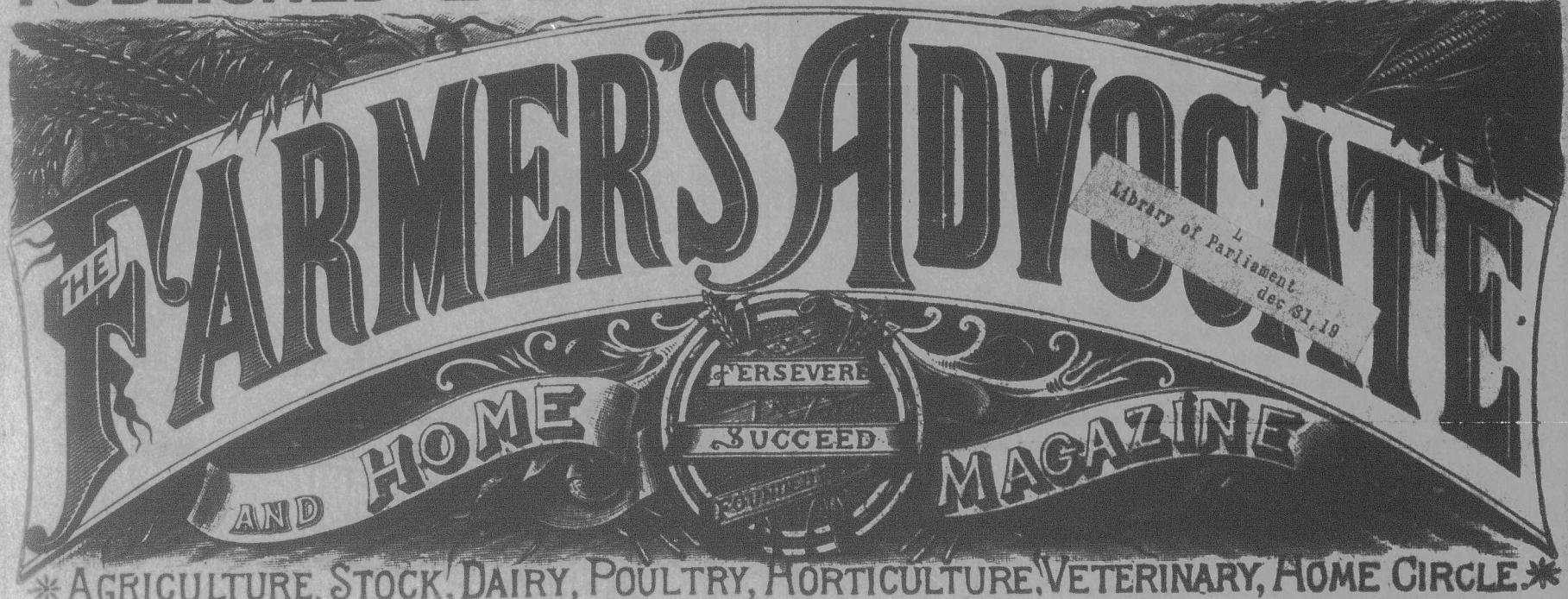


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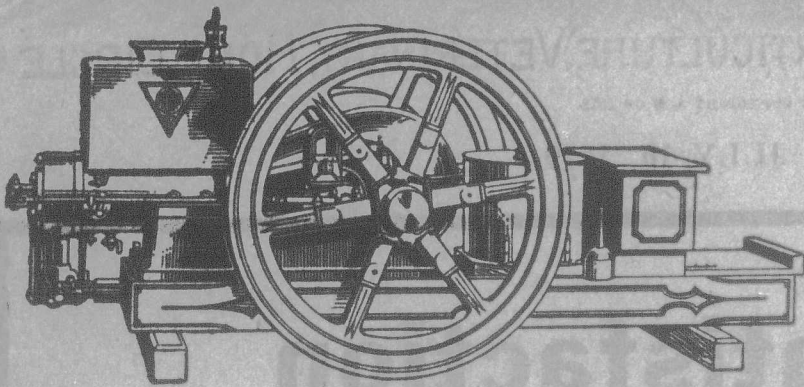
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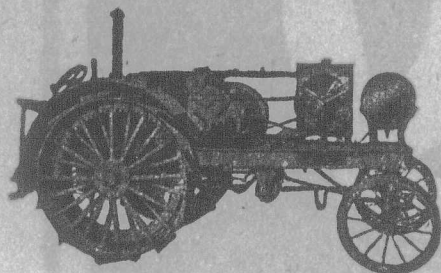
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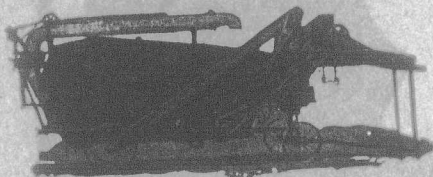
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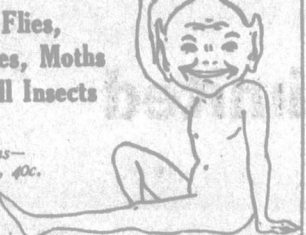
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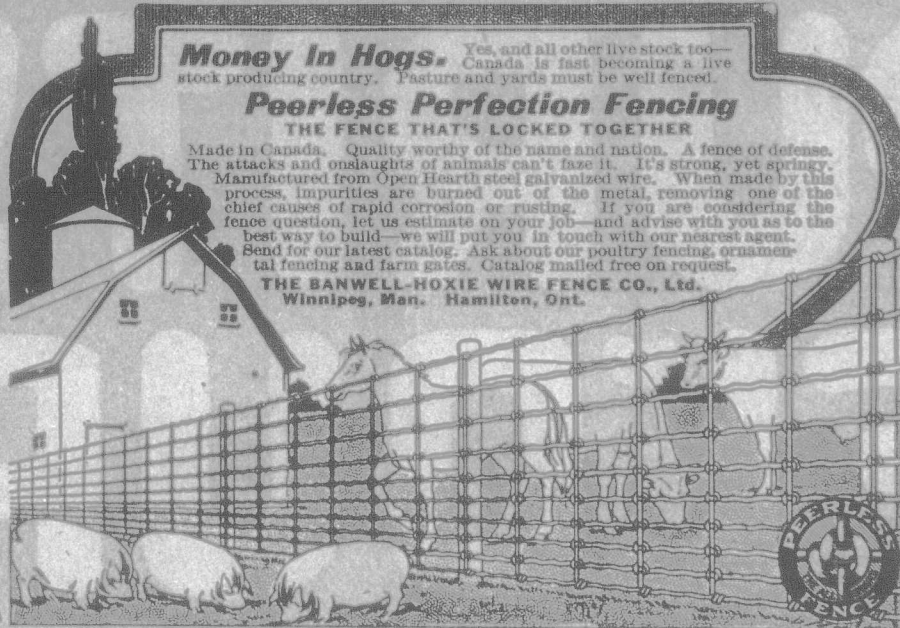
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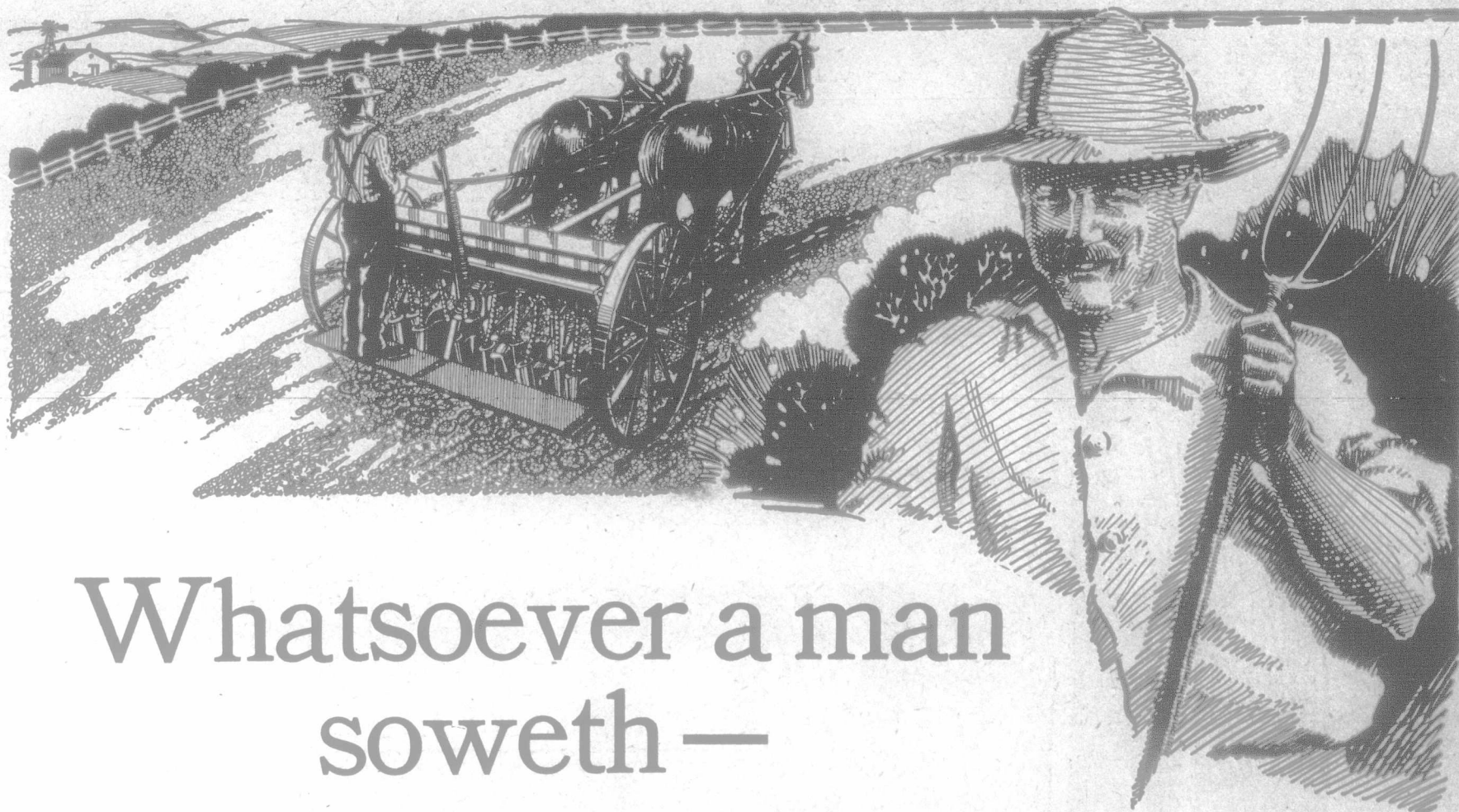
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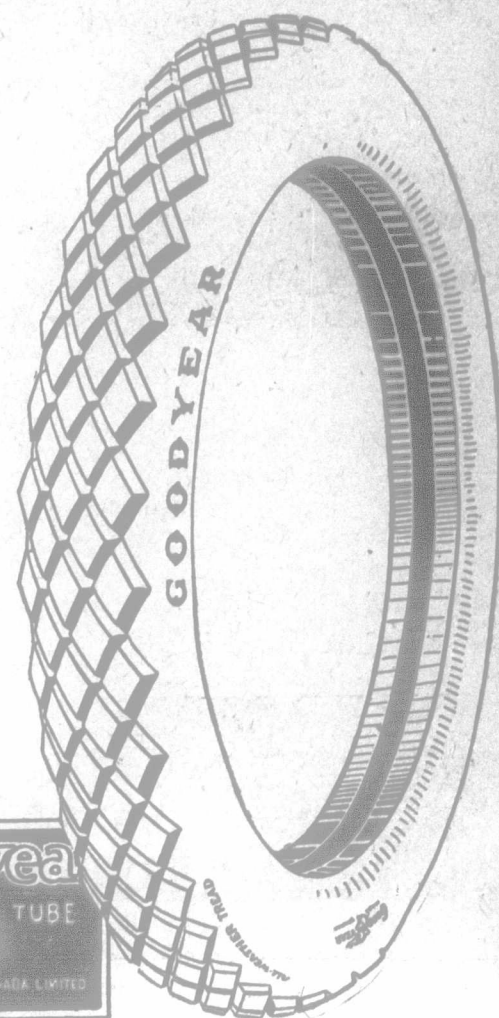
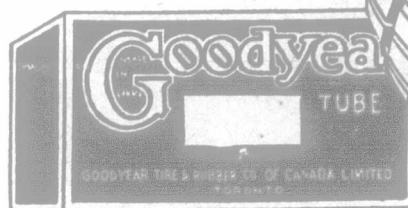
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LIV.

