling in a market protected by tariffs high enough to prohibit or to reduce outside competition.

Forty years ago Canada started out to build cities. Her economic policy could end in nothing else. To her economic policy have been added her educational and social ideals. She has adopted the

policy of universal education, and the educational ideal she has set up has been an escape from the necessity of labor. It was not to be thought of that the brilliant High School pupil should choose some useful, productive industry for his calling. He must go into one or other of the professions. Our technical schools have not produced artisans or mechanics. The successful students of our technical schools have become civil or electrical engineers or technical experts. The unsuccessful have drifted into some business or other. It is charged that even the agricultural colleges have failed to produce farmers. It would be a wonder if they had produced farmers with the current so strong against them. I cannot forget the reproach that was the lot of the country boy when first he went to high school in a small Ontario town. A tanned face was a thing to hide, unless the owner could proclaim it the product of a season at camping. The farmer has been classed as a laborer in Canada, and the laborer is not respected however much we may rant about the dignity of labor.

Our industrial system has defeated its own ends, and has failed. It has built up the cities at the expense of country life, and the present day Canadian city as an expression of a well-ordered, well-

conditions, added to the tale of woe. Every increase in wages to the operatives was absorbed by corresponding increases in the cost of food, clothing and shelter. This particular manufacturer was seeking to escape from it all by locating a site for his factory in a part of the country which had not been poisoned by the neighborhood of a great city.

#### Country Losing Individuality.

By reason of the dominance of the town the country is fast losing its distinctive appearance and character and individuality. The very trees and standing crops are no longer green in June as of yore, but bear an ignoble load of dust churned up from the road by the wheels of flying motors. The telephone has invaded the quiet of the countryside, and the rural mail delivery brings the city newspaper with the city news, its sensations and its inaccuracies and its sporting column. City fashions in dress and sport and amusement have taken hold on country tastes. Teachers for country schools, and preachers for country churches are trained in city schools and colleges and carry with them to the country city ideas and ideals and the fond hope that they may before long be called to a city charge. The city mail-order house is filching away the business that used to be done in the country store, and the village smithy no longer stands beneath the spreading chestnut tree, but has long ago fallen into ruin.

#### Failure in Economy.

Our industrial system has failed, and failed signally, in economy of production. The small shop of forty years ago, with its master workman, a journeyman or two, and an apprentice, was much more efficient than its present day substitute, the huge factory in the city. Then the boss and the men and the boy all knew their customers as neighbors. Night or day a farmer could get necessary work done. Hours were not counted as the measure of a workman's obligations, so much as a neighbor's need. Workmen were no more skilled than now, and I believe no better at heart. But the system was infinitely better in its social relations. The relationship between shop and customer then was personal. The relationship between master and workman was personal and with the personal relation went the possibility of give and take. Then a workman could see his work from beginning to end, a chair, a wagon, a set of whiffle-trees. He could look upon the work of his hands as a complete article, and see that it was good. To-day, factory hands are no longer persons in their factories, they are machines, or slaves to machines. Interest in their work they have little or none. All is mechanical and impersonal. The loss in efficiency is due to the loss of individuality. A man can work ten hours a day without undue weariness of body. It is the weariness of spirit which demands shorter hours, and since the workman must have a living wage, be his hours long or short, the continued demand for shorter and shorter hours has reduced labor efficiency.

The building of great cities and the massing of growing families there have created another social problem and caused further loss in national efficiency. The farm is the great opportunity for occasional employment. The boys and girls on the farm need not be overworked, need not be kept out of school, and they need not grow up without habits of industry, and a familiarity with labor. The hordes of idle youths of both sexes in the city are idle because there is nothing for them to do. City business does not lend itself to family partnership. In the city the head of the house must earn for the whole family. On the farm the boys and girls serve apprenticeships to useful labor, and society is the better off for what they do, since they usually work for nothing. If the production of the farm were charged for at so much an hour for labor expended, and charged for at the rate the mechanic in the city must have in order to support his family, the food we eat would be the dearest of our commodities, instead of as it is now, the cheapest.

The town, having found a place on the map, must justify its existence, and must grow to keep pace with the other towns. Hence we have town boosters, whose aim is to make the town bigger, to attract industries to the town, to fill it up with population and sell more and

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**Individuality.**  
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more subdivisions farther and farther out from the centre. From the craze for town building we have the encouragement of industries that make nothing useful; we have company promoters whose object is to foist something on the public for consideration; we have real estate agents who earn nothing, but sometimes manage to collect a good deal of money earned by other people. The whole economic fabric of the city tends more and more to making the dollar, instead of useful commodities produced by honest labor, the measure of national wealth.

Through our existing industrial system, we have lost all sense of economic value. Our protective tariff enables the manufacturer to dictate his own price for his commodity. Therefore he cares little whether his commodity is produced economically or not. He cares little how inefficient his labor is, or how high-priced. He has the means of "passing the buck" to the consumer. The fostering of needless and useless industries by town boosters and company promoters enormously increased the number of men who draw wages for producing articles the nation can very well do without. As the writer of a recent economic article very significantly remarks "The trouble with some of the strikes is that they end too soon." Land and housing speculators, brokers, jobbers, middlemen, and a host of other unproductive occupations find harborage in cities, and increase the cost of living there for the actual workers. The greed of capitalists has forced the workers into trades unions, who have now set up their own standard of wages and hours of service. The trades unions have limited production and increased the cost of production by ordering the maximum quantity of work which a workman may do in a day. For example, while a good bricklayer can lay 1,800 bricks in a day, a bricklayers' union has set 800 bricks as a day's work. The limiting of production is based on the fear of unemployment. If too much work is done in a day, the work might not last long enough. The wage schedule is fixed by the unions on the basis of a living wage in the midst of conditions that make living difficult and expensive. The whole round of town industry has been divorced from nature and economic laws. While these artificial standards of living and wages have been established in the towns, land in the country has been going out of cultivation and the real earning power of a man has been forgotten. What natural measure of earning power can be found divorced from the land? What a man can produce by rightly directed labor applied to the land is the only true measure of earning. Yet men refuse that standard, and will not work on the land. Work must be found in the city for them, and if not forthcoming as a result of economic demand, the rules of the trades union create an artificial demand for services. The manufacturers begun by professing to cheapen the cost of production by division of labor. The unions have adopted the principle as their own, and have divided and subdivided trades, not to cheapen production, but to increase employment. No tradesman dares do a job belonging to another trade. Industrialism has become a monstrous tyranny, in which the workers themselves are twice victims of their own oppression. They are slaves to the rules of their own orders as workers, and they suffer the economic consequences of the wasteful system with the rest of society. Meantime native-born Canadians are hard to find among tradesmen and mechanics and laborers in Canada. Real Canadian democracy cannot endure the tyranny of the system. Native Canadians for the most part are engaged in farming, business or the professions. City laborers and mechanics, skilled or unskilled, throughout Canada are non-Canadian. Thus the free traditions, the individual liberty, the encouragement of individual excellence, and the right to enjoy the rewards of superior achievement,—blessings which our fathers secured on the soil of Canada, are being filched from us by the invading hordes of European Socialism. All this is traceable to that much-lauded policy "for the encouragement of native industries" and is the evidence of the dominance of the town in the life of Canada.

You may say, "Granted that all this indictment of our industrial system is true, what are you going to do about it? Machinery and trade unions have come



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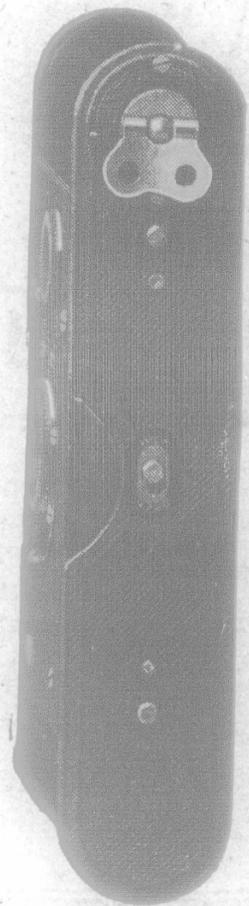
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to stay, and the cities are built. Shall we smash all our machinery and pull down our cities and disband our industrial armies and all go and live in the country? These would be simple measures, but not remedies. For with these changes the habits and capabilities and character of the people would remain the same. City-bred people cannot be made farmers in a day, nor can they learn the rural way of living merely by being driven into the country.

It is something to point out the danger. The prudent man foreseeth the evil and hideth himself; the simple pass on and are punished. But we must get at the root of the matter. The complete remedy may be made the theme of another discourse, and there is time now only to indicate lines of action.

1. We must remove the original cause of rural neglect. All industry must be put on an equal footing before

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the law. We must destroy by a tariff revision the privileges enjoyed by town industries, so that agriculture can bid for labor and capital in the open market on an equal basis with other industries.

2. We must encourage rural organization for business and even for political purposes. The farmers know pretty well what they want, and what they want is for the good not only of their order but for the good of the nation likewise.

3. Agriculture and country life must be fostered by community organizations, rural credit societies, and agricultural research and instructions in the schools and colleges.

4. These reforms would bring about a change in our educational and social ideals, whereby labor would be honored, and because of improved conditions country life would be sought instead of being shunned.

Such a result would mean a return to a type of Canadian democracy we are fast leaving behind. For it is as true now as when Aristotle said it that "where husbandmen and men of small fortune predominate government will be guided by law."

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## Your Health.

BY "MEDICUS."  
Baby's Health.

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If you are a Canadian, a true patriot, you will naturally be interested in child welfare work and parental clinics. If you are human—and you are human—you will be interested in babies. One does not need a wide vision to realize the importance of this work to the future of our country, our nation.

According to Dr. Hastings, Medical Officer of Health, Toronto, more than one-fifth of all the deaths in Toronto last year occurred in children under one year of age, and of these nearly one-half died during the first month. This enormous sacrifice during the first month of life is for the most part preventable. Now what is your duty? What can you do? What is your part?

First let us think of the education of the young girl, the future mother. Is she taught anything in the public or high schools about the care of a baby? For



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#### The Western Crop.

It is estimated that about 30,000 men will be required to work as farm laborers to assist in harvesting the crops in Manitoba, Saskatchewan and Alberta. The Canadian Pacific has arranged and is advertising usual special fare of \$15 to Winnipeg, and will run special trains from Toronto, August 9, 11, 16 and 18. For further particulars, apply to ticket agents or H. J. McCallum, city passenger agent, corner Dundas and Richmond Street, London, Ont. —Adv.

her life's work is it more essential for her to know that Columbus discovered America in 1492 rather than to know how to wash and dress a baby? Do you wonder that Premier Drury has appointed a commission to investigate the educational problems of our Province? It seems almost inconceivable that in the light of our present knowledge, a girl in any civilized country should be allowed to complete even her public school education without having been taught a few of the more important essentials about the care of babies.

Fortunately the baby has been coming into his own of late, so that the infant death rate in any municipality is now considered the best index of the intelligence and enlightenment of the people of that community. Ask your own medical officer of health about the death rate last year in children under one year, and compare that with the previous year. Unless there is a definite decrease you are evading your responsibility, your duty to yourself and your community. You are your brother's keeper.

What is needed most? More knowledge and training in the prevention of disease. This is the purpose of the Child Welfare Movement, the Prenatal Clinics, Medical Inspection of School Children, Nutritional Clinics, etc. If there is an agitation in your neighborhood for the establishment of any of these, I hope you mothers will encourage and help along the good cause. If there isn't some such movement, start one.

The first and most important step in the decreasing of the infant mortality, after the baby is born, is the securing of the nursing of that baby by its mother. It may well have been said that for the infant all blessings flow from the maternal fount provided by nature. The appalling decrease in breast feeding is by no means confined to the city. On the slightest provocation mothers too often wean the baby. Records of all cities, both in Europe and America, show that for every death from gastro-intestinal diseases among babies nursed by the mother, from 8 to 10 deaths occur among those that are artificially fed. Therefore, it must be apparent that the mother who weans her child when she can possibly nurse it, may find herself at least morally responsible for the death of that child.