LONDON, ONTARIO, JULY 10, 1919.

1398

EDITORIAL.

Boost the corn crop by frequent cultivations.

Don't forget that the haying and harvesting machinery require oil.

Little of real value is gained in country or city without a lot of hard work.

One weed allowed to go to seed may mean one hundred to hoe out next year.

The summer-fallow that is a summer-fallow requires regular attention throughout the season.

Cool the milk. Warm milk sours quickly and sour milk is not satisfactory for making cheese.

If more farmers would take their boys into partnership, there would be fewer farm boys craving city life.

The old herd sire will prove of more value to the country in another herd than on the butcher's block.

An occasional drink of water during the day is as refreshing to the horses as to the men working in the hay field.

Milk and meat cannot be produced without a liberal quantity of feed. Supplement the drying pastures with grain, silage or hay.

Carelessness in hoeing the roots the first time increases the work later on. Do a good job the first time, even if it does take longer.

Insects and bugs have come to no peace terms with the farmer. The latter must wage war every year against these robbers of his crops.

Prepare now for the show-ring. There is no excuse for showing a poorly-fitted animal. Start putting the finishing touches on in plenty of time.

Do not leave the care of the vegetable garden entirely to the women folk. Lend a hand in keeping the weeds in subjection and harvesting the crop.

If the municipality neglects to cut the weeds on the roadside, it will pay each one to cut the weeds adjacent to his property. A weedy roadside soon results in a weedy farm.

A German paper is reported as saying "The Peace Treaty is only a scrap of paper." May the guardians of peace see that the paper is not torn up and the world again plunged into the great abyss of war.

If continuing in the live-stock business, you require the good breeding females just as much as the other breeder. The herd will never be built up to your ideal by selling the good ones and keeping the poorer individuals.

Investigations have brought to light immense profits made by some firms during these abnormal times. May the authorities go farther than to investigate and force those making undue profits to disgorge some of these surpluses to assist in paying the country's debts, thus easing the load for less fortunate individuals.

A Long Session.

It is expected that the House of Commons will have terminated its long session by the time this reaches our readers. Beginning February 20 and lasting through four months and a half, the second session of the thirteenth parliament of Canada has witnessed a most surprising waste of time by our legislators. This is not to say that the House has not passed some good measures during this time, but the fact is indisputable that the same amount of work could have been accomplished in far less time. Three whole weeks were consumed at the beginning of the session in debating the address in reply to the speech from the throne, while the budget debate was concluded in two weeks, and was infinitely more important from the standpoint of practical government. The latter occupied quite a sufficiently long period, and the former undoubtedly took up too much time.

The Government professed to think that members should be given every latitude on the floor of the House in respect of lengthy remarks on widely differing subjects. Sir Thomas White was not anxious, however, to bring on the budget very early in the session, and the work lagged further because of Sir Robert Borden's absence at the Peace Conference. A representative of "The Farmer's Advocate" sat throughout the whole session in the press gallery, and early came to the conclusion that while individually the members may be good fellows and intelligent citizens, collectively they average up about with the average Canadian. There are too many vote catchers and men whose personal prejudices sway them at every turn. Such men are responsible for nearly all of the time of the House that is wasted. There are, of course, some good men—the more should they be cherished—but sometimes it is very easy to forgive even a good man for taking the affairs of the House very indifferently.

What the average voter cannot understand, however, is that affairs of Government usually go on as he dictates, and that it is rarely, if ever possible, to secure a government that is much better than the electors. Farmers, particularly, have this to learn, because while most members hold their own opinions of farming in very high regard their actual knowledge of the industry is merely sufficient to make them comparable to a brake on a wagon travelling uphill. Many of the lawyers and doctors in the House could very well be replaced by representatives of agriculture, since, notwithstanding that "there is just about as much human nature in some folks as there is in others, if not more," the kind that represents farming could be more prominently displayed in the House to advantage. Farmer members will only be sent to Ottawa by farmers. Moreover, at present a man to go to Ottawa must be comfortably well off since a sessional indemnity of \$2,500 is at least \$1,000 too little if good men are to be secured.

Teachers' Salaries.

Teachers and clergymen are indispensable in the rural life of the country, yet the financial reward granted them for services rendered is not in keeping with the times or the increased cost of living. Some clergymen have been receiving, during the past five years, only a very little more than their predecessors got twenty years ago, and teachers' salaries have not increased in the same ratio as the necessities of life and the cost of an education, such as is required for the teaching profession. Lady teachers are giving up their schools to go into offices as secretaries or stenographers, and many who would prefer teaching to office work accept the latter because it is less nerve-racking and more remunerative. Some sections pay good salaries to competent teachers, but as a rule the compensation for services rendered is not sufficient to attract and hold the kind of teachers who should be employed.

We understand the difficulties of the rural section. The number of pupils is small and the cost per child runs high, but it is the duty of every citizen to assist in the maintenance of the institution's value to the community in which he lives. Without schools and churches we would revert to pioneer conditions, and property would depreciate in value. Good schools and good churches are marks of progress. Country children are entitled to an education that will equip them for citizenship and a life of usefulness not to the community only, but to the nation as a whole. If the teaching profession is to be maintained at a high standard salaries must be made attractive or the best will leave it and our children will suffer. A good education is the best property the parent can bequeath to his child.

Labor and Agricultural Interest Not Compatible.

There are rumors occasionally which seem to indicate that agriculture contemplates making advances to labor in the hope that together they may exert more political influence in the arena of Canadian affairs. The super-heated city breezes often waft the news countryward, too, that labor is ready to unite with the organized farmers of Canada that order may be evolved out of chaos, and that Right may displace Wrong. Such a combination would embrace a considerable majority of the population and link together two so-called classes upon whom the prosperity of this Dominion depends to an extent not yet recognized. In a national sense their aims are identical; both are striving for just and equitable legislation that does not favor the wealthy or oppress the poor. Agriculture and labor are similar in their demands so far as the broad principles of politics and government are concerned, but we fear sharply defined differences would arise when it came to the working out of their respective programs. Labor is demanding an eight-hour day, while farmers work nearer eighteen hours, and unless agriculture can be made so remunerative that more help can be employed and shorter days made practicable there can be little hope of a compromise on this plank of the platform. When farming comes into its own and we begin to cultivate our farms as they should be cultivated, farmers will have more help and be employers without any more desire than now to submit to union rules or the application of the union wage schedule. The question then arises, is agriculture justified in helping to establish conditions and laws which when applied to our own industry are neither workable nor acceptable. Farmers have produce to sell at the highest price the market will pay; labor is a large purchaser of that produce at the lowest price the market will sell it, and usually the farmer is denounced for the sins perpetuated not by him but by the market which handles commodities grown on the farm. There is a difference here that could be minimized by more co-operative trading.

Labor, as now constituted, is largely in the employ of protected industries, and the neutrality expressed in regard to the tariff by the labor convention, held some weeks ago in Toronto, is a warning that agriculture can expect little support in the direction of tariff reduction. Farmers to a very large extent are property holders, while the ranks of labor include great numbers who have no possessions beyond household equipment and, in some cases, the tools with which they work.

These and other important differences exist, and, after all, the free and proper use of the ballot-box is the very best means of putting just legislation on the statutes books in this country where we have the machinery for representative government. If labor and agriculture would elect representatives from among themselves in proportion to their numerical strength and importance, and have them meet representatives of other classes or

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industries on the floor of the House of Commons, national questions could be decided in a more happy manner than by agitation or strong-arm methods. No man can serve two masters, and it would, no doubt, be better in the end for all classes to have proper and separate representation in the Parliament and Legislature of this country. When agriculture and labor have sufficient representation then we shall have equitable legislation. All industries and all classes must have due consideration, and when we measure up to this standard of government it will be an improvement on the past.

Increasing Cow Efficiency.

The labor shortage during the past few years has forced many farmers to decrease their milking herds and reduce the cows to a number that can be looked after fairly comfortably by the family without additional help. In spite of this fact, the cheese factories and creameries in dairy sections have received an abundance of milk and cream. This is rather a peculiar circumstance, but the evidence seems to show that while the herds have been decreased in number it is not the best cows that have been sold. Boarders and non-producers have evidently been weeded out, with the result that the remaining cows are giving more milk than the total herd of good and poor milkers did in past years. This certainly means greater profits for the dairyman, and the lesson which he is learning now should not be soon forgotten. Good winter feeding and splendid spring pasturage have shown results. Profits in dairying cannot be based on the number of cows kept; it is the amount of milk each cow gives, over and above the quantity required to pay for her keep. There is no branch of farming where the possibilities are so great for increasing financial returns as in the dairy herd. By breeding, feeding and weeding, one can quickly transform a money-losing investment into a profitable enterprise.

Conditions in Eastern Ontario.

BY ALLAN MCDIARMID.

There seems to be an idea among a good many men, farmers particularly, that it is against some unwritten law to admit that any sort of weather conditions can be favorable to their interests. If one listens to them he would get the idea that the field crops are continually in need of a change or climate. They either need more

rain or less rain, or more heat, or something different from what they are getting, at any rate.

Some of our preachers of a past generation used to say that the "Prince of the Power of the Air," referred to in the Bible, was the devil, and that the title given to him indicated that he had control of the weather. Not to hazard any opinion as to the correctness of their theory it would seem, however, that the idea has a good deal of backing among us farmers. Especially this last spring a good many men I know seemed to be ready to fall in with the notion. It certainly was bad enough for a while and the growth was slow in starting, but I had thought there had come a change for the better, until one day last week I was talking to a farmer friend from the next township and we started comparing notes on things in general and crop prospects in particular.

"Well, things are looking a little better now," I said. "Yes," he replied, "but the clay land is in awful shape. A man might as well sow his grain in a gravel pit as on some of the fields we have out our way." "I shouldn't wonder," I said, "but this hot weather after the rain we've had ought to give the corn enough of a boost to make up for a grain shortage, if we have one." "Oh I don't know," he returned, shaking his head, "did you ever see the way its making the weeds grow?"

A few days ago I had a chance to get an idea of the progress of the different crops we raise in these two most easterly counties of Ontario. A drive of twenty miles or so affords an opportunity of sizing up the situation fairly well, especially if it is taken with a horse and buggy. One has time then to see something of the farms which he is passing, which he can hardly do if he is in an automobile and has some of the present-day chauffeurs to drive it. This idea may console others, besides myself, who are not able to dig up the price of a car. It's a sure thing that, although one may not see so much country when driving a horse, they will see it better. A picture in a recent number of "Life" shows a woman from the city discovering, for the first time, that flowers grew by the roadside. Her car had broken down, and while waiting for it to be repaired she makes the discovery. It strikes the most of us occasionally, I guess, that there are some people going through the world so fast that they see very little of what is of value in it.

However, to get back to the conditions and prospects of the crops. Beginning with the hay, there is very little doubt that the price of that article will be considerably less next winter than it was last, if the crop here is any indication of what it is in other parts of the country. The fields of timothy, red clover and alsike couldn't look better. Talk about flower gardens! The natural born farmer nothing in that line can beat a ten-acre field of red and white clover, just able to stand up under its own weight and no more. And the number of such fields seems to be greater this year than ever. Grain crops are not so good; especially what went into the ground late, and that means quite a large percentage of it. Oats is the principal grain crop down here, and what was put in early on fairly high or well-drained land, never looked better.

There is no denying the fact that it was a difficult matter to get the seeding done at the right time this year, but if weather conditions were always just right we would never be stirred up to making an effort in the direction of better cultivation and drainage and so on. Progress with us would come to an end. Nature won't keep on giving us something for nothing, and it's a good thing for us that we "reap as we sow" or we'd soon be like the natives of the South Sea Islands who, they say, have grown so lazy that they will do nothing but lie under the trees and let the fruit drop into their mouths.

A climate like ours and a few difficulties to overcome, if we want to be well fed, are the best things in the world for us, if we only knew it.

Barley, wheat and peas do not seem to be grown by our farmers to the extent they were a number of years ago. Where there is any the same may be said of them as was said of oats. If sown early on high ground they look well. Otherwise they don't. Corn, grown for the silo, is taking the place of these last-mentioned grains. But, in the majority of cases, it is very backward. A good many farmers do not yet seem to be sufficiently impressed with the importance of getting corn into the ground as early as there is a good chance of it germinating if they are to have silage of high feeding value for their stock the following winter. Our season is short and the corn will not mature unless it gets about all the growing time there is. A great many fields that I saw on the 22nd of June showed the corn just starting to grow, which wasn't as much as could be said for the weeds. And, judging from the toll the crows and blackbirds were taking, replanting at least part of the fields would be necessary. Farmers in this part of the country may be said to be specialists. Their chief interest, from the financial standpoint, is in the dairy cow. They all sell her produce in one form or another; the cheese factories get the most of it, and, with cheese selling at 30 cents a pound, it is what might be expected. For once the cheese-factory patron has the laugh on the man who is shipping his milk or cream to the city.

In regard to the hired help situation, there isn't very much that can be said except that the hired man can soon be classed with the buffalo and some of the other animals that have become extinct. An odd specimen can still be found here and there, but they are beginning to be looked on as something of a curiosity. For those that remain wages are about two dollars a day, the year round, with a free house and garden and

anything else they take a notion to ask for. This, of course, includes their board.

To conclude with a word in regard to the general situation and the financial condition of the average farmer, we might say that the said condition and situation is gradually improving. Not very much has been done in the past three or four years in the way of putting up new buildings on the farms or the making of any extensive permanent improvements, but bank accounts are growing, which, they say, is a pretty healthy sign of the country. Some of our Government officials should get a few of the farmers from this part of the Province to give them an occasional pointer these days, I think, in regard to the carrying on of the public business in an economical manner. If there was as much thrift practiced by these political office-holders of ours as there is by most of our individual farmers the country's financial liabilities wouldn't be running up the way they are just at present. Government methods applied to the running of a farm would shortly be followed by an auction sale.

Nature's Diary.

A. B. KLUGH, M.A.

A Comparison of the Birds of Two Agricultural Areas.

As I am now down in Prince Edward Island it has struck me that it might be interesting to others, as it has been to me, to compare the birds of this district, the country about Malpeque Bay, with those of Central Ontario, more particularly as both regions are pre-eminently agricultural areas.

There are a few birds which are equally common in both regions, for example, the Robin, Song Sparrow, Yellow Warbler, Kingbird, Barn Swallow, Tree Swallow and Flicker. But there the similarity ends, for in the meadows here there are no Bobolinks, no Meadow-larks, and comparatively few Vesper Sparrows, but instead of these there are large numbers of Savanna Sparrows. The Savanna Sparrow, which is one of the less generally recognized sparrows, is quite common in meadows and fields in Central Ontario, but here it is the predominating bird of the fields and roadsides. This species may be recognized by the yellow line over the eye, and also by the rather sharp streaking of the back. Its song is a rather high-pitched, somewhat grasshopper-like "Zrit-zrit-a-zree-zrur-r-r," not an impressive vocal performance, and easily over-looked, but easy of recognition once it has been drawn to one's attention.

The Chipping Sparrow is quite common here, but its place is very largely taken by the Slate-colored Junco, a little bird with a dark gray head and back and white underparts, with two white outer tail-feathers which show very conspicuously when the bird is in flight. The song of this species is a trill which while it resembles the song of the Chipping Sparrow is louder, somewhat deeper in pitch and has a more ringing quality. As in the case of all birds, the songs of different individuals varies a good deal in quality, some having the ringing tone much more marked than others. In Central Ontario the Junco is a very common species during migrations, but does not remain to breed, while here it breeds in great numbers and is one of the most characteristic birds of the region.

The Bronzed Grackle, often called the Crow Blackbird, or simply the Blackbird, is common throughout Central Ontario, but is even more conspicuous here, as nearly every patch of Spruce woods has a colony of these noisy and quarrelsome birds. As we have pointed out in previous articles, this species is of very doubtful economic value, as while it eats a good many injurious insects it also destroys crops and garden products, and moreover drives away birds more beneficial than itself. About nearly every farm house in Central Ontario are two birds which so far I have not seen in the Malpeque region—the House Wren, and the Baltimore Oriole—both of them birds with a striking song, and one of them, the Oriole, with striking plumage. The Red-eyed Vireo and the Phoebe are two other species, which are very common in Central Ontario which I have not yet observed on the Island.

The Myrtle Warbler is a very common breeder here and the Ching-ring-ring-ring-ring" song of the male is to be heard from early morning till dark from the rows of Spruces. This species is common in Central Ontario during migrations in the early part of May and again in late September and October, but only an odd pair remain to breed. The Magnolia Warbler, the male of which species is one of the handsomest of all our warblers with his black crown, pearl gray back and yellow breast with black streaks, is seen in Central Ontario only as a migrant, but is quite common here as a summer resident.

While the Black-capped Chickadee occurs here the Canadian Chickadee, which is not found at all in Central Ontario, is commoner. This species, which is of the same size as the Black-capped Chickadee resembles the latter species, but has the crown brown instead of black, and the back brownish instead of gray. The note of the Canadian Chickadee is a rather husky "Tscha-dee-dee-dee-dee," weaker and lacking the clearness of that of the Black-cap.

Another bird of this district which does not occur in Central Ontario is the Olive-sided Flycatcher. This species is one of the larger flycatchers, and has the habit of sitting up on a high dead branch and uttering its loud "Whip-whee-yoo-u-u," the first syllable being much softer than the latter part of the song, so that at a distance it is not heard at all. It makes frequent sallies from its perch in pursuit of insects which wing their way near to it.

During farm team but yet does during ways a ru crops are is given t horses do all too con until sund They may having th the night the horses best work dition, the harvest ev than at ot the weath hot and more tr should b feed and horses b and six i noon, an horseman team a quent in hot day. of many broken du time and have the fall is good fe it is a cor it is ver comforta in the night th stable. plan to t out, but have the ough clea skin. Irr do on ma The l made as the weig keeping t During l very qui this part calling fo draft on Unless collar fit especially This trou harness a day to a salt wate the dan If there i lotion, w sulphat

THE HORSE.

Care of the Team.

During July, August and September, the average farm team has strenuous work under trying conditions, but yet does not as a rule receive the same care that it does during other seasons of the year. There is always a rush on the farm during the months that the crops are being garnered in, and frequently little time is given to grooming. Then, too, on some farms the horses do not receive their feed regularly. It is an all too common practice to rush the horses from morning until sundown, with but a short time to feed at noon. They may be tied to the hay mow while the men are having their supper, but when the last load for the night is under cover the harness is removed and the horses forced to pick their feed in the field. If the best work is to be secured and the horses kept in condition, they need their regular feed during haying and harvest even more so than at other times, as the weather is usually hot and conditions more trying. Time should be taken to feed and water the horses between five and six in the afternoon, and the careful horseman will give his team a drink at frequent intervals on a hot day. The spirit of many horses is broken during harvest time and they do not have the same life for the fall work. Grass is good feed for horses; it is a conditioner, and it is very often more comfortable for them in the open field at night than in the hot stable. It is a good plan to turn the team out, but they should have their regular feed of grain and be given a thorough cleaning to remove the sweat and dirt from the skin. Irregular meals tell on the horse the same as they do on man.

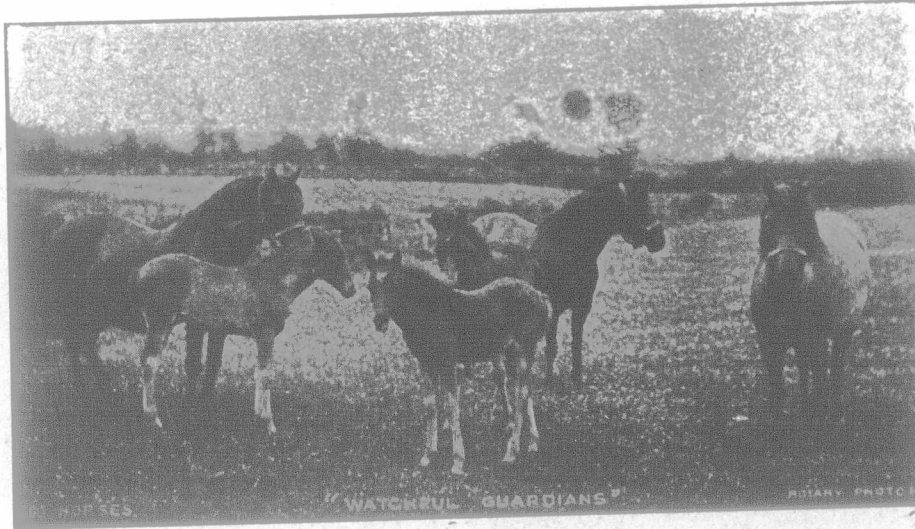
The heavy work of haying and harvest should be made as light as possible by providing trucks to relieve the weight of the mower and binder tongue, and by keeping the machinery and wagons well oiled and greased. During hot weather, the grease wears off the wagons very quickly, and we have seen some teamsters neglect this part of their work until the wheels were literally calling for grease. This cannot help but increase the draft on the load.

Unless the hames are properly adjusted and the collar fits, there is danger of sore shoulders developing, especially during a few days of exceptionally hot weather. This trouble can be lessened by paying attention to the harness and by raising the collar occasionally during the day to air the shoulders. Washing the shoulders with salt water and keeping the collars clean, aid in minimizing the danger of shoulders becoming galled and sore. If there is a little break in the skin, the use of the white lotion, which is composed of acetate of lead one ounce, sulphate of zinc six drams, and one pint of water is

recommended. This is a soothing, non-irritant lotion and should be applied freely. The careful teamster seldom has horses with sore shoulders. He prevents sores developing. It is the man who is a little careless about his horses who has the trouble.