In New Zealand, which has probably the lowest infant mortality of any country in the world, nursing premiums are paid. The mothers are allowed \$10.00 by the Government for nursing their babies. In such countries as Sweden, Japan, Alaska and Greenland, where the infant mortality is extremely low, artificial feeding is almost unknown.

It is about 25 years ago since a wave of optimism spread through the world concerning the artificial feeding of infants. Many foods were concocted and offered for sale, only to be all too rapidly recommended by the medical profession. Mortality figures have at last enlightened the world and revealed the fact that the mortality is almost ten times greater amongst those that are artificially fed than those that are fed at the breast. It has been very conclusively shown that the ability to resist disease depends largely on the form of nourishment that the babe receives. The artificially-fed infant is much more susceptible to disease, hence the high mortality among them.

It is of importance that the babe be not weaned too soon. If the mother has not sufficient nurse don't wean the baby. Keep on nursing and supplement the nursings by a modified cow's milk, as directed by your family doctor.

If the baby has been weaned, start nursing again. The nurse will return even though the baby has been weaned for weeks. Four to six weeks is an ordinary length of time when you can get the nurse to return. One writer reported in the Journal of the American Medical Association that he has investigated several cases where the grandmothers, even though they had no young children of their own, had nursed children, in spite of their advanced age. In some countries even boys have been trained as wet nurses.

#### Summary.

1. For national reasons, for humane reasons, encourage the establishment of the Child Welfare Movement in your neighborhood, or any other movement to lessen disease. Considering the cost of paper and labor and other expenses, one cannot help but admire the altruistic motives of many publishers who are running "health columns."

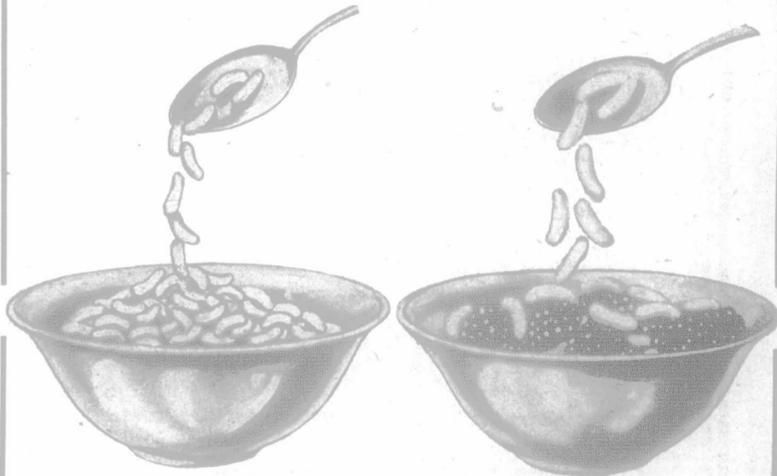
## Five Joys a Day

### Which Bubble Grains Can Bring

Millions of people in these summer days revel in Puffed Grain delights. Morning, noon and night—in a dozen ways—they serve these fascinating foods.

Here are grain foods puffed to bubbles—airy, flaky, flimsy. They crumble at a touch, they melt away into almond-flavored granules.

They are whole grains, steam-exploded. Every food cell has been blasted for easy, quick digestion. The two Puffed Grains are in these ways the finest foods created.



### Two Morning Joys

Puffed Grains with cream and sugar—the most delightful cereal dish that children ever tasted.

Also mix with your berries. The flaky, savory morsels add what crust adds to a shortcake. You are missing much if you serve fruit without this nutty blend.



### Two Evening Joys

Puffed Wheat in milk is the supreme dish for supper or for bedtime. It means wholewheat kernels puffed to eight times normal size. Being toasted they are savory, and with every food cell blasted they are easy to digest.

Puffed Rice doubles the delights of ice cream. These fragile dainties fairly melt into the cream. And they add a flavor which suggests a toasted nutmeat puffed. They are also used like nutmeats in home candy making.



#### Puffed Wheat

#### Puffed Rice

#### Bubble Grains

Puffed by steam explosion to 8 times normal size.

#### All Day Long

Also crisp Puffed Grains and douse with melted butter. Then children eat them like salted nuts. Thus these grain foods largely displace confections.

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AUGUST 11, and AUGUST 18.	From Stations South and West of Toronto to and including Hamilton and Windsor, Ont. From Owen Sound, Walkerton, Tecumseh, Wingham, Elora, Listowel, Godfrich, St. Mary's, Port Burwell, and St. Thomas Branches. From Stations Toronto and North to Bolton, inclusive.

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2. Educate your friends to realize the value and necessity of breast feeding.
3. Don't blame the nurse when the baby has colic. You are most likely feeding the baby too often. Don't feed it every time it cries. If it doesn't cry it will never develop its chest.
4. If you have weaned the baby, even for 6 to 8 weeks, start breast feeding again. If you persevere you will be rewarded.

### Health Slogan.

Swat the fly before he gives you typhoid fever.

### The Children's Poem.

Dickie Duckling.  
BY DAVID M. CORY.

First draw an Egg, dear Children,  
And then if you have luck,  
By adding head and tail and feet  
You'll find you have a Duck.

Then dot his eye and draw his bill,  
And mark his wing out, too,  
And soon your picture duck will look  
Just as real duckies do.

This is the way all goslings grow;  
From eggs kept nice and warm,  
Which Mrs. Duck has sat upon,  
The little ducks are born.

For many, many days she sits  
Upon her nest of eggs,  
And with her feathers keeps them warm,  
And turns them with her legs.

Until the eggs are warmed all 'round,  
And when it's time to tell,  
She whispers to the little ducks  
To break their prison shell.

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**YOU** say and believe that you would do *anything* for your children. Have you started a savings account for them yet? Do it today at the Bank of Montreal, even if you begin with only one dollar. There is no better way to teach them thrift and no more important lesson for them to learn.

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## Hope's Quiet Hour.

### The Value of a Soul.

Whoever will save his life shall lose it; but whoever shall lose his life for my sake and the gospel's, the same shall save it. For what shall it profit a man, if he shall gain the whole world, and lose his own soul; Or what shall a man give in exchange for his soul? —S. Mark 8 35-37.

This is one of our Lord's favorite sayings. It was repeated again and again (see S. Matt 10, 39; 16 : 25; S. Mark 8 : 35; S. Luke 9, 24; 17 : 33; S. John 12, 25.) These tests cannot all refer to the same occasion; and the message so often repeated must be one of great importance.

The great paradox of Christ shows how thoroughly He understands human nature. The instinct of self-preservation is so deeply rooted in a normal person that when a man commits suicide we at once think he must have been insane. As for such a mad act as was attempted the other day—the attempt to shoot Niagara in a barrel—it only shows that some people value very lightly the most priceless thing they possess. In the R. V. our text is translated rather differently. Our Lord used the same word for "life" and "soul". The translators put "soul" in the margin of all three verses, but evidently think "life" expresses His meaning: "What doth it profit a man, to gain the whole world, and forfeit his life? For what should a man give in exchange for his life?" (R. V.)

A friend of mine, who was trying to make me understand why that life was risked so madly in the Niagara River, said: "Oh, he did it for money, or for notoriety!" How much money is your life worth? What pleasure will it be to you to have your name in the papers when the value of earthly fame has faded into a crown of withered leaves?

"Are not five sparrows sold for two farthings, and not one of them is forgotten before God? . . . Ye are of more value than many sparrows." A sparrow's value was less than half a farthing (if sold wholesale) and yet, though two sparrows are sold for a farthing, not one can fall to the ground lonely and unnoticed. The Father cares even for sparrows, and we hardly need to be told that a human soul is of more value than many sparrows.

And yet, in all ages, through wars and accidents and disease, human lives are cut down like grass before the mower. The lifeless bodies are gathered up and buried, and the world goes as on before. Like the water displaced by a moving ship, the gap fills up swiftly. There are so many millions left that one, or a hundred, or a thousand are scarcely missed or, so it seems!

Yet each life is of priceless value to the man himself; and there are few lives so poor in quality that no one loves and misses them. A soldier, dangerously wounded, was overheard saying over and over: "O God, help me to get well, for the sake of those I love at home."

Who can measure the value of a human being? A baby has not consciously done anything to help the world—but ask any normal mother what she will sell her treasure for! Will the price be in hundreds, or thousands, or millions? Ask and you will find out.

And yet it is Christ who has taught us the value of a human being. In heathen countries babies are priced very low, and are often thrown away as valueless. Men and women are sold like cattle and killed when they have passed their usefulness.

It is Christ who taught us the value of human life, so that in Christian countries the life of the tiniest infant is jealously guarded and one who kills a helpless baby must face the murder penalty. And yet it is also Christ who sets before us a grander law than that natural instinct of self-preservation, which is so strong in us.

Some people declare that the Bible says: "All that a man hath will he give for his life." Those words are certainly in the Bible; but don't quote them as Bible truth until you have looked them up (Job 2 : 4). They are part of Satan's lying accusation of Job. It was Satan who made that assertion which every age has proved untrue. Man's life is worth more than all the wealth of earth, and yet only God





## Rust-proof

A heavy coating of copper protects the body of the plug. This prevents carbon deposits; carbon under electrical heat will not adhere to copper.

Kopper King Spark Plugs are anti-fouling and rust-proof. They will not rust into the cylinder head.

For sale by all dealers. Price \$1.50.

**Canadian General Electric Co., Limited**

Head Office: TORONTO

Branch Offices: Montreal, Quebec, Sherbrooke, Halifax, Sydney, St. John, Ottawa, Hamilton, London, Windsor, Cobalt, South Porcupine, Winnipeg, Calgary, Edmonton, Nelson, Vancouver and Victoria.

# KOPPER KING

## SUNNY ACRES Aberdeen - Angus

Present offering—A few young bulls ready for service.

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

## YORKSHIRES

Pigs of different ages, both sexes, from large litters.

WELWOOD FARM

Farmer's Advocate, London, Ontario

dull that we think them commonplace, let us ask the Lord to anoint our eyes with eyesalve, that we may see.—Rev. 3:18.

Only Infinite Wisdom can compute the value of a soul; but our Lord has sternly warned us against despising one of His little ones, or leading into evil a trusting child. He says of such a despiser of God's jewels: "It were better for him that a millstone were hanged about his neck, and that he were drowned in the depth of the sea."

How pleased He must be to see so many of His servants bringing the children nearer to Him in countless homes and schools. They are His peculiar treasure,—in life and in death—we can trust them in His hands. And so we pray in joyous hope, to our Great High Priest:

"Every white soul of them,  
Ransomed and blest,—  
Wear them as living gems,  
Bear them as living flames,  
High on Thy breast!"  
DORA FARNCOMB.

For the Sick and Needy.

"Returned Warhorse," Brampton, Ont., dropped a dollar into the Q. H. P. this week—which will carry good cheer to a blind veteran of the Boer War. A goodly number of papers have come from readers. I took some of these to the Hospital today and they were gratefully received by the patients. For my part, I am in a chronic state of gratitude towards you all.  
DORA FARNCOMB,  
6 West Ave., Toronto.



## Romance of the Mutual

The Ontario Mutual, now the Mutual Life Assurance Company of Canada, was founded by a remarkable group of men. Not one of them occupied a prominent position in business or financial circles, nor had they experience in life insurance.

With their extraordinary vision, deep sense of responsibility resting upon them as trustees and in the careful attention they devoted to the affairs of the Company, they laid the foundation upon which the Mutual rests today with its assets of over \$38,000,000, all belonging to the policy holders of the Company.

**The Mutual Life  
of Canada  
Waterloo-Ontario**

103

## It Isn't What You Earn, But What You Save That Counts

In your SPARE TIME act as subscription agent for "THE FARMER'S ADVOCATE," and put what you earn in the bank. Write for instructions. LONDON, ONTARIO

THE WILLIAM WELD COMPANY, LIMITED

## Barrett MONEY SAVERS for FARM and HOME

THESE Barrett Products will begin saving money for you the day you begin using them. And think how much worry they will save you! Your live-stock will be clean, contented and free from vermin, and your roofing troubles will be at an end.



### Creonoid (Fly Oil) Lice Destroyer and Cow Spray

A boon to farmers, stockraisers and poultrymen. Destroys flies, lice, mites and vermin of all kinds.

It is easy to use and its low cost is many times repaid by the better health of all live-stock. When the worry caused by flies or other insects is removed by Creonoid, horses are healthier, hogs fatten more quickly, cows give more milk, and hens lay more eggs.

Put up in: 1-gallon cans (12 to the case), 5 and 10-gallon cans, ½ barrels and barrels.



### Everlastic "Rubber" Roofing

The biggest value in roll-roofing on the Canadian market. Made of high grade waterproofing materials. Is low in cost, easy to lay, staunch and durable.

More than a million rolls of Everlastic "Rubber" Roofing were sold last year throughout the world.

Made in three weights, light (1 ply); medium (2 ply); and heavy (3 ply). Rolls contain 108 square feet. Nails and cement with each roll.



### Everlastic Liquid Roofing Cement

Unequaled for re-surfacing worn-out felt and "Rubber" roofs. Has the consistency of thick molasses; is easy to apply and dries quickly into a hard, elastic, wonderfully durable coat. Proof against moisture, acids, alkalis and fumes. Has same base as Barrett Specification Pitch, which is famous for its waterproofing qualities.

Comes ready for use in packages ranging from 1 pint tins to 40 gallon barrels.



If your General Store or Hardware Dealer can't supply you with these Barrett Products, write us and we will.

ST. JOHN, N. B.  
HALIFAX, N. S.  
SYDNEY, N. S.

The **Barrett** Company  
LIMITED

MONTREAL  
TORONTO  
WINNIPEG  
VANCOUVER

## Gossip.

In presenting this offering to Canadian breeders, Messrs. Brethour & Nephews has need for no apologies. The firm for the first time in years will not be exhibiting at any of the shows this year, and the 130 head catalogued for this sale represents not only their show herd, but includes practically their entire breeding herd of saleable age. The entries are the best obtainable after a life-time spent in breeding Yorkshires, and, in many instances, the families being offered represent as many as 10 generations of Oak Lodge breeding. The line breeding followed is without doubt largely accountable for the great uniformity of the present-day herd, and breeders wishing to strengthen their herds with breeding stock of either sex will find here animals of not only the correct type, but animals that although retained for show purposes have at all times been regular and proven breeders. There will be several lots selling in each of the various show ages, and there will still be time after the sale to make entries for all shows, including Toronto. The catalogue is complete and will be sent on request.

### Sale Dates.

Aug. 11—Jas. R. Fallis, Brampton; Shorthorns.

Aug. 18—J. E. Brethour, Canadian Exhibition Grounds, Toronto; Yorkshires.

Sept. 16-17—Ottawa Valley Holstein Club Sale, Exhibition Grounds, Ottawa.

Oct. 7—Curry-Bowes & Bowes, Markham; Scotch Shorthorns.

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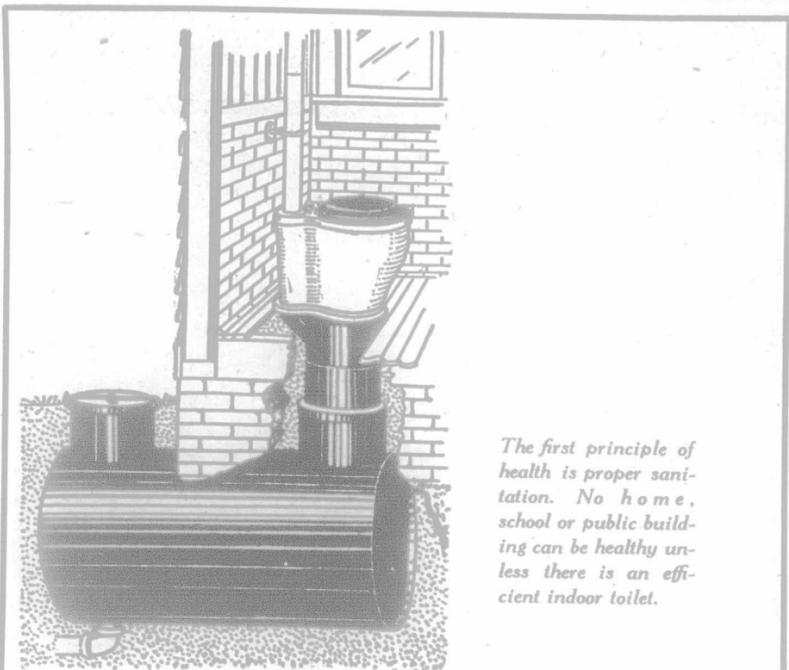
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Valley Holstein  
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& Bowes, Mark-  
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The first principle of health is proper sanitation. No home, school or public building can be healthy unless there is an efficient indoor toilet.

## An Indoor Toilet For Rural Homes

**K**AUSTINE WATERLESS TOILETS brings the same standard of comfort, sanitation, privacy and refinement to the rural home that the water closet brought to the city.

Chemical sterilization and scientific ventilation make Kaustine equipment as satisfactory a sewage disposal system as could be desired.

This modern, convenient, sanitary, indoor toilet system is putting an end to disease danger in unsewered localities all over the world, from Australia to the Arctic.

A quality job throughout—sold under a positive long-term guarantee.

You'll be interested in reading the full facts about this vital need and learning its surprisingly low price. Write to-day. Don't put up with the disagreeable, health-menacing outhouse one day longer.

**KAUSTINE CO., LIMITED**

26 Eastern Avenue, Toronto

Also Makers of Kaustine Septic Tanks

## KAUSTINE Waterless TOILET

### Gossip.

The Fallis Sale, Aug. 11.

The James R. Fallis' Shorthorn dispersal, advertised elsewhere in this issue, is one of the important sales of the year, and offers Canadian breeders a splendid opportunity of selecting a choice lot of well-bred breeding females at the buyer's own valuation on August 11. Everything in the herd is to be sold without reserve, and breeders will find here a herd of cattle that are showing in nice breeding condition, and in most instances have not only style and character but sufficient size as well to warrant the attention of every good breeder who appreciates thick, well-grown cattle. As will be noted, too, the pedigrees in most instances are Scotch or Scotch-topped and where there are exceptions it is pleasing to note that these individuals have, in every case, been retained on account of their splendid milking qualities. It is not our intention to attempt individual mention of the offspring, but there are among the 50 lots several that one could scarcely pass unnoticed. The outstanding individual of the sale is without doubt the great six-year-old roan show cow Celia Gem, a cow with plenty of scale, smooth, evenly balanced and



Cord or Fabric.

Good company on a journey makes the way seem shorter.

Dependable Partridge Tires should be your companions on all your motor trips. They shorten the journey by allowing you to travel in comfort—free from the annoyances, delays and expenses caused by tire troubles.

Partridge Tires, like loyal servants, serve you faithfully always.

## PARTRIDGE TIRES

Game as Their Name

### ONTARIO LADIES' COLLEGE

WHITBY, ONTARIO

School Re-opens Sept. 14th, 1920

Public School to Second-Year University. Household Science, Music—Instrumental and Vocal; Commercial, Elocution, Art, Civic and Parliamentary Studies, Gymnasium Work and Swimming.

For Calendar apply to Rev. F. L. Farewell, B.A., Principal

## The Farmer-Banker Alliance



You go to your lawyer for legal advice; to the doctor for medical advice; why not to The Merchants Bank for financial advice?

If you want a loan to buy cattle, hogs or equipment—if you want information as to how to invest money—come to those who make a business of financial matters, and are in a position to give you sound and impartial advice.

## THE MERCHANTS BANK

Head Office: Montreal, OF CANADA Established 1864.

With its 149 branches in Ontario, 47 branches in Quebec, 1 branch in New Brunswick, 3 branches in Nova Scotia, 44 branches in Manitoba, 44 branches in Saskatchewan, 87 branches in Alberta and 11 branches in British Columbia, serves rural Canada most effectively.

WRITE OR CALL AT NEAREST BRANCH.

### DUAL-PURPOSE SHORTHORNS

Herd headed by Dominator 106224, whose two nearest dams average 12,112 pounds of milk in a year.

Bulls from 1 to 6 months old for sale, also a cow or two. Inspection of herd solicited.

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

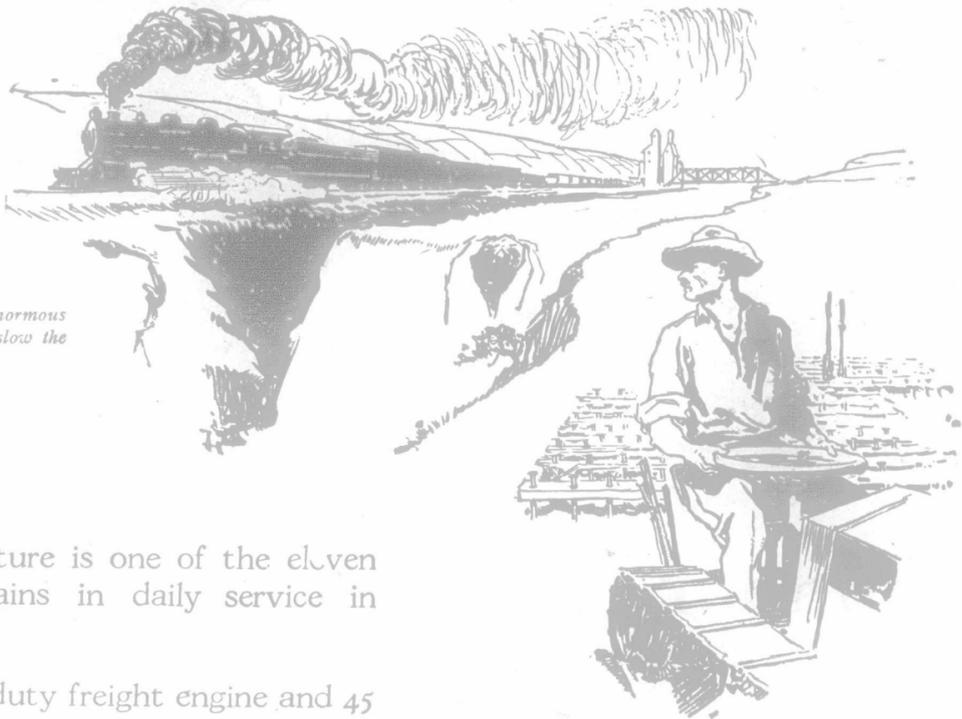
carrying just a little more all-round Short-horn character in head and horn than any cow that has passed through an Ontario sale-ring for some time. Calceolaria of Oakbluff, another roan, is also a stylish-made cow, just five years old, and sells with an 8-months heifer by Gainford Matchless, one of the best breeding sons of the great Gainford Marquis (imp.). These are cows that will gain attention in any company, and prominent among the dual-purpose entries is found the champion dual-purpose winner at the Canadian National Exhibition last year in the roan 7-year-old cow Aletta, which will be selling with a two months heifer calf at foot by the herd sire. The offering although not a mixed one includes thick Scotch cows, and also big deep cows of English breeding, and the latter, without exception, are all excellent milkers. A catalogue of the offering will be sent on request.

He Knew One.—Teacher—"Tommy, what is a simile?"

Tommy.—"I fergit, ma'am."

Teacher.—"Well, if you said, 'My hours at school are as bright as sunshine,' what figure of speech would that be?"

Tommy.—"Irony."—Cleveland Leader.