The Feet of the Horse.

"No foot, no horse," is a very true saying, but yet some are negligent regarding the care of the colt's feet, in particular, and very often of the feet of the team they are working. If the hoof is allowed to grow out unduly, it cannot help but affect the trueness of the legs. It interferes with the animal when moving and increases the danger of blemishes developing. When the colts are on pasture the natural wear will sometimes keep the hoof in shape. However, the feet should be looked at occasionally during the summer months and the hoofs trimmed back if necessary. Some use the hammer and chisel for trimming the feet, but it is a good plan to get the nippers and knife, commonly used by the black-



No Family Quarrel Here.

smith for doing this work. A better job can be made than with the chisel. With the high price of shoeing, there is a marked tendency for people to leave their horses go as long as possible without changing the shoes. This is not good practice, as it tends to injure the feet. The horse going barefoot does not suffer as much from inattention to the feet as does the one that is neglected after being shod. On most farms it is necessary to have one team with shoes on for going on the road, but for the regular farm work shoes are not an absolute necessity, unless it is at harvesting time when the ground is hard and dry and there is a heavy pull into the barn. In dry weather the hoofs become brittle and there is the danger of them cracking and breaking. The feet of the horse should be looked after from the time it is a colt. To neglect them is to injure the horse.

LIVE STOCK.

Pig Pastures.

The cost of the production of pork can be materially reduced by the use of pastures. Under ordinary

conditions where a pig is fed on grain alone, it takes careful feeding and a very thrifty kind of pig to make 100 pounds gain from 500 pounds of grain, and more frequently 600 to 700 pounds of grain are consumed. Experiments with pasture and self-feeders at Brandon Experimental Farm have shown that it is possible to make good gains at the rate of 300 to 400 pounds of grain to the 100 pounds of pork with the addition of pasture. Pasture cannot be used satisfactorily to replace grain, but it may very profitably reduce the grain consumption by one-third. As the pasture can be grown very cheaply and the pigs do the harvesting themselves, the cost of producing a pound of pork may be reduced 20-25 per cent. This may mean the difference between profit and loss.

There are a considerable number of crops that may be used for pig pasture. The ordinary grain crops, such as wheat, oats, barley and rye, are quite suitable. Sown in the spring, these crops are ready for pasturing at the time that spring pigs born in March and April are old enough to use pasture to advantage. Spring rye is the first of these crops to be ready to use. The pigs eat it well and produce good gains on it. However, it soon passes the most palatable stage and becomes more woody as it shoots into head. Oats and barley are about a week later than rye in reaching the proper stage for harvesting, but are relished rather more by the pigs, and continue in a suitable condition for pasturing for a longer time. Wheat also produces good pasture, but is no better than other grains, and the seed is more expensive.

For later summer and fall pasture, there is nothing better than rape. Sown in early spring it is ready for pasture about the middle of July, or, if sown later, it reaches pasturing stage in about six weeks from the date of sowing. Pigs like it very well; it produces a large amount of feed and stands pasturing well. It is one of the best plants for hog pasture.

Another good fall pasture is fall rye. If sown in mid-summer it is ready to pasture in a month from the date of sowing. It produces a good grade of pasture until severe frosts come, and does not head out in the fall.

Perennial crops may also be used as pig pasture. Alfalfa will produce more pasture per acre probably than any other pasture crop. Pigs do very well on it, and produce economical gains. However, it costs more to start with alfalfa, as the land must be prepared two years ahead and sown one year ahead of the time it is to be used. Also, its greatest growth is in May and June, when, on the average farm, there are few pigs to use pasture as the spring litters are too small, and very few fall pigs are raised. The second crop of alfalfa comes in well for later summer pasture for spring pigs. Pigs root out alfalfa and soon destroy it if allowed to. It is advisable to put rings in their noses when they are pastured on alfalfa.

The ordinary grasses such as brome and timothy make first-class pig pasture in the spring months. But, as in the case of alfalfa, there are usually not many pigs to use pasture at that time. In mid-summer and fall when pigs need pasture most, the grass pasture is often dry and harsh and not so suitable for pigs. Consequently, better results are usually obtained from the annual crops first described.

Pastured pigs should be confined to pens for a few weeks at the last before shipping to market. While on pasture, they take a great deal of exercise, especially if of the more active breeds, and as a result grow well and make good frames with plenty of lean meat but may not put on enough fat. By shutting them up for about three weeks at the last, they make amazing gains in weight, thus increasing the profit, and get into a more finished condition for market. Pigs of the more sluggish breeds may be finished on pasture.—Experimental Farms Note.

Out After the Scrub Bull.

EDITOR "THE FARMER'S ADVOCATE":

The scrub bull is a great hindrance to the improvement of live stock in Canada. There is no doubt, but that live stock is a great deal better than it was twenty-five or thirty years ago, but there is chance to improve yet for in a great many districts it is not what it might be. Far from it, and it will not be any better if the scrub bull is not put out of existence. I have known men to breed their heifers to a scrub when they could get the service of a pure-bred sire. The main reason was, the pure-bred cost a little and the scrub did not, but they pay dear for it by raising such inferior calves. If they are bull calves they are not worth raising, on the other hand if they are sired by a pure-bred they make beef if not wanted for breeding. I know of different large pastures that are rented every year and the owners keep a scrub there. A good many people pasture their heifers there to save time and trouble in getting them with calf. There is no difficulty in telling what kind of stock they are raising, just by passing along the road. We keep grade cows of a dairy breed on the farm, and breed to a pure-bred and raise young stock that make good returns. That is the way most farmers do around here. I am hoping that before long something will happen to the scrub bull as did the scrub stallion; forbidding the use of them all together. I am sure I would do all I could to wage war against them, for if Canada ever needed to raise the best stock possible it is now.

Queens Co., N. S.

I. C. J.



Blackfaces on the Hillside.

on to ask for. This, of

in regard to the general condition of the average said condition and situa- Not very much has been years in the way of put- farms or the making of improvements, but bank they say, is a pretty some of our Government e farmers from this part a occasional pointer these carrying on of the public nner. If there was as e political office-holders f our individual farmers ies wouldn't be running t present. Government g of a farm would shortly

Diary.

I, M.A.

Diary of Two Agricultural

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The History of Canada's Export Trade in Animals and Animal Produce.

It is of interest, especially to the older generation, to recall Canada's experience in undertaking a live meat trade, a venture which to-day is practically non-existent in so far as the United Kingdom is concerned, but which from 1890 to 1911 had an outlet for ninety per cent. of its total surplus in the British market.

Canada was years ago a heavy exporter of live cattle and sheep. In the year 1903 she exported to Great Britain 161,170 head of cattle and 93,528 head of sheep. During the succeeding years exports of live stock from the Dominion to Great Britain steadily declined until in 1913 our export to that outlet amounted to only 12,069 cattle. Fortunately at the later date, restrictions were removed between the United States and Canada on imports and exports of cattle and other meat animals, and from a total of 28,268 cattle exported to United States in 1913, Canada's trade developed into an export of 189,229 head of cattle in 1918. The heaviest exports to all countries were made in 1898, when Canada shipped 122,106 cattle to Great Britain, 87,905 head to United States and 2,997 to other countries, and in 1916 when the high tide of our exports was reached in our shipments of 1,752 cattle to Great Britain, 227,202 to United States points, and 12,581 to other countries. While the latter was apparently a considerable achievement it really meant that in the passage of seventeen years, Canada increased her export of cattle by only 26,000 head, and that only following the throwing open of the great market to the South.

The ten years period from 1903 to 1913 constitutes the time which extensive settlement in Western Canada was developing, during which railway building reached its maximum, during which internal industrial expansion was exploited almost to the extreme, and during which Canada's borrowings increased to huge amounts to make good the expenditures in various lines of enterprise. It was a period of construction rather than production during which we steadily traded upon our future in developing the facilities for future business. Our prosperity during this period was, in a large sense, of a fictitious nature, and in view of the huge constructive enterprises which were undertaken, we finally found ourselves in a position where internal consumption practically absorbed the live-stock production of our country.

Cause of Decline in Live-Stock Exports.

In the table following, showing live-stock exports, it is noticeable that the exportations declined from 1906 and 1907 until a low-water mark was reached in 1913. Several reasons may be advanced; the taking up of the ranges for wheat growing, the great storms of 1907, the changing from one market to another, the increased abattoir facilities and the increased local consumption in Canada influenced the situation. The more general adoption of mixed farming in Western Canada will supply an immense number of cattle and sheep, and effect a return in the West in favor of the Live-Stock Industry.

In 1914 we arrived at the critical period when after a time of too rapid apparent development we faced the problem of paying our debts out of actual production, or else suffer a steadily declining national credit in the financial markets of the world. In the crisis the live-stock industry responded magnificently, as the following table of values graphically shows.

In effect, animal produce contributed in value to the export trade of Canada during the period of the war a total of \$403,475,273.

The table appended indicates the ebb and flow of our export cattle trade from 1890 to 1918. Exports of Live Cattle from Canada to the Under-mentioned Countries from 1890 to 1918, inclusive.

	Great Britain	United States	Other countries	Totals
	No.	No.	No.	No.
1890	66,965	7,840	6,649	81,454
1891	107,689	2,763	7,309	117,761
1892	101,426	551	5,202	107,179
1893	99,904	402	6,918	107,224
1894	80,531	256	5,270	86,057
1895	85,863	882	7,057	93,802
1896	97,042	1,646	5,763	104,451
1897	120,063	35,998	5,308	161,369
1898	122,106	87,905	2,999	213,010
1899	115,476	92,834	3,537	211,847
1900	115,056	86,989	3,479	205,524
1901	119,050	46,244	3,985	169,279
1902	148,927	31,743	3,803	184,473
1903	161,170	10,432	5,178	176,780
1904	148,301	3,517	5,599	157,417
1905	159,078	3,696	4,328	167,102
1906	163,994	4,726	7,310	176,030
1907	149,340	8,184	4,617	162,141
1908	124,015	23,612	3,366	150,993
1909	143,661	16,130	3,154	162,945
1910	140,424	12,210	4,752	157,386
1911	113,795	7,576	3,552	124,923
1912	47,868	9,807	3,842	61,517
1913	12,069	28,268	3,959	44,296
1914	9,788	206,446	3,615	219,849
1915	—	183,672	2,252	185,924
1916	1,752	227,202	12,581	241,535
1917	—	164,169	1,967	166,136
1918	—	189,229	2,130	191,359

Some Adverse Conditions.

Promising as is the live-stock situation at its base, it is well to pay attention to certain adverse conditions

Animal Produce.

BY P. E. LIGHT.

The accompanying article is the second of a series on the live-stock industry of Canada, written by P. E. Light, of the Markets Division, Live Stock Branch, Ottawa. Mr. Light here reviews the export trade since 1890, and points out adverse conditions which require rectifying of volume if exports of live stock is to be established. The percentage of steers of export quality and weight being marketed is small at present. The too prevalent use of scrub bulls is one reason given for our stock not being of higher quality. In next week's issue Mr. Light deals with our Live-Stock Resources and Opportunities.

of our live-stock industry, requiring immediate attention. The most serious condition is the lack of sufficient numbers of cattle of quality suitable for the rather critical markets of the United Kingdom. We would do well to bear in mind that the present trade in beef with importing countries is an emergency trade, and that the quality of our exports of beef will not meet the strict export requirements in filling contracts for permanent trade on a competitive market.

As an illustration of the lack of cattle of weights sufficient to make export beef, it is a fact that of the total cattle marketed at five leading stock yards in Canada during the year 1918, only 15 per cent. were of export weights, and only 12 per cent. of export weight and quality. Another condition is the tendency of late years, probably owing to the domestic demand for baby

Grading and Quality of Cattle Marketed at Public Stock Yards during the Year Ending December 31, 1918.

STEERS.		
Heavy finished	21,053	
Steers, good	75,681	
1,000-1,200, common	3,0063	
Steers, good	70,418	
700-1,000, common	50,634	
Heifers, good	38,489	
fair	26,440	
common	15,351	
Cows, good	75,904	
Common	85,729	
Bulls, good	8,959	
Common	27,674	
Canners and cutters	57,095	
Oxen	6,709	
Calves, veal	27,686	
Grass	13,532	
Stockers, good	98,978	
450-800, fair	64,675	
Feeders, good	33,754	
800-1,100, fair	25,827	
HOGS.		
Selects	803,622	
Heavies	18,449	
Lights	69,403	
Sows	30,458	
Stags	5,532	
LAMBS.		
Good	183,918	
Common	52,326	
SHEEP.		
Heavy	5,108	
Light	46,439	
Common	36,755	

Values of Export of Animals and Animal Produce.

	1915	1916	1917	1918
Eggs	\$ 965,640	\$ 2,618,871	\$ 3,480,911	\$ 3,283,935
Poultry	212,992	118,878	70,474	78,606
Bacon	11,811,825	25,710,767	43,011,439	58,035,440
Beef	1,988,489	5,994,983	5,750,435	13,426,823
Hams	2,652,917	1,379,560	771,830	2,160,120
Mutton	124,087	14,360	27,491	192,286
Pork	781,643	1,690,589	2,700,626	2,074,420
Live stock	14,930,992	19,171,748	14,575,174	22,528,799
Wool	1,359,741	1,497,684	2,595,488	7,152,496
Lard	305,933	2,980	284,483	528,786
Butter	639,625	1,018,769	2,640,536	2,042,470
Cheese	19,213,501	27,174,379	38,051,533	36,630,119
Totals	\$53,987,385	\$86,393,568	\$113,960,420	\$148,133,900

beef and light weights of cattle, to market cattle not only very young, but unfortunately extremely light, and without proper finish. This practice has greatly reduced the average tonnage and quality of cattle marketed in Canada during the past two years compared

Per cent. of above cattle of export weight, 15; per cent. of above cattle of export quality, 12; per cent. of above hogs of export quality, 86; per cent. of above lambs of export quality, 78; per cent. of above sheep of export quality, 52.

Receipts of Live Stock at Canadian Stock Yards, Year Ending December 31st, 1918, (Including Through Billed Stock).

	Cattle	Calves	Hogs	Sheep	Horses
Montreal (Pt. St. Charles)	68,708	66,345	98,726	70,460	18,112
Montreal (East End)	69,363	68,786	54,557	46,530	21,254
Toronto (Union Stock Yards)	368,066	62,056	488,554	185,951	37,026
Winnipeg (St. Boniface)	312,503	11,560	365,219	38,403	8,961
Edmonton	45,456	5,689	44,171	5,055	3,678
Calgary	162,045	—	139,675	—	5,154

with that of some five years back. During 1918, approximately 50 per cent. of the butcher steers marketed at public stock yards weighed under 1,000 pounds, these cattle graded about 60 per cent. good quality and the remainder were considered to be unfit for butchering, but to a large degree suitable for return to country points for further feeding. In addition to these butcher steers of light weights approximately twenty per cent. of the total marketing of cattle were classed as stockers weighing from four hundred and fifty to eight hundred pounds. Also the total numbers of stockers and feeders compared with the total receipts of cattle were very heavy. These light cattle may either be weighed up as stockers and feeders or, if butcher cattle are scarce, as butcher cattle. This being the case, the per cent. of light cattle in the total marketings may exceed the figures already given.

It will be noted that the hogs grade up exceedingly well. Without wishing to detract from this statement, it is true that one cause of the exceptionally high per cent. of select hogs was the keen demand and exceptionally favorable outlet for pork and pork products, and a consequent wide grading by the packers.

Light Weight Cattle.

The following table illustrates the predominance of light weights of cattle in our annual marketings, and substantiates the statements previously made regarding the quality of our cattle marketings.

In addition to the hogs classified above, as many more were shipped direct to the packing houses, without passing through a public stock yards.

The Foundation.

A word as to our foundation stock. The use of "scrub bulls" is still very prevalent in the Dominion, and the results from the use of scrub animals can be seen in the numbers of thriftless, poor-doing stock to be found on many farms and at the markets. A practice contributing to poor quality in our domestic supplies is that of exporting many of our young pure-bred beef sires, while we retain those not considered of exportable quality, for our own needs. Breeders in Canada can surely appreciate the value of well-bred foundation stock as well as can breeders in adjacent countries, and efforts either personal or co-operative should be made to keep the heifers and bulls of first quality within the Dominion, until such time as there develops an exportable surplus.

There is a tendency in some districts in Canada to stick to thick type of hogs, producing a carcass unsuitable for the manufacture of Wiltshire sides, the kind of bacon required by the British market. While there may be room in Canada for a certain number of this class of hogs to take care of the limited domestic demand for fat bacon, any great increases in supplies of that class of meats will be detrimental to the hog industry.



Common

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Constipation... condition of t... improper func... digestive glan... dry pastures... food, over-ripe... that lacks suc... Symptoms... ineffectuated... often wanders... the rectum usu... Treatment... in solution to... quite young a... animals more... 15 to 20 grain... of warm soap... if this does... they should b... be not establi... ozs. raw lins... of Epsom salt... 12 hours, and... vomica until... time give lax... the strength... flaxseed, or o... ful of whisky... nitre about ev

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A Breedy Lot of Shorthorns in a Well-kept Yard.

Common Diseases of Sheep—Con.

Fardel-Bound or Impaction of the 3rd Stomach

Fardel-bound or impaction of the 3rd Stomach, sometimes called grass staggers, is caused by the consumption of dry, indigestible fodder, usually of a woody nature as old last year's grass, hay that has been too ripe when cut or has been poorly saved. It is liable to occur without appreciable cause.

Symptoms.—Loss of appetite, cessation of rumination, anxious expression, more or less well-marked abdominal pain, constipation, sometimes preceded by slight diarrhoea, and in some cases well-marked delirium.

Treatment.—Give 6 to 8 oz. Epsom salts in solution and follow up with 20 grains nux vomica 3 times daily. If purgation be not established in 24 hours give 6 oz. raw linseed oil and alternate 4 oz. Epsom salts and 4 to 6 oz. raw oil every twelve hours until free purgation is caused. In the meantime continuing the nux vomica.

Constipation.

Constipation a more or less well-marked inactive condition of the bowels, may occur as the result of improper functions and partial inacting of the various digestive glands, but the most common cause is from dry pastures and insufficiency of water and succulent food, over-ripe hay or poorly saved hay, in fact any food that lacks succulence may cause the trouble.

Symptoms.—Loss of appetite, humped up appearance ineffectual attempts to defecate; colicky pains; the patient often wanders away from the flock and seeks solitude; the rectum usually contains masses of hard faeces.

Treatment.—Administer 6 to 8 oz. of Epsom salts in solution to an ordinary sized sheep. Small or quite young animals to be given less, and very large animals more, in proportion to size. Follow up with 15 to 20 grains nux vomica 3 times daily; give injections of warm soapy water per rectum every few hours, and if this does not cause an expulsion of its contents they should be removed by the fingers. If purgation be not established in 18 to 24 hours administer 4 to 6 ozs. raw linseed oil and continue the administration of Epsom salts or raw oil in moderate quantities every 12 hours, and also continue the administration of nux vomica until purgation is established. In the meantime give laxation food. If the patient will not eat the strength should be kept up by directing with boiled flaxseed, or oatmeal gruel with a couple of table-spoonful of whisky or 1 tablespoonful of sweet spirits of nitre about every 6 hours.

Colic

Colic is usually caused by the consumption of spoiled forage, as poorly saved hay; partially decayed food of any nature; frozen roots, etc.

Symptoms.—The patient exhibits great pain, stretches her hind feet backwards and fore ones forward, lies down, rises again, etc., which symptoms are generally followed by a period of ease of variable duration, after which another spasm will be noticed. In simple cases there may not be more than one or two spasms, the patient making a spontaneous recovery without treatment. In other cases the spasms continue, each being usually more violent and longer continued than the preceding one, and the intervals shorter. Death may occur from exhaustion or inflammation of the bowels may result and cause death.

Treatment.—Administer ½ oz. each of tincture of belladonna and sweet spirits of nitre in a little cold water as a drench every 3 to 4 hours as long as necessary. If bloating occurs, which is sometimes the case, give ½ oz. oil of turpentine in 4 oz. raw linseed oil, and, if necessary, repeat in 2 hours.

Diarrhoea.

Diarrhoea is usually caused by the consumption of food of poor quality; partially decayed roots; water of poor quality, especially if containing partially decayed animal or vegetable matter. Stagnant water is especially liable, particularly in dry, hot weather. Exposure to cold and dampness is a fertile cause.

Symptoms.—The passage of liquid or semi-liquid faeces, impaired appetite (sometimes not well marked in the first stages). When the disease is acute the patient usually loses strength quickly and may show symptoms of well-marked abdominal pain, while in cases that are not so acute the appetite may remain fair, and the patient not lose flesh and strength for considerable time.

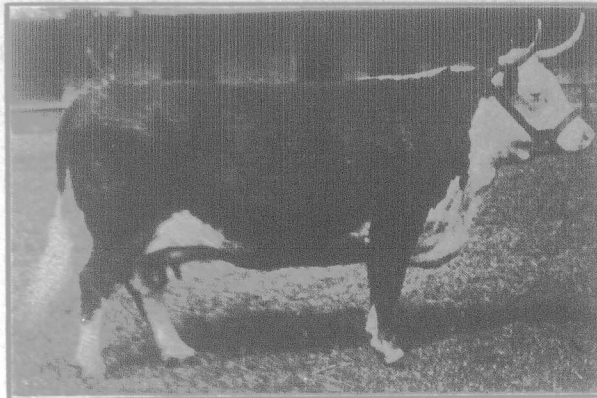
Treatment.—If possible ascertain the cause and remove it. Feed on food of first-class quality and supply good water. In many cases this is all that is necessary. When the patient is quite strong and the appetite fair, it is good practice to give 4 to 6 ozs. raw linseed oil or Epsom salts in solution, on the assumption that there is some irritant remaining in the bowels. If diarrhoea continues beyond 18 hours after the administration of this, it should be checked by giving a dessertspoonful of laudanum and 2 drams each of powdered catechu and prepared chalk in a little cold water as a drench every 5 to 6 hours until diarrhoea ceases.

In cases where the appetite is greatly affected and the patient getting weak it is wise to omit the laxative and adopt treatment to check the disease at once.

WHIP.

Cattle Imported From U. S. for Exhibition Purposes Must be Tested.

The Dominion Department of Agriculture has found it necessary to amend the regulations governing the importation of American cattle for exhibition purposes.



A Winning Hereford Matron.