*The flight of a train is like the throb of an enormous pulse in the arteries of the nation. To slow the beat is to slow the life of the country.*

**T**HE train in this picture is one of the eleven hundred freight trains in daily service in Canada.

It consists of one heavy-duty freight engine and 45 standard box cars.

It can carry 2,000 tons of wheat.

\* \* \*

In 1913 its engine could have been built for \$34,700—to-day \$81,000 ; its box cars for \$1,138.85 each—to-day \$3,797.50.

In other words the rolling stock alone in the movement of 2,000 tons of wheat has increased in cost from \$85,948.25 to \$251,887.50, or 193.1% !

\* \* \*

The labor bill of the railways has risen in the same period from \$115,000,000 to \$231,000,000,—101% !\*

The cost of rails for a mile of track has gone up from \$9,497 to \$19,680—107% !

No cost has been unaffected by the general rise.

Operating expenses continue to rise more rapidly than Gross earnings. Net earnings are sinking at an alarming rate.

\* \* \*

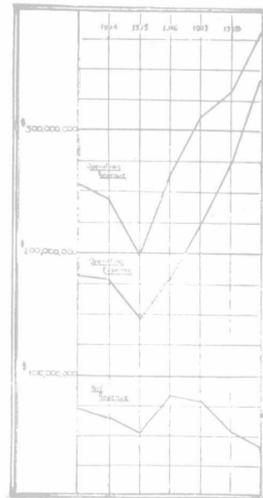
These are the facts that lie behind the application for increased freight rates for the railways.

\* Estimated.

*This advertisement is published under the authority of*  
**The Railway Association of Canada**  
 formerly the CANADIAN RAILWAY WAR BOARD

**Explanation of Chart:**

Top line shows the rise of Gross revenue.  
 Middle line shows the more rapid rise of Operating Expenses.  
 Bottom line shows the downward plunge of Net earnings as a result of the rise in the middle line—Operating Expenses.



## The Royal Bank of Canada



The Farmer's Wife should have a Bank Account.

Sometimes the money received 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

## Thoughtless Spending

brings only superficial pleasures which soon pass and are forgotten.

Thoughtful people are checking unnecessary expenses and opening savings accounts where their money will constantly grow and will bring contentment and security in the future.

2B

Paid-up Capital \$ 9,700,000  
Reserve - - 18,000,000  
Resources - - 230,000,000

## THE BANK OF NOVA SCOTIA

We invite your account. Special facilities for banking by mail. Three hundred and twenty-six branches. General Office, Toronto



The four essential points are here  
**Strength and Looks—Price and Wear**  
Johnson Ideal Halter Co., Sarnia, Ontario

## Danger From New Diseases of Wheat.

(Experimental Farms Note.)

Aside from rust and smut, Canadian wheat crops have been found remarkably free from destructive plant diseases. Recently however, there have been discovered in the U. S. A. two new diseases, "Flag smut" and "Take all" about the presence of which there has been felt considerable alarm. Now up to the time of writing, Canada has not been invaded by either of these new troubles. But growers should be ever on the lookout for these and any other obscure trouble with which their practice has not made them thoroughly familiar.

"Flag smut," so called because the smut occurs on the flags or leaves of wheat, is easily recognized by the long streak of smutty stripes running along the leaves. The affected plants also show a peculiar tangled and twisted appearance as if the leaves were wound around the stem. Any suspicious plant should be sent to the Division of Botany, Experimental Farm, Ottawa.

"Take all", as the name implies, takes all and is probably the most serious wheat disease known with the exception of rust. In certain countries, indeed, it is the more serious, as is emphatically claimed by the practical grower as well as the scientific observer. The recognition in the field is not difficult. "Take all" is a root disease spreading from below up the stem for about 1 to 2 inches, discoloring the stem dark-brown. The affected plants may be pulled up very easily, their anchorage in the ground is very loose as compared to a sound plant. The affected plants turn yellow and finally die, taking straw and all. Both diseases are most likely conveyed by infected seed grain, hence it is most important to "nip these diseases in the bud" and report all suspicious cases at once. The use of foreign wheats for seed is cautioned against; particularly wheat from Australia is under suspicion.

## A New Tractor Industry in Canada.

A new tractor industry is to be established in Canada, and is locating in the thriving industrial town of Oshawa. This new industry is the Samson Tractor Company of Canada, Limited, and the President is R. S. McLaughlin. C. E. McTavish, who for the past year has been the service manager of the Chevrolet Motor Company, and previously sales manager of the Chevrolet Motor Company of Regina, has been appointed sales manager of the Samson Tractor Company. V. O. Hipwell and W. Marshall, who have been intimately associated with the Chevrolet Motor Company are also members of the staff of the Samson Tractor Company. For the time being Model M. Samson tractors will be imported from Janesville, Wisconsin, and distributed from Oshawa, as it takes time to equip a plant for manufacturing. There is no duty on tractors of the Samson M. Model type. This company will also manufacture and sell the Samson truck. This truck is made in three-quarter and one-and-a-quarter ton size and is especially adapted for farm use.

## Questions and Answers. Miscellaneous.

Black Medick.

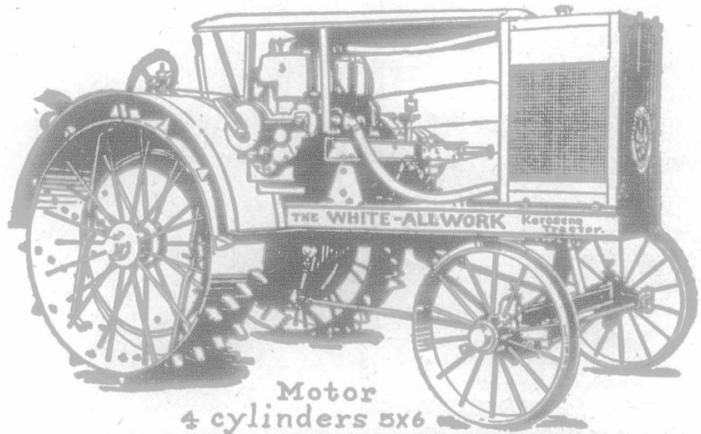
What is the name of the enclosed plant? T. D.

Ans.—The weed submitted to this office is what is known as Black Medick, which is a species of clover. Some call it a weed, and it is rather a bad one in places. However, it has considerable feed value, especially for sheep.

Weeds.

What are the names of the enclosed weeds? C. C.

Ans.—Weed No. 1 is commonly known as Wild Barley or Skunk Grass; No. 2 is Stinkweed, which is an annual and is commonly seen throughout Canada. Summer-fallowing and after-harvest cultivation will keep this in check.



## The White-Allwork Kerosene Tractor

### Sensible Every-Season Tractor

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

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

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

It will pull an 8-foot road grader.

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

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

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

Don't forget we are recognized leaders in Steam Tractors and Threshers

"THE FIRST QUALITY LINE"

## Single Harness Buy it NOW

Leather has advanced, and while harness makers have raised prices, we are still offering the wonderful values that have made our goods famous. A Trees guarantee, good as gold, is behind Imperial Brand Harness. Ask your dealer; if he does not carry it, write direct to us.

### IMPERIAL BRAND BUGGY HARNESS

No. 1—With Blind Bridle, Over-draw Check, Shaped Breast Collar with 1 1/8 in. Traces to buckle, Double bellyband with Billets in Shaft Tugs, No. 221 Flexible Padded Saddle, Lines with Russet Handparts. Nickel or imitation Rubber, trimmed.....

\$36.75

We shall be glad to hear from any dealer who wants to carry our lines or from any private buyer who cannot get Imperial Brand Harness at the store.



**SAMUEL TREES & COMPANY Limited**  
Manufacturers of Harness Established 1866  
42 Wellington Street East, Toronto

## BROOKDALE HEREFORD FARM

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

Telephone. W. READHEAD, Milton, Ontario

### Roan Bull—Calved April 23rd, 1919

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

J. T. GIBSON, Denfield, Ont.

20 Bulls—SPRUCE LAWN—100 Females—Clydesdales, Shorthorns, Yorkshires. Herd headed by Imported Golden Challenger 122354, a Rubyhill, bred by Earl of Northbrook, by Ascott Challenger, bred by L. De Rothschild. Special bargains in farmer's bulls. Cows and heifers in calf, yearling and heifer calves. Yorkshires either sex. J. L. and T. W. McCAMUS, Cavan, C.P.R.; Millbrook, G.T.R. and P.O., Ont.

## SUBSCRIBERS!

Every time you send the name of a New Subscriber to The Farmer's Advocate and Home Magazine, with \$1.50, you will be given SIX MONTHS' FREE SUBSCRIPTION.

## Heaves CURED

—by removing the cause—and cured to stay cured—If 3 boxes of

**Fleming's Tonic Heave Remedy** fail to effect a cure of any case, old or new, we will refund the full amount paid.

Per Box, \$1.00; 6 for \$5.00 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, Oaxville, Alta.

Full information in Fleming's Vest Pocket Veterinary Adviser  
Write us for a Free Copy

**FLEMING BROS., Chemists**  
Church St. - Toronto, Ont.

## Valuable Prizes for Shires

Shire breeders are reminded of the valuable prizes offered by the English Shire Horse Society at the Canadian National Exhibition, Toronto, in August for grade mares and geldings sired by a registered Shire Stallion. These prizes are \$50, \$35 and \$15.

When taking your registered stock to this Exhibition, bring one or more good grade Shires as well, and have a try for the above specials.

**G. de W. GREEN**  
Sec.-Treasurer  
Canadian Shire Horse Association  
58 Grenville St., Toronto

## Aberdeen - Angus

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

### Shropshire and Southdown Sheep

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

Inspection invited, satisfaction assured.

**Larkin Farms - Queenston, Ont.**

## Aberdeen - Angus

**Meadowdale Farm**  
Forest, Ontario

**Alonzo Mathews** Manager  
**H. Fraleigh** Proprietor

## ALLOWAY LODGE STOCK FARM

Angus--Southdowns--Collies

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

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

## SUNNY SIDE HEREFORDS

12 bulls, serviceable, aged 5 by breeding, size and individual merit are good enough to lead any pure-bred herd. Females of different ages. Inspection invited. They are priced to sell.

**ARTHUR F. O'NEIL & SONS, Denfield, Ont., R. No. 2**  
Phone 2712 (4 lines)

## Aberdeen-Angus

Some of the best quality ever offered in this section.  
**JAMES G. SHANK** - Terrace Corn, Ontario

## Aberdeen-Angus

Some of the best quality ever offered in this section.  
**A. Dinsmore, Mar. "Grape Grange" Farm, Cambridge**  
17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

### Gossip.

#### The Oak Lodge Sale.

The Brethour & Nephews sale of pure-bred Yorkshires to be held at the Toronto Exhibition Grounds on Wednesday, Aug. 18, is something new in the way of distributing pure-bred hogs in Canada. The firm, however, have decided not to show at any of the exhibitions this year, and their offering includes all the entries that have been retained for show purposes, and the majority will be selling in as good show condition as is possible to have them. Messrs. Brethour & Nephews' success as breeders of this popular bacon hog needs very little eulogizing in these columns. Their winnings in the breeding classes at the larger exhibitions throughout the United States and Canada during the past decade have without doubt been unequalled by any other one breeder and twenty times during the past twenty-two years at the Ontario Winter Provincial Fair their entry has carried off first honors for bacon pens, with all breeds competing. It will also be remembered that most of their success has been with the classes for 18-month hogs or under. The management has never made a practice of exhibiting two, three, and four-year-old sows at any of the shows and in this sale will be found sows of this age that have won championships in their year-old form and now have large litters selling. In many cases, too, these sows will be found to have as many as eight or ten straight crosses of Oak Lodge breeding and this feature perhaps, more than any other, accounts for the great style and uniformity of the present day offering. From the catalogue which is now ready for the mails it will be found that at the combined shows last year of Toronto, Chicago, Guelph and London, Oak Lodge entries won twenty-seven firsts in the individual classes as well as six championships and first whenever herd prizes were given. Again this year there will be found three and four entries for most of the classes and there will still be time to enter them for the show circuit including Toronto. To breeders who will not be interested in the show individuals the large number of young bred-sows as well as the thirty young boars should prove equally attractive if you are a buyer of the best. Full details as to breeding, the ages, etc., is given in the catalogue which will be mailed on request.