After July 2 next, it is necessary for all American cattle imported for this purpose to be accompanied by a tuberculin test chart signed by an officer of the United States Bureau of Animal Industry stating that they have been tested by him within sixty days of the date of entry at the boundary.

This amendment was considered advisable owing to the fact that changes have been made in the American Regulations which now require that Canadian cattle shipped to the United States for exhibition purposes, must, after July 1, be accompanied by a tuberculin test chart signed by a veterinary inspector of the Health of Animals Branch of the Department of Agriculture, stating that they have been tested within sixty days of exportation.

Live Stock exhibitors should bear this in mind, and forward requests to the Veterinary Director-General,



Prime Beef for Export Being Made in Blue Grass Pasture.

Ottawa, for the services of inspectors to test their cattle as promptly as possible after they have decided to ship them for exhibition purposes to the United States.

Prepare for the Coming Show Season.

The show season is rapidly drawing near, and many herdsmen are busy fitting the individuals of their herds and flocks for the contest which commences early in September. It takes time, feed, good care and patience to have an animal appear to advantage in the show-ring. All animals are not suited to enter in competition; in fact, comparatively few individuals of the best herds and flocks can win the honors in the show-ring. Good breeding counts. Animals of nondescript breeding seldom make any impression. Breed type and character are wanted in every animal, and in order to get these qualities judgment must be exercised in choosing a sire to mate with the females in order that offspring of show calibre will be produced. Besides breed type and character, size, substance and quality are wanted, and wanted in pleasing proportions. No animal can be starved the first year of its existence and then fitted to win in the show-ring. There must be no setback from the time the animal is born until it is fitted. At the local fairs too many of the entries are only in field condition, and it would appear as if the owner were after the cash prizes rather than endeavoring to make the exhibition of educational value to the visiting public. At the larger exhibitions the animals are usually brought out in good condition and trained in show-ring etiquette, the exhibitors knowing full well that an ill-mannered, poorly-fitted entry stands no chance of getting into the money, and that being forced to the bottom of the line owing to these conditions is very poor advertising indeed.

The local fair is a good place to make a start in showing animals. After having acquired some knowledge re fitting and showing, where the competition is not over-keen, the exhibitor may enter at the larger fairs. Every young man should look up the prize-lists of his local fair and then see if in the home herds and flocks there are some animals eligible to enter one or more of the classes. Having decided on exhibiting the stock, no time should be lost in putting the animal in prime condition and training it to lead or stand, as desired. It is unfortunate for the local fairs that more breeders in the neighborhood do not bring out their stock. But then some fair boards do not offer any inducement, and do not insist that the animals be brought out where the public can see them judged. We have been at fairs where the judge was obliged to climb first into one wagon and then into another in order to pick out the winning sheep or pig, and to judge the cattle in a yard where the entries in all the classes were running together, giving him no opportunity to make just comparison. If there is anything fit to show, by all means show it, but there is little excuse for showing it in an unfinished condition. Fit and train the entries in the different classes so that you need not be ashamed if the red or blue ribbon does not come to your entry. The fairs and exhibitions are intended to be educational factors, and they are to exhibitors who, when defeated, find out wherein the weakness of their entry lies and overcome these deficiencies the following year. The man at the ring-side can also acquire a good deal of information regarding the type and quality of the various breeds which are brought out. Considerable knowledge re the showing of stock may also be gleaned by watching how the various herdsmen bring their animals into the ring and hold them while there. A good deal depends on how they are shown.

In regard to beef cattle, it takes experience on the part of the herdsman to get that covering of flesh and glossy hair on his entry which attracts attention. It is not all in the feed. A good deal depends on the attention given by the herdsman. Size for the age is an important factor, and when selecting the show animals due consideration should be given this fact, and large, well-proportioned, typey, high-quality individuals chosen. While many herds to be shown this fall have been receiving special attention for many moons, there is yet time to make a considerable difference in their appearance. Considerable flesh can be added between now and the first of September. Oats, bran, oil-cake, little corn, clover or alfalfa hay, and some green feed, are generally used when putting on the finishing touches.

The amount of these feeds to give depends upon the animal. The ever-watchful eye of the good herdsman quickly detects when a ration has been overdone. The appetite should be kept keen at all times. Plenty of washing and grooming will improve appearances. Warm water and soap are used for washing the animals, following by rinsing with clean water. The animal should be rubbed dry after its bath, and the currycomb and brush used. It pays to use the brush frequently as it adds gloss to the hair and greatly improves the appearance. The horns and hoofs should be sandpapered and then polished. Some may consider this unnecessary, but it must be remembered that appearances count for a good deal in close competition. Exercise and training are also essential. The animal should be taught to behave itself on the halter. It should lead freely and stand quietly in such a position as to hide any physical defects and make the good points more visible. A good deal of strategy is practiced in the show-ring by the old exhibitors. It takes practice and experience to fit and show an animal properly. If the stockman's ambition is to enter the large arena it is advisable for him to commence at the small show and work up. Unless he has something extra choice, he might suffer defeat by starting at the top, which would forever dampen his courage and possibly be the means of spoiling what might otherwise be a good exhibitor.

Another advantage which the stockman gains by exhibiting at the different fairs is the information he obtains by conversation with other exhibitors and by observation. No one can remain in the barns during the show and not pick up some new ideas regarding feeding and breeding which can be put into practical use. All our fairs and exhibitions need more exhibitors, and these must be recruited from the owners of small herds and flocks throughout the country. A day or two before the fair is held is too late to commence training the animal. Start now while there are yet eight to ten weeks in which fitting and training can be done.

Stockmen are becoming used to seeing auction sales bring averages of \$1,000 and over. The peak has not yet been reached, despite the fact that many remarkable sales have been held during the past two years. At Bellows Bros. Shorthorn sale, recently held in Missouri, 73 head made an average of \$2,180. There were only 5 bulls sold and they made an average of \$4,450. The top price of the sale was \$15,600 for Standard Supreme, a roan bull calf which went to the bid of an Illinois breeder. Allan & Sons, Nebraska, made an average \$1,182 on their herd, while Ogden & Son, of Missouri, had an average of \$1,344 on 55 head. J. H. Grist, of Missouri, made an average of over \$1,000 on 45 head.

THE FARM.

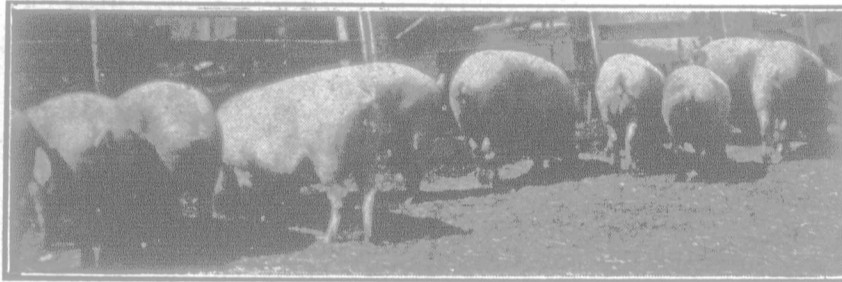
Crop Conditions Improving in Eastern Ontario.

Going from place to place through the country, one notes that conditions during the past two or three weeks give much greater promise of a successful year for farmers than appeared possible earlier in the season. The excessive wet weather experienced for so long in the spring has been followed by considerable heat and excellent growing conditions. Had it been possible to get the crops sown and planted at the proper time conditions throughout the country would have been very good indeed. Farmers in Western Ontario have very much to be thankful for, nevertheless, in as much as they are infinitely better off in the way of crop prospects than those in the Eastern Counties. Even here, however, conditions have very much improved since early in June when the wet weather gave place to sunshine and conditions under which it was possible to carry on the much belated work of the farm.

Only a few days ago it was the privilege of a representative of "The Farmer's Advocate" to spend a day each in the Counties of Renfrew, Lanark and Grenville, three of the far eastern counties of the Province. In visiting counties such as these, anyone who is used to the rolling stretches of country in Western Ontario and the general type of farming practiced there, must adjust himself to quite different conditions before forming conclusions as to the agriculture of Eastern Ontario. As mentioned previously in these columns, Eastern Ontario has a great deal of flat land, the value of which would be greatly enhanced by adequate drainage facilities. This lack of drainage has, in fact, a very marked effect upon the quality of the farming practiced. In all three of the counties visited there are some very fine farming sections, where live stock is of a high average quality, where the crops are advanced to a much greater degree than in the remainder of the district, and where the land itself is of a type calculated to permit of profitable farming. One can say, however, without disparagement to these counties as a whole, that these sections are more or less limited in extent, and of the three counties visited perhaps this condition is particularly true of Renfrew. In Renfrew County almost the whole of the Western half of the County is unprofitable farming land. The

country is very rough, dotted with little lakes, woods and rock. In some places settlers have to travel from thirty to forty miles eastward before they come to a railway, and it is, therefore, difficult to expect good farming conditions to be commonly met with in this part of the County. Along the river, however, and for some miles inland, from Arnprior to Eganville and Cobden, the country is much better with certain sections such as those found about Renfrew, Douglas, Northcote and Cobden, which are well able to sustain the reputation of the County.

With few exceptions the principal type of farming followed consists of raising hay and spring grain, the hay being largely sold from the farm and, we judge, considerable quantities of the spring grain likewise. Clover and timothy is the favorite hay crop and we saw very many fields showing excellent promise of a splendid crop. The practice seems to be to use the first crop where the clover is present in the greater proportion for feeding purposes wherever required, while the second year, when the timothy more largely predominates, the crop is sold. Spring wheat is sown very largely but this year there are very many fields even now that are just nicely through the ground. Whether any or all of the fields we saw



Awaiting Shipment to Market.

in this condition were spring wheat is hard to say, but judging that some of them are, and knowing that spring wheat to be most successful must be sown early, one can only imagine the extent of the loss suffered by the farmers of these Eastern counties from the extreme wet weather of early spring. Many fields we saw which had evidently been intended for spring grain, but which are now covered with a weedy growth for lack of opportunity to sow them. As might be expected of land after a wet season, and normally needing drainage, weeds were quite prevalent, and this of itself is a very serious handicap which could at least be partially overcome by rain.

Of live stock, it may be said that Eastern Ontario is as a whole fairly well given over to dairying, and in Renfrew County there are several recognized dairy districts. On the whole, however, there seems to be plenty of room for improvement in live stock, because, bearing in mind the results of farm surveys in the Province of Ontario, one must conclude that many of the farms could be made much more profitable with the addition of further live stock. In fact, riding through the country we noticed two farms side by side which seemed to offer the most apparent evidence that this is true. The first thing that struck us was the unusually fine appearance of one of these farms. The fences were well maintained; the fields seemed clean with crops in an exceptionally advanced stage; the buildings were good, and looking for the reason we thought we found it in an unusual amount of live stock on this farm. Here was a good sized herd of evidently well-bred cattle capable of adding very materially to the fertility of the soil, and of furnishing a revenue of no mean size. On the next farm conditions were the reverse. Judging from the country, the opportunities seemed equally good for the two farms, but live stock seemed very noticeably absent from the second.

The Town of Renfrew is situated in one of the best farming districts and land thereabout sells quite frequently, we are told, at one hundred dollars per acre, or better. We visited the creamery in Renfrew, where 12,000 pounds of butter per week are being made, in addition to about 100 gallons of ice-cream per day. Cream is drawn from a very large area, this creamery even entering into competition with the creameries at Belleville. The largest patron sends the equivalent of about 450 pounds of milk per day, or about 400 pounds of 30 per cent cream per week. This creamery is one of the better known creameries in Eastern Ontario, and is steadily building up a big business although the factory is not yet working at full capacity. The total make per year is about one million and a quarter pounds of butter.