### Questions and Answers.

#### Miscellaneous.

**Sweet Clover.**  
When is the best time to seed to sweet clover? Would it be advisable to sow in August?  
J. C.

Ans. Sweet clover is a crop which came into prominence during the past few years. It has proven to be an excellent pasture, makes fair hay if cut in time, and growing it for seed has proven very profitable the past few years. The best time to seed is in the spring. However, if the fall is favorable it could be sown without a nurse crop early in August.

#### Size of Pulley.

1. I would like to run my cream separator by power. What size pulley would I have to have on my separator to run it 60 rev. per minute? My engine speed is 275 rev. per min. and my drive pulley is 16 in. The governor drive pulley is 9 inches and then the belt runs from 4 inch pulley to the separator. What size pulley would I have to run my separator 60 rev. per minute?  
B. R.

Ans. 1. If you use a 16-inch pulley on the engine and a 4-inch on the governor, you will need a 32-inch pulley on the separator. This size is too large to be convenient, so I would recommend that you use a 2-inch pulley on the governor instead of a 4-inch, unless you can reduce the size of the pulley on the engine. If you use a 2-inch on the governor you will need a 16 1/2 inch pulley on the separator.

2. It is doubtful if first-class veal can be made on those lands. Whole milk is advisable for veal calves. Along with it they should be encouraged to eat all the grain and roughage they can consume.



**CHAMPION**  
"Heavy Stone"

B-13, 1/2-inch  
B-43, 3/8-inch, 1 1/2  
B-53, 3/8-18, long  
B-73, 3/4-inch  
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Price \$1.25

Specially adapted for heavy service cars, tractors, trucks, farm and stationary engines

# Champion

## Dependable Spark Plugs Make Good Motors Better

Whenever you see "Champion" on a Spark Plug you can be absolutely certain that it will give you as near 100 per cent. efficiency as you may ever hope to obtain.

This is due to our famous "3450" insulator, which is practically indestructible, and to developing a special plug for each type of motor or gas engine.

"Champion" on the insulator is your guide to dependable service, satisfaction and economy.

Sold where motor goods are sold.

**Champion Spark Plug Co. of Canada, Limited**  
Windsor, Ontario

Largest Factory in Canada making Spark Plugs exclusively

106

**Newcastle Herd of Shorthorns and Tamworths for Sale**—Three nice bulls, 11 to 13 months old, and several yearling heifers and cows with calves at foot, both sexes, all splendid milking strain. Several Tamworth sows due to farrow in May, June, July. Young stock, both sexes, at weaning up to six months old. All from prize-winning stock.  
Long-distance Phone.  
**A. A. COLWILL, R.R. No. 2, Newcastle.**

**Pear Lawn Shorthorns, Hackneys and Yorkshires**—One imported-in-dam Miss Ransden one Gold'n Rose bull, 6 months old, one and dam; one Secret bull, 12 months, imp. sire and dam; a few young sows with calves at foot. One imported Hackney stallion, A 1; two Hackney stallions from one year; one imported Chalmers also Yorkshires at weaning time.  
**HERBERT J. MILLER, Keene P.O., Ont.** Station, 2500 G.T.R., Indian River C.P.R., Peterborough County.

**Spring Valley Shorthorns**—Herd headed by Sea Gem's Pride 96365. We have a number of good bulls for sale, including the Champion Ivanhoe 122760, and 1/2 full brother also an extra well bred sow, and others. Write for particulars.  
Telephone and telegraph for Ver.  
**KYLE BROS., Drumbo, Ont.**

**Imported Scotch Shorthorns For Sale**—Three imported bulls, one yearling, one two-year-old and our three-year-old herd sire; also a choice two-year-old Oranias Blossom of our own breeding, and three well-bred bull calves about a year old. Would consider exchanging an imported bull for Scotch females.  
**R. M. MITCHELL, R.R. No. 1, Freeman, Ont.**

# GIVING UP THE FARM

THE ENTIRE ELMGROVE HERD TO BE DISPERSED

## Fifty Head of Scotch-bred and Dual-Purpose Breeding Shorthorns

SELLING AT THE FARM, TWO MILES SOUTH OF  
Brampton, Ont., Wednesday, Aug. 11th, 1920

Thirty Breeding Cows. Seven Bred Heifers. Ten Open Heifers. Three Choice Bulls (Including the Herd Sire)

Every good breeder will be interested in such individuals as:

### Celia Gem

A roan 6-year-old show cow by Fashion Plate, dam by Royalist. One of the strongest show cows of the year, and due in November. She also has a roan two-year-old heifer listed. Buy this cow and enter her for the Canadian National.

### Netherlea Matchless 3rd

### Netherlea Matchless Peggy

A choice pair—mother and daughter—practically every dam in the pedigrees are Matchless, and the individuality is of the best. Buy this pair if you want dependable cattle.

### Carrie C

A 6-year-old quality cow, and one of the best breeding matrons in the offering. A white bull calf at foot by Village Sort.

### Alette

A fine type of dual-purpose Short-horn, and winner of the Dual-Purpose Special at the Canadian National last year. She is only one of several heavy-milking cows selling.



Good Sires Have Always Been Used at Elmgrove

### Bramar Beauty 8th

A right stamp of cow, a Kilblean Beauty, and sired by Braemer Duke. Dam by Butterfly King.

### Broadhooks Lass (Imp.)

A 7-year-old Broadhooks cow, bred by Macrae at Invernesshire, and sired by Leonard of Cluny.

### Calceolaria of Oak Bluff

A 5-year-old roan—a choice quality cow and a great breeder—got by Royalist and dam Colceolaria Anoka, by the great White Hall Sultan. Second dam Calceolaria 16th (imp.), by Spicy Baron. Selling with an 8 months roan heifer by Gainford Matchless, he by Gainford Marquis (imp.).

### Celia 26th

An 8-year-old cow, one of the oldest in the offering. She is also got by Royalist, while her second dam was Celia 10th (imp.), by Proud Star. She shows splendid character, is a great breeder and is due again in October.

### Lady Bramar

One of the largest cows listed. She is got by Bramar Champion, has a heifer calf at foot, also a year-old heifer selling.

### Sybella

This cow, although not young, is a very consistent breeder, and has been one of the most profitable cows in the Elmgrove herd. She is a Secret, and carries one of the best pedigrees in this offering.

The above are only a few of the outstanding females which make up the breeding herd at Elmgrove. A score of others are equally pleasing, and all are selling in excellent breeding condition only, or just the right flesh to make them attractive breeding propositions. The 50 lots comprise the entire herd, and there will be no reserve. Other business has made it necessary for Mr. Fallis to give up the farm, which will also be offered at private sale. Possession will be given to suit purchaser.

FOR CATALOGUES ADDRESS

**JAS. R. FALLIS - Brampton, Ontario**



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2, Newcastle.  
dam Miss Ramsden  
imp. sire and dam;  
months, imp. sire. A  
go Hackney stallions  
ne. HERBERT J.  
eterborough County.  
s Pride 96365. We  
s for sale, 1919, price  
22750, and 1918 full  
Drumbo, Ont.  
d bulls, one yearling  
r three-year-old herd  
well-bred bull calves  
les.  
Freeman, Ont.



Luck in preserving  
comes to the woman  
who uses  
1/2 sugar  
and 1/2

## LILY WHITE SYRUP

Send for FREE book of recipes for new results in preserving  
The Canada Starch Co., Limited  
MONTREAL

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.

### Maple Shade SHORTHORNS

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

W. A. DRYDEN

Brooklin - - Ontario

### English Dual-Purpose Shorthorns

We offer a grand choice of young bulls and bull calves from imported dams and sires, bred on the English system for milk and beef. They will add value to any herd. The dual characteristics have been impressed by scientific treatment for continuous years. Prices moderate.

Always on hand, sows and boars of the most satisfactory breed of pigs, English Large Blacks.

F. W. COCKSHUTT

Lynnore Stock Farm, Brantford, Ont.

### 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

### Mardella Dual-Purpose SHORTHORNS

Eight choice young bulls, 30 females, cows and heifers. All of good size, type and breeding. Herd headed by The Duke; dam gave 13,599 lbs. milk, 474 lbs. butter-fat. He is one of the greatest living combinations of beef, milk and Shorthorn character. All priced to sell. Write, call or phone.

THOMAS GRAHAM, Port Perry, R.R. 3, Ontario

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.

### DUAL-PURPOSE SHORTHORNS

A number of females, some with heifer calves by their side. Also Dorset Horned sheep.

VALMER BARTLETT - Canfield, Ontario

Wanted to buy, Shorthorn Bulls, not particular about fancy breeding; must be fat, straight individuals, reds and roans, from 12 to 18 months old.

PALMER BROS., Belding, Mich.

Maple Leaf Shorthorns—Herd headers: Gloster Benedict 112498, by Master Ruby, and Ury of Myreton (imp.) 155503. One for sale. Also cows with calf heifers and young bulls. Shropshire sheep. J. BAKER, Hampton, Ont., Bowmanville Station.

### What Are You Doing?

BY C. F. MACKENZIE, B. S. A., FIELDMAN, ONT. C. B. A.

Good live stock is the basis of all successful agriculture. Canada is, without question, an agricultural country. Therefore, in order that we may become a successful people, we must have good live stock.

During the year of 1919 in Ontario only about 2 per cent. of our live stock marketed were fit for export. This does not look as though we were building a very strong foundation for our chief industry.

Recently steps were taken to endeavor to improve the quality of our live stock by the organizing of an active campaign against the use of grade and inferior pure-bred sires.

Both Federal and Provincial Governments are backing this campaign with the object of entirely eliminating all grade and inferior pure-bred bulls in the Province of Ontario.

Breeders of pure-bred cattle and the various breed associations promised to co-operate in every possible way to achieve the desired result.

Throughout a number of counties the Agricultural Representatives have been actively engaged in pushing the campaign along lines suitable to existing local conditions.

The field man of the Ontario Cattle Breeders' Association has been working in co-operation with the Agricultural Representatives, and while the work has been slow, yet good results have been attained in many cases.

However, if the whole task of eliminating the inferior bulls is left to a small group of government men, it is only reasonable to expect that the process of elimination will be exceedingly slow. We understand that a census is being taken by all agricultural representatives so that those men who are using grade and scrub bulls may be visited. Why would it not be possible for pure-bred breeders to call on some of these men and endeavor to persuade them to buy a pure-bred bull? Let us suppose that in about 30 counties, between now and next January, we had ten breeders in each county who succeeded in placing one pure-bred bull in a herd where a grade or scrub had been previously used. That would mean that 300 grade or scrub bulls would have been put out of business.

Carrying our supposition further, if each grade or scrub bull had been siring 30 calves per year, and the pure-bred bulls sired the same number, viz., 9,000 in all, putting it at a low estimate those 9,000 calves from pure-bred bulls would be worth \$10 per head more, or \$90,000 in all. Do those figures look unreasonable? We think not. Have we got 10 breeders in 30 counties, or have we 300 men in Ontario who are interested enough, in building up the cattle industry, to go out and tactfully persuade 300 users of inferior bulls to buy better ones? I am sure we have a large number of farmers in Ontario who have found it profitable to use only the best bull that can be obtained. Therefore, these are the men who are in the best position to present the case of the good bull to the users of the inferior bull.

There are a number of men who seem to think that the user of a poor bull is a very difficult man to influence. They are under the impression that he is a man who is almost impossible to approach and equally impossible to convince.