Passing to Lanark County, we found conditions somewhat better, due in a large measure to what seemed to be greater numbers of live stock and a greater percentage of fertile, rolling land. It was about Pakenham, in Lanark County, that we saw the first field of hay set up, with one or two mowers working in other fields. Going from Almonte to Perth, we passed over a splendid system of good roads, lined for the most part by farms of a good average character. Clover and hay, among which crops alike seemed to be unusually prominent this year, were universally good, while spring grain and corn were less than seventy-five per cent as far advanced as in Western Ontario. In many cases the percentage would be as low as fifty.

Grenville County, in which is located the Kemptville Agricultural School, now being established by the Ontario Government, is a County of rather varied soil containing both sandy and clay-loam areas well terminated. Merrickville, in this County, is a well and favorably known dairy district, boasting several promi-

ent breeders of pure-bred cattle. One of the best stretches of farming country in the County lies along the river road, between Kemptville and Merrickville, just across the river from the County of Carleton. The day, however, was very rainy and in lieu of a wider excursion than had been possible on previous visits, we sought refuge from the weather at the Kemptville Agricultural School, where, under the practical and enthusiastic guidance of W. J. Bell, Superintendent, a real start has been made in the building up of a valuable educational institution for the young farmers of Eastern Ontario. Live stock has been made a feature of the farm, and in horses, dairy cattle, sheep and swine very creditable beginnings have been made toward the upbuilding of worthy flocks and herds for the institution.

Sweet clover is being tried as a pasture crop, and seems to be giving the best of satisfaction. An experiment is being tried with part of a field cut for hay to see whether a second crop can be induced to grow later in the season. From an experience gained last year at Weldwood Farm, however, we would be led to think this highly improbable. Three varieties of oats are being tested out in sizable plots side by side, the varieties being O. A. C. 72, Banner and Alaska. The season, however, is too early to judge the results, although the Alaska has shot up two or three inches above the other two varieties. A twenty-five-acre sheep pasture of the roughest kind, and of which there are large acreages scattered throughout Eastern Ontario, is being experimented with. The ground is too rough to hold the plow and is almost completely covered with King Devil, a very persistent and bad weed. Mr. Bell is trying to seed this ground to cultivated grasses after merely disking it up, but as yet the seeding is just showing through the ground. In the meantime, however, the sheep are being allowed to run over both the new seeding and the old wild grass. The hope is that eventually the weeds can be crowded out and replaced with a permanent useful pasture.

Weeds, according to Mr. Bell, are growing very luxuriantly this year and because of a scarcity of labor which affects Government institutions as well as any other, they are very difficult to keep down. Noticing an unusual number of thistles in some of the spring grains, we enquired why they should be so prevalent on a Government institution, and received in reply some very pointed remarks about the advisability of purchasing manures from towns and cities to use on the farm. "Last year," said Mr. Bell, "there were very few thistles on the farm, hardly any in fact, but, due to the wet weather this spring, and because of the fact that the live stock is not yet up to the quantity necessary to furnish all the manure required, the necessary amount was drawn from the town, with the result that manure full of weeds was secured and this source of manure had to be cut off." Mr. Bell is a great advocate of clover, and believes that plenty of manure combined with a short rotation will make it possible to grow clover on almost any soil. All of the clover fields on the farm are in excellent condition and are, we were informed, the result of good applications of manure to well-cultivated hoed crops in 1917.

AUTOMOBILES, FARM MACHINERY AND FARM MOTORS.

Spark Plug Troubles.

A large percentage of high tension ignition troubles are due to short circuits in the spark plug which are generally caused by deposits on the surface of the plug insulation. An over-rich mixture in the cylinder, or an excess of lubricating oil will deposit a coating of carbon on the insulation of the plug and then the trouble will begin, misfiring being the first symptom and a dead cylinder the final result, if the deposit is not removed. When engine misfires examine the plugs before making any adjustments on the ignition apparatus. Soot or carbonized oil is a good conductor for high tension current, and usually offers less resistance than the spark gap. Electricity like many other things follows the path of least resistance so it takes a short cut through the soot to ground without jumping the gap and causing a spark. Soot and oil may be removed from a spark plug by means of gasoline and a tooth brush. To thoroughly clean a plug, unscrew the bushing and remove center electrode and core from the metal shell. This will give access to the insulation, which should be scrubbed with gasoline thoroughly over its entire surface. While the plug is apart examine the porcelain carefully for cracks and if any are found, no matter how small, the core should be thrown away and another substituted for it. A cracked porcelain will always be a source of trouble, as carbon will be deposited continually in the crack, the rough surface of which forms an ideal lodging place for the soot. Soot does not deposit readily on a dead smooth surface.

To test a plug for short circuit remove it from the cylinder, reconnect the wire and lay the plug on some bright metal part of the engine in such a way that only the threaded sleeve makes contact with the engine frame. (Do not allow the binding screw or wire to touch the engine.) Close the battery switch, make sure that the coil is operating, and see if sparks are passing between the electrodes of the plug. If no sparks appear at the gap or if the sparks that do appear are thin and weak, open battery switch and disconnect the wire from the plug. Hold the end of the high tension wire one-quarter of an inch from the engine frame and close the switch. If a heavy discharge of bright sparks occurs between the end of the wire and the frame, the trouble will be found in the plug, clean it or replace broken

insulation heavy and only film. This a partial weak intermittent, in the cylinder the moisture from the drop of water current to causing a spark. If a spark from the will probably or short circuit amount of smoke is engine will persists through the spark cause the fine metal circuit and times cause electrodes between the be removed show a fair produce a of the in compression of the resisting leakage in gap under easiest deposit.

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insulation. Sometimes the soot or oil deposit is not
heavy enough to entirely short circuit the spark gap
and only part of the current will flow through the carbon
film. This is known as a "partial short circuit." If
a partial short circuit exists, the spark at the gap will
be weak and without heat; the result will be inter-
mittent, or misfiring with a loss of power. Moisture
in the cylinder is a common cause of plug short circuits,
the moisture coming from leaks in the water jacket or
from the condensation of gases in a cold cylinder. A
drop of water may bridge the spark gap, allowing the
current to flow from one electrode to the other without
causing a spark.

If a cloud of bluish-white smoke has been issuing
from the exhaust pipe before the misfiring started, you
will probably find that the trouble is due to a sooted
or short circuited plug. The remedy is to decrease the
amount of lubricating oil fed to the cylinder. If the
smoke is black adjust the amount of fuel fed to the
engine until the exhaust is clear. If misfiring still
persists the trouble will be found in the plug.

When a magneto is used the intense heat of the
spark causes minute particles of metal to be torn from
the electrodes and deposited on the insulation as a
fine metallic dust. This will, of course, cause a short
circuit and must be removed. Short circuits are some-
times caused by the magneto current melting the
electrodes and dropping small beads of the metal
between the conductors. All metallic particles should
be removed from the plug. While a spark plug may
show a fair spark in the open air test, it will not always
produce a satisfactory spark in the cylinder on account
of the increased resistance of the spark gap due to
compression. Compression increases the resistance
of the spark gap enormously and thin, highly
resisting carbon films that would cause very little
leakage in the open air will entirely short circuit the
gap under high pressure, the current taking the
easiest path which in the latter case is the carbon
deposit.

In order to produce conditions in the open air test
similar to those in the cylinder we must devise some
method of increasing the resistance of the spark gap
in the open air above any possible resistance that could
be offered by the carbon film. Placing a sheet of mica
or hard rubber between the electrodes, or in the spark
gap, will increase the resistance to the required degree.
If the spark plug is in good condition the spark will
jump from the insulated terminal to the shell when the
mica is in the spark gap, but if a short circuit exists the
current will go through it without causing a spark.
It is assumed that the battery and coil are in good
condition when making the above test. If the electrodes
or spark points are dirty they should be cleaned with
fine sand paper, special attention being paid to the
surfaces from which the spark issues. When reas-
sembling plug after cleaning, be careful that all gaskets
and washers are replaced in their original positions and
that the length of the spark gap has not been changed.
A little change in the length of the spark gap may make a
great difference in results.

A good spark is blue white with a faint reddish
fame surrounding it; with a very short spark gap, the
flame cannot be readily distinguished. When the spark
discharge is intermittent or when a shower of small
sparks sputter out in all directions, it is probable that the
plug or coil is short circuited. Try a new plug, and if
the same result is obtained, test out the coil for short
circuits. When testing, handle high tension plugs and
wires by the insulation. If contact is made with the
bare wire or metal parts, you will receive a disagreeable
shock.

Do not hold your face close to any cylinder opening
when conducting a test, or when using the ignition
current, as the residual gas in the cylinder may become
ignited and cause you serious injury. Mica plugs are
often so saturated with carbonized oil that gasoline will
not remove enough to clear the short circuit. If the
oil has not penetrated the insulation more than one-
sixty-fourth of an inch, the affected portion may be
cleaned off with emery cloth, or by turning in a lathe.
It is generally cheaper, however, to buy a new core or
to send the old one to the maker. If the core is thorough-
ly oil soaked, and has loose mica washers, it is best
thrown away, as no amount of cleaning will remove the
dirt. It is advisable to tighten the lock nuts that hold
the mica washers, occasionally, to insure against oil
getting in between the layers of mica. Loose mica
may cause compression leaks. The electrode ends or
spark points may be burnt off by the heat of the ex-
plosions or by the action of the magneto spark and
cause an open circuit. The easiest way to determine
an open circuit in a plug is to disconnect the wire from
close battery switch, and hold the end of the wire
about one-eighth of an inch from the plug terminal.
If no spark passes between the end of the wire and the
terminal, the plug has an open circuit; that is, the current
is prevented from reaching ground, and under these
conditions no sparks will be produced. A particle
of insulating material such as mica may get between
the spark points and cause an open circuit. Always have
a spare plug on hand.

Adjusting the Spark Gap.

Ordinarily the length of the spark gap or the distance
between the electrodes should be about one-thirty-
second of an inch, but with weak batteries, a poor coil
or a high coil or a high compression, it may be advisable
to reduce this distance. A coil may be capable of
delivering a spark one-half an inch long in the open
air and yet may not be able to cause it to jump a gap
of one-thirty-second of an inch under the compression
of the engine. Compression greatly decreases the
effective length of the spark gap and the heat of the
spark. Shortening the gap increases the heat of the

spark; nothing is gained by having it over one-thirty-
second of an inch in length.

If the engine misfires with a good plug that is free
from soot, the trouble will be due probably to the
length of the spark gap. If misfiring continues, shorten
the gap slightly and note the effect. If this improves
the ignition, try shortening the gap still farther until the
best results are obtained.—From "Gas Engine Troubles
and Installation."

Hitching to Tractor.

An owner wrote that he could not keep the front
wheel of his tractor out of the furrow. An expert
was sent out at once. He found that the plow hitch
was poorly made. The plows were hitched too short.
Also, the hitch was made so that it added considerably
to the side draft and made it necessary to run the tractors
too near the furrow. The field man changed from a cross
chain hitch to a swinging draw bar hitch. He also put
the plow nearly a foot farther from the engine. The
owner objected seriously. "Why, he declared, "that
hitch is so long that the plow can't be pulled. Besides
the plow won't run straight." "We can tell better by
trying," the field man replied. To the owner's great
surprise the plows actually pulled easier while the
tractor was much easier to steer than before. More
than that, it travelled six inches farther from the edge
of the furrow.