It has been my experience that the man who uses the grade or scrub bull is just an average type of Ontario farmer. A man who, perhaps, on account of his location has been forced to use the grade or scrub bull. He has been battling against the lack of help and the problem of keeping up with his work as best he could. Hence, he has out of necessity used the nearest bull in order to have his cows freshen.

In calling on these men it has been found that they are ready to listen to our arguments in favor of better bulls, and in many cases needed only to be tactfully approached. Many of these men have never really given the matter serious consideration.

Another feature is that prices are high at present for almost any kind of cattle.

We must present the case to these men from every possible angle. The fact that we condemn the grade bull is not enough. We must keep everlastingly at it if we

Ammonia  
Phosphoric Acid  
and Potash  
Makes Heavy kernels

Phosphoric Acid  
Promotes Early  
Ripening Makes  
Hard Kernels

Potash Increases  
Starch Formation

Ammonia Promotes  
Stem and Leaf Growth  
and Increases Feeding  
Value of Stalk and  
Leaves

Potash Makes  
Strong Stalks

Plant Food Reduces  
Number of  
Barren Stalks

Ammonia and  
Phosphoric Acid  
Increases Root Growth



The Oldest Fertilizer  
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## Freeman's Fertilizer

It increases the yield  
per acre.

It pays big returns  
for the amount in-  
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The favorite for over  
forty years.

Order to-day.

## WA FREEMAN CO

HAMILTON LIMITED CANADA

### A NEW IMPORTATION OF 40 SCOTCH SHORTHORNS

arrived home Dec. 17th. From our herd of 125 head we can offer a large selection in choicely-bred bulls and females. Anyone in need of foundation stock may find it to their advantage to look over our offering before making any purchases.

J. A. & H. M. PETTIT :: FREEMAN, ONTARIO  
Burlington Jct., G.T.R., only half mile from farm.

Eighty-three years without change we have been breeding

### SCOTCH SHORTHORNS

My herd is stronger than ever, and I have cows with calves at foot, heifers in calf, younger heifers young bulls fit for service soon, for sale in any number at reasonable prices. Augusta Sultan =93092=, one of the greatest living sires, at head of herd. Write me, and, if possible, come and see me, it is worth while. Post Office, Telephone, Telegraph and Station is Stouffville, Ont. I pay the freight.

ROBERT MILLER :: STOUFFVILLE, ONTARIO

### Reyburn Milking Shorthorns

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

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

MILKING SHORTHORNS Young stock from R. O. P. cows by imported sires.  
BERKSHIRE PIGS Choicely bred sows and boars, all ages. Can supply pairs, not akin.  
J. B. PEARSON, Manager - Credit Grange Farm - Meadowvale, Ont.

### SPRUCE GLEN SHORTHORNS

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

JAMES McPHERSON & SONS - Dundalk, Ontario

Puslinch Plains Shorthorns—Bulls for Sale—Royal Signet =134979=, red; born Oct. 7th, 1919, Sire, Royal Ramsden =123067=, Dam, Roan Lady 50th =143772=. Price \$300. Goldale =138966=, roan; born Dec. 15th, 1919, Sire, Browndale Reserve =116615=. Dam, Roan Bessie 11th =140322=. Price \$200.

A. G. AULD, R. 2, Guelph, Ont.

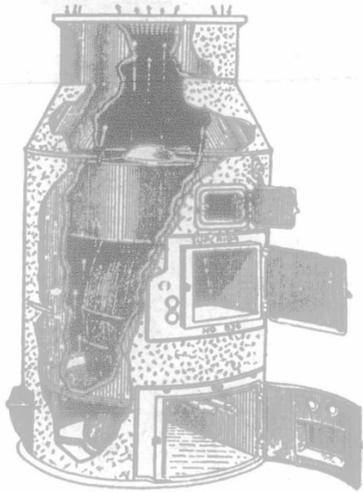
### BLAIRGOWRIE SHORTHORNS!

Three imported bulls. Ten imported females in calf or calf by side. Two Scotch-bred bulls. Five Scotch-bred cows with calves by side.

JOHN MILLER - ASHBURN, ONTARIO  
(Myrtle C. P. R. and G. T. R.)

How One Register Does the Work with the

**Pilot Superior  
Pipeless Furnace**



The Pilot Superior Combination Register is composed of two sections; the central portion provides for a distribution of the warm air generated by the furnace, and the outer section admits the return air to the furnace. By withdrawing the cool air from the building through this outer section, the resistance to the warm air is overcome. This provides space for the rapidly expanding warm air, which circulates in large volume to all portions of the building. A vacuum cannot be created, therefore the warm air fills all the corners from which the cold air is being withdrawn.

Manufactured by  
**The Hall Zryd Foundry Company, Limited  
Hesepler, Ont.**

See our Exhibit in the Stowe Building  
at Toronto and London Exhibitions.

**KELLEY FEED &  
SEED CO.**

Write for price list on feeds of  
all kinds—car lots or less.

We specialize on concentrates.

We can now supply Bran and  
Shorts in limited quantities.

We are buyers of Hay, New  
Potatoes and all kinds of Field  
Grains both for Feed and Seed.

Reference: Royal Bank

Phone:  
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780 DOVERCOURT ROAD  
TORONTO, ONT.

**Poultry Wanted**—We have a special demand for LIVE POULTRY of GOOD QUALITY at this season of the year, which enables us to pay very top prices for any quantity. Get the best market in Western Ontario by selling to C. A. MANN & CO., 78 King Street, London, Ont. Phone 1577.

For Sale One almost new INTERNATIONAL HAY PRESS with Mogul Coal Oil Engine, at a bargain. LISTOWEL DRILLING MACHINE CO. Listowel, Ontario

**RAYMONDALE  
HOLSTEIN SIRE**

We have for immediate sale a 24 months bull sired by King Segis Alcartra Spofford and from Princess Echo De Kol 2nd, who has the following record—

Butter—7 days	35.32 lbs.
" 30 "	146.42 lbs.
" 60 "	281.12 lbs.
" 90 "	398.92 lbs.
Milk—7 "	708.9 lbs.
" 30 "	2,904.3 lbs.
" 60 "	5,829.0 lbs.
" 90 "	8,448.9 lbs.

This young bull is a good individual and is guaranteed right in every way. Write quick or come and see him.

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

20,000 lb.—Holstein Bulls—20,000 lb.

Write us for extended pedigrees and full particulars of 1920 bulls whose dam and sire's dam average over 20,000 lbs. milk and 850 lbs. butter in R.O.P. **R. HONEY & SONS, Dartford, Ont.**

ever hope to successfully reach a high standard of quality in our live stock.

Advertising has a great influence in bringing to the public the desirability of using a certain article. Farmers have been led to use all modern equipment through advertising. Trucks and motor cars have been sold to Ontario farmers through first putting on a vigorous advertising campaign. Victory bonds were sold, to a great extent, by the judicious use of advertising, followed up by a personal campaign. So that we feel the use of better sires can be speeded up by advertising, together with personal soliciting on the part of breeders and others who have the interests of the live stock industry at heart.

No set plan can be formulated to meet the needs of the Province, but every county and township can benefit by trying out suggestions that have been found helpful in other localities.

The main thing, however, that we must have is a harmonious co-operation on the part of Government officials, breeders and breed associations and farmers' clubs, in order that the greatest action may be attained by concentration of effort.

Get out and boost for better live stock in your own locality. A little work in the interests of good live stock will do more to dispel pessimism than any other thing. Active participation is what is wanted in the ranks of the fighters against the inferior bulls.

Do not wait for an invitation to go out and get next to some farmer who persists in harboring a poor bull. Go out and show him that he can make more money by using a pure-bred bull of good type.

The men at the head of this movement are sadly in need of co-workers. They need every man in the Province to assist them, provided he knows the value of breeding good quality live stock.

Breeders of pure-bred cattle will find it to their own interest to sell their good bulls to beginners. It has been the experience of many men that once they get a good pure-bred bull and find out the improvement in the calves, they invariably buy a few pure-bred females. Thus, it would seem that a breeder can enlarge his home market by a little home missionary work.

Now, what are you going to do? Are you going to get out with the workers and work, or sit on the fence and croak about the difficulties of the campaign? The success of the campaign lies in the hands of those who profess to know the value of good live stock.

**Questions and Answers.**

**Miscellaneous.**

**Salmon Berry.**

What is the name of enclosed plant? The plant grows about two feet high. G. G.

Ans.—The plant is popularly known as Salmon Berry, *Rubus parviflorus*,—in some botanies called *Rubus nutkanus*,—a species of raspberry with a scarcely edible fruit. J. D.

**Fences.**

1. A's land adjoins the Agricultural Societies' ground (Fair Grounds). The fence between two properties needs replaced with a new one.

1. Does A have to build and bear cost of half of said fence.

2. If not does Agricultural Society have to bear entire cost or can a grant be gotten from Government. A. S. R.

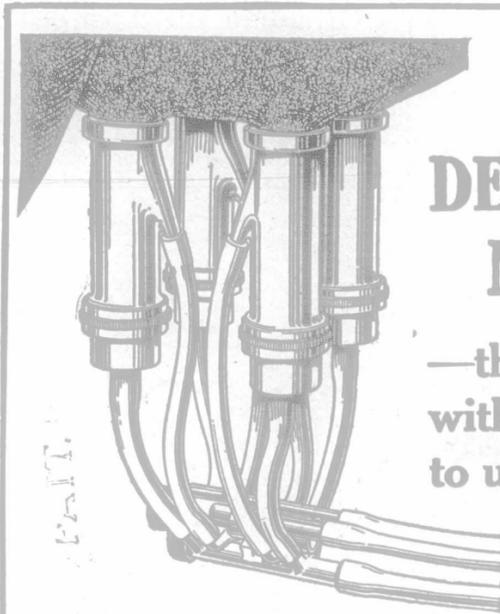
Ans.—The fair grounds should bear half the expense of building the fence. This would come out of the general expense of the Agricultural Society. We do not know that the Government gives a grant for this work.

**Cleaning Hat.—Raspberry Bushes.**

1. What will clean a Panama hat?  
2. When should raspberry canes be set out? M. K.

Ans.—1. Clean Panama or straw hats by rubbing well with damp cornmeal. Let dry, then brush off. If the Panama hat is very badly soiled, scrub with Ivory soap and water, using a brush; then rinse well through two or three waters, adding a spoonful of glycerine to the last one to prevent stiffening. Dry in hot, bright sunshine, which will bleach.

2. The spring is the best time although if the fall is not too dry they may be set in September.



**THE  
DE LAVAL  
MILKER**

—the only Milker  
with pulsator close  
to udder.

Among the  
many new  
and exclu-

sive advantages in the construction of the De Laval Milker, particular attention is called to the Udder Pulsator and the teat-cups.

The Udder Pulsator is located within a few inches of the cow's udder, which insures positive and snappy action in the teat-cups. The action is uniform, gentle and pleasing to the cow. The only moving part in the pulsator is a small, plain piston which requires no oiling, adjusting or repairing.

The De Laval teat-cups are self-adjusting and made in one size only, which fits all teats. The construction is so simple that they can be easily taken apart, cleaned and put together. Every other part of the De Laval Milker is equally simple, practical and efficient.

THE NAME "DE LAVAL" IS INSURANCE OF SATISFACTION  
Write to nearest De Laval office for Milker  
Catalog mentioning number of cows milked

**THE DE LAVAL COMPANY, Ltd.**

Montreal Peterboro Winnipeg Edmonton Vancouver

**Hamilton House Holstein Sires**

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

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

**Hospital for the Insane, Hamilton, Ont.**

**HOLSTEIN BULLS ONLY FOR SALE**

Senior sire is from one of the best sons of King Segis Alcartra Spofford. Junior is grandson of the noted May Echo Sylvia, by Champion Echo Sylvia Pontiac.

Write to the Superintendent for prices, etc.

**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 Dairy Farms**—Herd headed by King Pontiac Rauwerd, who combines the blood of Canada's greatest sires and dams. His offspring are a choice lot. We have stock for sale, both male and female, 75 head to choose from. Consult us before buying elsewhere. Could book a few more cows for service to "King."

**GRIEBACH BROS., L.-D. phone, Collingwood, Ont.**

**"Premier" Holstein Bulls** ready for service—I have several young bulls from dams with 110 lbs. of milk in one day—over 3,000 lbs. in 30 days. All are sired by present herd sire, which is a brother to May Echo Sylvia. Step lively if you want these calves.

**H. H. BAILEY, Oak Park Farm, Paris, Ont**

**WALNUT GROVE HOLSTEINS**

I am offering a choice lot of bull calves sired by May Echo Champion, who is a full brother of world's champion, May Echo Sylvia; also a few cows just fresh.

(Take Radial Car from Toronto to Thornhill). **C. R. JAMES, Richmond Hill, R.R. No. 1, Ont.**

**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.**

**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, Scarborough P.O., Ont.**

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

**CEDAR BROOK FARM (B. Misener, Manager) Inglewood, Ont.**

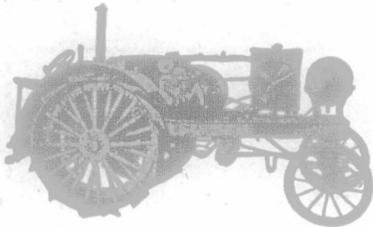


**Cuticura Hair Is Usually Thick and Healthy**

Start him right if you wish him to have thick, healthy hair through life. Regular shampoos with Cuticura Soap will keep his scalp clean and healthy. Before shampooing touch spots of dandruff and itching, if any, with Cuticura Ointment. A clean, healthy scalp means good hair.

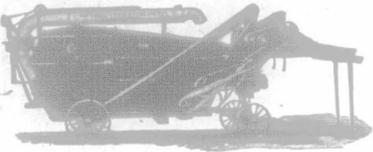
Soap 25c, Ointment 25 and 50c. Sold throughout the Dominion. Canadian Depot: Lyman, Limited, St. Paul St., Montreal. Cuticura Soap shaves without soap.

**Tractors and Threshers**



WATERLOO BOY.

The Simplest, most Accessible, most Powerful 3-pow Tractor on the market. Suitable for hauling 3 plows, Threshing, Silo Filling and General Farm Work.



Individual Farmers' Threshers, suitable size to be driven by small Tractors and Gasoline Engines. Do your own Threshing. Keep your farm clean and save expense. Write for free catalogue, prices and any information wanted.

THE ROBT. BELL ENGINE & THRESHER COMPANY, LIMITED, Seaforth, Ont. Also Steam Tractors and large size Threshers.



Adds much to the flavor

**Windsor Dairy Salt**  
THE CANADIAN SALT CO., LIMITED

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

**Canadian Citizenship.**

TRUE AND FALSE DEMOCRACY.  
By E. K. MARSHALL, M. A.

Was Lord Byron right when he cried: "What is democracy?—an aristocracy of blackguards!" or was not the truth expressed by Mazzini when he defined democracy as "the progress of all, through all, under the leadership of the best and wisest?" Much depends upon how we answer this question.

The first duty of a true democracy is to search for those who are wisest and best and to elevate them to posts of leadership and command. Under the operation of the party convention with which we have been familiar we were not always provided with real leaders nor was it the place where we were likely to get the men of the Mazzini type proposed: there was and is too much of the machine-made nomination of candidates. Quite possibly we cannot get rid of all this: conventions are a necessity, I suppose. What we do want are conventions which will be less of "party" affairs and more of the "people's." At any rate there should be an earnest and open-hearted effort made to secure men for municipal and provincial office who possess to the fullest degree talents for service and achievement such as create confidence and trust. I believe that we are going to have in the near future more of this true democracy. There is in formation in Canada a public opinion which is going to insist on real representatives; men who are not unreflecting mouthpieces nor truckling servants; who are rather spokesmen for their conscience, their insights and their judgments.

The surest antidote to violence in public opinion, which is certain to come in Canada if there is not a halt to exploitation, is to secure in orderly form after due consideration the prompt and effective execution of the people's will and to give voice to the people's judgments and aspirations. In many of our political conventions those things have not been considered definitely, but were let go for the consideration of ways and means of winning the election—as if that was the supreme end in view.

Unless true democracy keeps control of our public organizations they will fall into the hands of syndicates and interests—at the imminent peril of the people themselves. Most of the political conventions of the past have had but one end in view, namely, how to win the struggle for their own particular party and associated interests. It had the appearance of a democracy but, owing to the unseen but very effective control exercised, it was a false democracy.

If what is properly called "exploitation of the people" is to be prevented it can only be accomplished by developing with clearness and precision a concept of public rights and public responsibility which shall have an ethical foundation and a social as well as a legal sanction. The ethical foundation of the idea of private property and the legal and social sanctions for it are perfectly clear, well-known and operate with but little questioning. But the concept of public property and public rights is not in so fortunate a condition. It needs elaboration and definition, it requires a long period of education, of enlightenment, of iteration and re-iteration from a platform that is free and a press that is faithful to a public trust as well as to its legitimate commercial and industrial interests. There have been periods in our public life of which we should be ashamed; times where we practically gave our leaders a free hand to exploit us. But we hope that time is past. With the awakening of dormant instincts to a truer form of democracy, with the breaking of the old party ties and affiliations, and with the coming of leaders possessing newer ideas of Government and citizenship will come a happier time for Canadian public life. There is a radicalism of true democracy for which we must strive—the end of a perfected citizenship not in selfishness but in service, not in isolation but in brotherhood. It is no idle dream but is a daring prophecy of what we may hope to see in this Canada, the vision of Macaulay when he wrote:

"Then none was for a party;  
Then all were for the state;  
Then the great man helped the poor  
And the poor man loved the great;  
Then lands were fairly portioned;  
Then spoils were fairly sold;  
And Romans were like brothers  
In the brave days of old."

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We have three young bulls of serviceable age—good individuals and priced right. Could also spare a few choice bred heifers. Visitors welcome. D. DUNCAN & SON, TODMORDEN, ONT.

### How to Hold Our Young People on the Farm.

EDITOR "THE FARMER'S ADVOCATE":

This is a subject very much talked of, written of, and spoken of, in fact, a subject in need of even more than the aforementioned activity. For myself, I wish to say at the outset that I also belong to the coming farmer class, and come in contact with quite a number of young people, both urban and rural. The subject will be taken at a number of number of different angles. There is the position of a wealthy and modern farmer's son, that of the commoner class, and that of the poorer class, whether it be poverty in money, mind or lack of ingenuity to make things go.

First, we will consider the social side. Very often we find it the case, when the young leave the farm, that some social problem lies behind it. We should always dig to the roots of such, and, if possible, find out the cause. Let us not keep the reins too tight, nor too loose, as all things which are rightly done are done in moderation. If they wish to take a trip to some place somewhat distant, let them go. Of course, here also must discretion be used. I remember the good done myself on several such trips. We see more of the world and come back more satisfied at home. Let the young folk have company and plenty of it, only let us see that it is of the right kind and conducive to content on the farm. Right here I wish to emphasize that I do not think each and every farmer's son or daughter, is born for the farm. There are sometimes those with special talent in some other line. However, the greater majority are not in this class. I have also had the city fever, thinking I could get a better trade, but have had my eyes opened. I am to be a farmer now.

One thing which drives so many away is the lack of proper and modern implements. Who wishes to drudge away at the work of the farm in the same old way that our fathers did twenty-five years ago? The modernizing of the farm pays, and it helps keep the young folks at home. Of course the young people should be discreet and be able sometimes to make out with somewhat less than their richer neighbor. If my father did spread manure by hand and load hay the same old way, and a dozen similar things, I would probably also think of leaving. Let us modernize as much as we can and keep the future farmer where he belongs.

I have talked with a number of would-be farmers and I find a large percentage of those who leave the farm do so on account of lack of capital. They go and say they wish to earn something to later buy a farm. Once they are in the city they sometimes find companions there and so spend a miserable lifetime in the city shops. Also, there are those who do not realize such wonders in the city, never accumulate enough to buy a farm, and we have another wasted life. But you say, well and good; however, I cannot see a cure for such a state of affairs. I cannot help my children much, they have to find their own way. I wish to ask you one question right here: How many farmers are there who have large and heavy interest in city property, and then go around the country scolding because your boy went to the city? Let some of these back our boys up, give them good terms—not the highest interest—and a lot of the evils of the farm to city exodus would be vindicated. It is unreasonable that we should for the love of a few more cents, support a place, and perhaps an industry, which takes our boys away from us?

Waterloo Co., Ontario. C. S. W.

A teacher was trying to impress her pupils with the rising inflection in reading. She wrote on the board the sentence, "Where are you going?" and asked Tommy to read it. Tommy read, "Where are you going?"—no inflection. She had him do it again. There was no change. "Now, Tommy," she said, "look carefully at that sentence and see if you don't notice some difference between it and other sentences we've had. Be sharp now, and read it again." Tommy wriggled back and forth in an effort to be "sharp"; and then the light of knowledge shone forth from his eyes, and he read, "Where are you going, little button hook?"—Normal Instructor.



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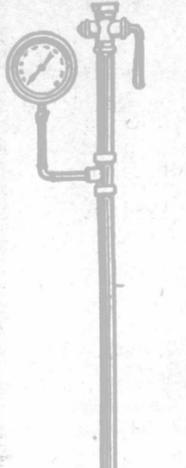
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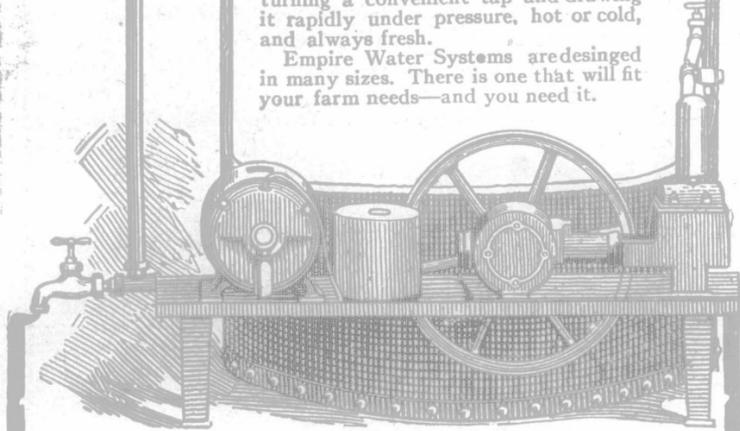
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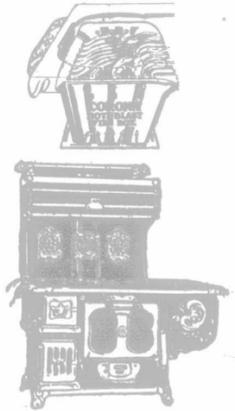
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**Our School Department.**

**The Story of a Wormy Apple.**

BY H. S. FRY, IN STORIES IN AGRICULTURE.

"Oh, George," said Mary, "look at all those beautiful apples. Aren't you glad mother let us come to the fair instead of going to school to-day?"

"They are nice, but I would rather eat some of them than look at them and not be able to eat any," replied George.

"My, I wish, too, we could have one, but I suppose if we ate them, other people couldn't look at them any longer."

"Say, Mary, isn't that a daisy one over there at the back? And look! It hasn't any prize ticket on it at all. I wonder why."

"Oh!" said Mary, when she caught sight of it, "isn't it a beauty? I think it is ever so much nicer than the others. Let's go and ask the judge why he didn't give it a prize. Maybe he meant to give it a prize and forgot about it, or perhaps he didn't see it. It's back so far and the others around it aren't a bit nice."

"All right," her brother said, "you go and ask." So Mary skipped away to where the judge was awarding prizes to some other kinds of fruit.

Now, the judge was very busy and didn't want to be interrupted, especially by an inquisitive little girl; but when he saw how eagerly Mary awaited his answer, he told her very kindly that the big red apple had a worm hole in it, and couldn't be given a prize on that account. He said it was being shown as a single specimen Northern Spy, and but for the worm injury would have won the first prize of five dollars.

"Oh! I didn't see it," said Mary, and after thanking the judge, she went back very slowly to where her brother was waiting for her.

"Isn't that a shame," George said, when Mary had explained what the judge had told her. "Just the same, I'll bet it would taste pretty good if we could get it and cut out the worm hole. Why couldn't some of those other apples have the worm and let this one get first prize? It's certainly a beauty," he ended up wistfully.

"Ah, children," said a small voice from some place quite close to them, "one never knows in this world whether things are really as they appear to be or not, until one can examine them very closely."

"Why, what was that?" said Mary. "I didn't see anybody close by. Who spoke to us?"

"Hush!" said George, looking very much surprised, "maybe he will speak again, whoever it was."

"You must not become alarmed," went on the voice, apparently coming from the big red apple they were looking at, "although I've no doubt you are very much surprised to hear an apple talk. Yes, it's I, the big apple without any prize. I get very lonely here with nobody except these scrubby little fellows here at the back to talk to. They have never had any amount of ambition in their lives, and since they are not worth very much to their masters, they are perfectly contented to sit here day after day and watch the people go by in their fine clothes. I feel quite differently about it, and sometimes when thoughtless people talk sneeringly about me I feel embarrassed and humiliated. I want to get out of sight as soon as possible. I know that cannot be, and so I must stay here until some naughty boy or girl steals me away, or my master takes me home."

"Oh!" said George and Mary together. "We didn't know apples could talk. We are very sorry you didn't take a prize, but the judge told us you were wormy. Won't you tell us about it?"

"I will, indeed, children, if you care to listen. It isn't everybody who can understand our language, but I knew you could, just as soon as you stopped to look at me and I saw how interested you were."

"Well, to begin with, my mother is a fine big Northern Spy tree in Farmer Jones' orchard, about three miles out of town. She is about thirty-five years old and just in the prime of life, because you

know, trees of my mother's kind live to be very old. The orchard, of which my mother is a part, is planted in soil which is a little lighter than the ordinary apple soil, so that we ripen a little earlier than other orchards about us. Then, too, our orchard is on a gentle southern slope and so, you see, we can get plenty of sunlight. We are extremely fond of sunlight, because basking in the sun all day makes us beautiful, and of course apples like to be good looking, just as well as little boys and girls do.

"I was born in May. I think my mother has told me since that it was the 25th of May, although I would not be sure. All my brothers and sisters were born within a week of each other, and I am one of the eldest. My father is a Baldwin tree that stands just next to my mother in Farmer Jones' orchard. I was, of course, very young, even when all my brothers and sisters were born, but I remember quite distinctly most of the things which happened then. Very early in my life I know that three of my brothers and myself formed a cluster all by ourselves out on the end of a small branch facing the sun at noon. Being the centre apple in this cluster, I was a little older than my brothers and stronger than they were. Poor fellows! They all died before they got to be very old, but as their story is bound up very closely with my own, I will tell you about them, too.

"Before an apple can grow the mother tree must put out blossoms, which are very beautiful indeed. The blossoms my mother produced were not quite as pretty as the blossoms that a Rhode Island Greening bore nearby, but of course it would be too bad if anyone had all the good things in the world, for then so many people would be unhappy. Our mother told us that we should be quite satisfied to be considered among the very finest dessert or eating apples, while the poor Rhode Island Greening is only a cooking apple, and not at all beautiful. Apple blossoms are very beautiful, so that the bees and other insects will visit them to bring nectar. Then, when the bees come for the nectar, they bring pollen from other apple blossoms, and this pollen grows down in the centre part of the flower or pistil and fertilizes the ovary, which is at the base of the flower. As soon as this is done an apple is born and begins to grow.

"As I started to tell you, I remember that when I was about a day old, four blossoms beside me opened up and pretty soon some bees came after their nectar. As it was a very bright, sunny day, and I could hear thousands of other bees working in the orchard. Before they went away from these blossoms which were beside me, some pollen was brushed off their legs on the pistil of the flowers, and a short time afterwards my three brothers were born. I might have had four brothers, but something happened and the fourth blossom didn't get fertilized. I asked my mother about it one day, and she said that if all the blossoms were fertilized, she couldn't take care of all her children, but she knew many of them would never get a chance to develop apples, so she always threw out plenty. As it was, you will see that many of my brothers and sisters died very early in life, because our mother didn't have sufficient food for them.

"You may think it very strange that my mother allowed my brothers to be born when she knew they couldn't all live, and if I hadn't heard my master's little girl and her teacher talking about it some time afterward, I don't think I could make you understand. It seems that there is what people call 'the survival of the fittest,' and that all my brothers and I were engaged in what is known as 'the struggle for existence.' Now this means that some of us were better fed and stronger than others, and the weaker ones had to die, leaving only those who were 'fittest' or strongest to grow and ripen. This struggle for existence was going on all over Farmer Jones' orchard, and I could hear some of my brothers dropping off every day for a long time, because they were too weak to keep up the struggle any longer.

To be continued.

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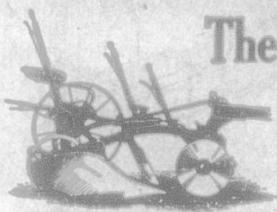
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## Boys—Are You Earning Money and Saving?

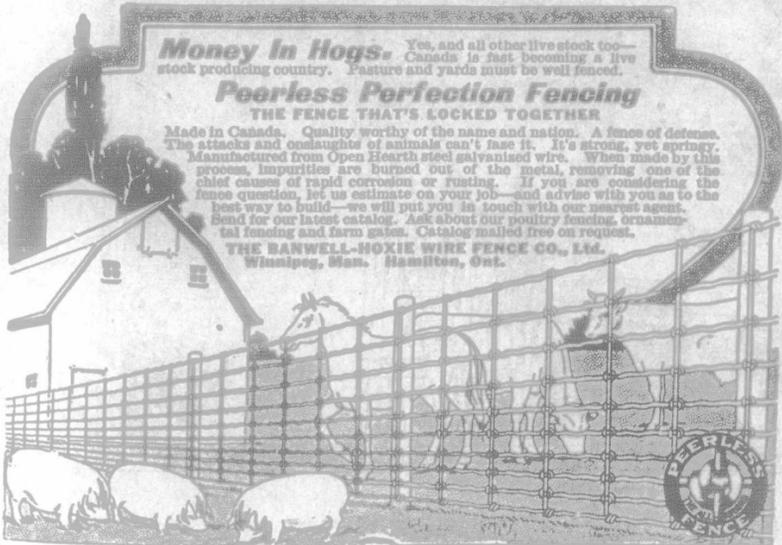
Write to The Farmer's Advocate and Home Magazine, London, Ont., and find out how you can earn money in your SPARE TIME.

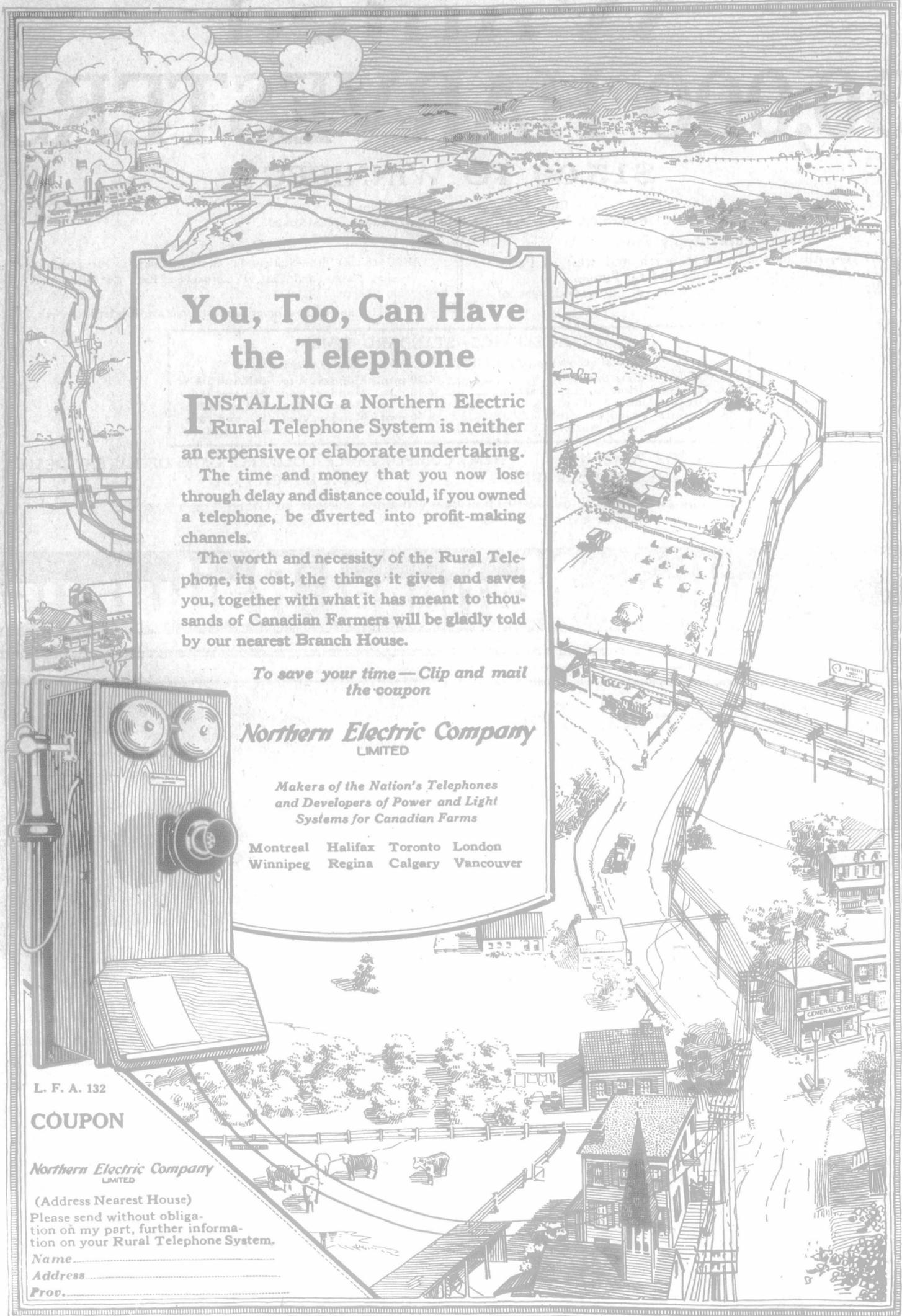
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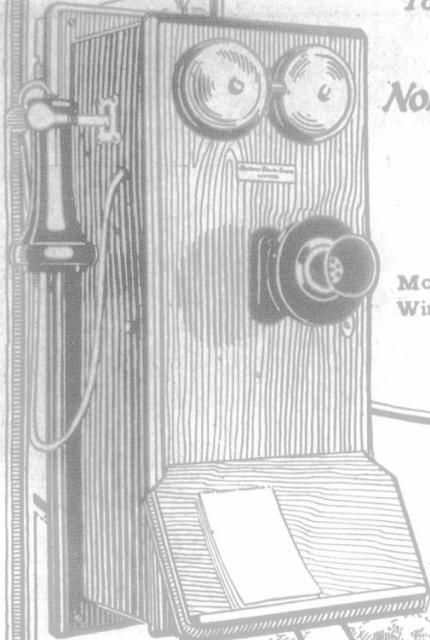
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