Many tractor owners have the notion that a close
hitch requires less power than a long one. This comes
from the fact that horses pull better with a low short
hitch. But the tractor has enough weight on the ground.
Hence a long hitch allows the plows to rest on its own
wheels and not be partly carried by the tractor. More
important is the fact that the longer hitch means less
side draft and easier steering. Besides, the plows
follow the furrow better. A good plan is to use a fairly
long draw-bar hitch and only shorten it when plowing
out the headlands when finishing a field.

CANADA'S YOUNG FARMER'S AND FUTURE LEADERS.

Building a Community Spirit.

Not long ago we were visiting one of the counties
in Eastern Ontario, in one section of which great plans
were being made for a large gathering which was to
mark the beginning of a project to build a suitable
Community Hall which would serve as a gathering place
for the people of the community, both young and old,
as well as serve as a fitting memorial to the gallant
boys from the district who had served in the Canadian
Expeditionary Forces overseas and lost their lives.
Thinking of this idea, we could conceive of no better
way by which to mark the sacrifice made by the young
men of the farms during the past four years of war.
The question as to why boys and girls leave the farm is
so old and so much mooted as to almost incline one to
pass it over, and yet it is a very serious problem
in the development of agriculture. The lack of com-
munity spirit is a very serious drawback in many farm-
ing districts at the present time. It breeds a disregard
for sociability, neighborliness, and all of those things
which go to make for a happy existence along with
the hard, strenuous work of the farm.

The young men who still remain on the farm can
do a very great deal to further this spirit of sociability
in the neighborhood, if they will but make the start,
and as a centre for activities of this nature that will
lead to a further development of social life in the homes
of the neighborhood, nothing can be much better than
a neat, commodious Community Hall, where farmers
and their families may gather upon occasion and
thoroughly enjoy themselves. Such a building should,
if at all possible, and in most rural districts there is
nothing to prevent it, be surrounded by grounds large
enough for holding games, such as baseball, football,
tennis or perhaps bowling, if there should be sufficient
people in the district interested. It is not at all difficult
to find games among the hundreds that are played that
would be suitable and enjoyable to both old and young.
If farmers could only play as hard as they work, farm
life would not be half as oppressive as it is at the present
time. Not long ago we witnessed a very interesting
baseball game in a small town, and learned that some of
the best players on either side had come as much as five
or six miles in from the surrounding country to take
part in the game. Even the older people will thoroughly
enjoy games of this kind, and the friendly rivalry be-
tween one side and the other will serve to further the
community spirit, besides making the succeeding day's
work easier.

Not all boys and girls can be kept on the farm, and
as far as the growing farm boy is concerned it would
be the greatest folly to prejudice, in any special way,
his mind for or against any particular calling. At
the same time it is of the utmost importance that
the farm boy should be allowed to appreciate to the fullest
extent the very great part which agriculture plays in
the life of the nation. Boys are often inclined to think
their fathers' business inferior to some other, but with
regard to farming this is more often because the boy has
not been allowed or encouraged to see what great scope
there is for all his ability and ingenuity. An over dose
of hard work often determines the farm boy against
farm life but he will not mind hard work nearly as much
if opportunities for good, healthy play are not too far
apart. Moreover, he needs the comradeship of the other

boys in the neighborhood to make him enjoy himself
thoroughly. Loneliness is not a state of existence in
which most of us like to find ourselves for long, and when
boys are kept too close to their work they naturally
acquire a distaste for that particular kind of work.

Farming has for a long time been suffering from
certain disabilities which make farm life somewhat un-
pleasant to contemplate. There is no real reason why
this should be so, and greater happiness, far more con-
tentment, and perhaps greater material prosperity
would be the result of a development of community
spirit. As stated before, the older farm boy himself,
and perhaps the younger too, can do a great deal in this
way merely by starting the ball rolling. Most of the
older folk will be found sympathetic and only too glad
to assist in any way possible to make farm life more
pleasant for their sons and daughters. Try them
out on their Community Hall, or some other neighbor-
hood project. Junior farmers' improvement associations
can well take the lead.

THE DAIRY.

Now is the time to begin fitting the cows for the
shows. To show a cow in poor condition is almost
like courting defeat in the show-ring.

That scrub bull running in the pasture with the
heifers may get them in calf all right, but he is a losing
investment. Put some fat on him and sell him for what
he is worth—the market price per pound.

Many dairymen are milking fewer cows now than
a year or two ago. If only the average production of
those left is higher than the average of the herd two
years ago, conditions in dairying are improving.

It pays to screen the barns well to keep out the
flies. Doors and windows should be darkened during
the daytime, and burlap hung from the stable doors
will brush many flies from the cows' backs as they go in.

One of the surest ways to bring about increased
milk production and greater profit in dairying is to
eliminate the scrub bull. His time is coming and strong
moves on the part of county pure-bred associations
will hasten it.

The price of feed is still high, but so is the price of
cheese and butter. One successful dairyman remarked
not long ago that the most profitable milk he ever
produced was from grain-fed cows on pasture. A little
goes a long way.

It is considered a good practice by many to bring
the cows in the stable about noon, away from the flies
and the hot sun. Only a few days ago we were told by a
man who follows this practice that one of his best cows
dropped about 10 pounds of milk per day because he
was away and she was left out in the fields all day for
three or four days.

Treatment for Caked Udders.

EDITOR "THE FARMER'S ADVOCATE":

Since I have never had a cow lose a quarter from
caked udder during the twenty-four years I have been
farming, I think that my method of treatment for the
trouble may quite fairly be called successful. I have
from six to eight cows freshen every year, some of them
heavy milkers, so I have had considerable experience.
To begin with, I believe there is as much in trying to
prevent the trouble as in curing it after it develops.
Any cow showing over-much swelling in the udder
before calving is put in a roomy box-stall and fed lightly,
but not starved, for at least a week before the calf is
due. If cake develops after the cow has calved, I try
hand-rubbing first. About a-half or three-quarters of
an hour will show whether the trouble will yield to hand-
rubbing alone, or not. If bathing is necessary I use as
hot water as the cow will endure, and this will generally
be found to be much hotter than the operator cares
to put his hand in, but the heat is absolutely necessary,
and I should like to emphasize the fact that I do not
consider that bathing a caked udder consists in a ten-
or fifteen-minute sopping around with luke-warm
water and any old rag. I have often found an hour at
a time none too long a treatment when the udder was
much swollen and caked. When just ready to get at
work, about a tablespoonful of liquid ammonia is added
to the pailful of hot water, and I always use woolen
rags, old blanket or an old woolen sock. I bathe and
rub the udder until the cow allows the milk to flow
freely, then rub dry with a woolen cloth and draw the
milk, and when the udder is soft and pliable an oint-
ment is applied. This ointment is made of any good
clean grease, with a teaspoonful of liquid ammonia
well worked into a cupful of grease. This treatment is
kept up three times a day if necessary, and in bad
cases in older cows, I give a midnight treatment too.
I have never had a case that didn't yield in about three
days, and have often had the trouble controlled in an
day and a-half, so that a five-minutes' hand-rubbing
after milking, for two or three days, kept the udder in
good condition.

For swelling in the udder, where there is soreness,
but very little or no cake, a good treatment is to bathe
twice or three times a day for half an hour, and then
rub dry and apply a liniment made by shaking an egg
with a cupful or a cup and a-half of rather mild vinegar
in a bottle. When these are thoroughly mixed, a few

M MACHINERY
MOTORS.

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drops of turpentine are added and the mixture well shaken again.

I should like to say here that any cow needing much bathing of a caked or swollen udder should be protected from any chilling drafts, and should have plenty of bedding to keep the udder from resting on a cold, hard floor.

I always find it wise, if a cow is due to freshen later in the year, when out on grass, to shut her in a box-stall every night for at least a week before due to calve, and feed her lightly. In this way trouble with cake can often be avoided.

In any case of caked or swollen udder—no matter what time of year—all the drinking water should have the chill taken off, the warmer the cow will drink it the better, but both water and food should be given in moderation until the trouble is under control.

Middlesex Co., Ont. A. C. B.

Hot Weather Dairy Suggestions.

EDITOR "THE FARMER'S ADVOCATE":

During the recent hot spell in June the writer was in a milk-condensing factory. The proprietor told me that on the previous Monday and Tuesday he had lost ten thousand pounds of milk because of the bad effects of heat on his raw material. At two dollars per 100 pounds milk, this represents a loss of \$200 in two days. Not many dairy manufacturers could stand a loss of \$100 a day for very long.

The week previous to the time this article is being written, a creameryman was in my office who reported that they had recently lost about fifty dollars on a small shipment of butter which graded No. 2, on account of the hot weather.

These are but two instances of probably hundreds, which have occurred all over Canada, during the unlooked for, and almost unprecedented hot weather of June this year. From a cold, wet, dreary May, to August heat in June, was an experience dairymen in Canada were not prepared for. We are sure to have a hot spell at some time, during every summer and the wise dairyman aims to be ready for it, no matter when it comes. The weather is now moderating for the last week in June and we may not have such another again this season, but we cannot tell for certain. Someone has discovered "a hole in the sun," which according to the "weather-wise," means a hot summer. If it proves such, it will find many dairymen unprepared. Owing to the mild winter of 1918-19, very little ice was put up on the dairy farms of Southern Ontario. No ice, means sour milk and cream. In fact, dairy farmers under these conditions have concluded it is useless to try to ship sweet cream and they are simply cooling cream as best they can with water, and allow the creameryman to do the best he can with the sour product.

Taking conditions as we find them on Canadian dairy farms where there is little or no ice, what can be done to improve matters? The first thing is to provide a proper cooling tank for the milk and cream. On a recent visit to some dairy farms near Norwich, Ontario, in Oxford County, I was much pleased to see the excellent arrangements for cooling milk. A large cement tank in a room with cement floor, and adjacent to the cow stable, was filled with water, pumped directly from a deep well by means of hydro power. I did not test the temperature of the water with a thermometer, but judging from the taste in the mouth, it must have been about 50 degrees F., or under. The cans of milk are plunged into this tank of cold water as soon as filled and are quickly cooled to the temperature of the water. Some of the difficulties on many farms are: the water is not cold enough to cool the milk properly as it is obvious the milk or cream can be cooled no lower than the temperature of the water; a second difficulty is that the tank for cooling is not large enough—very often it is the wash-tub, which holds no more water than there is milk to cool, in which case, if the water be 50 degrees, and the milk 90 degrees, the milk cannot be cooled below 70 degrees without frequently changing the water, which is not done, as a rule, because on many farms water is scarce; a third difficulty is that warm morning's milk or cream, is often put into the partially cooled, previous lots which starts the fermentations in vigorous form and we have consequently sour, bad-flavored milk or cream delivered at the factory.

If the supply of ice be limited, cool the milk or cream as low as possible, then add ice to fresh water, thus saving the ice. Where there is no ice at all, a good-sized cement or properly insulated wooden tank, should be placed in a spot sheltered from the sun and preferably between the water supply for the stock and their drinking place, so that all water pumped for the cattle and horses will pass through the cooling tank, thus "killing two birds with one stone." If care be taken to keep the

cooling tank clean and to have the overflow near the top, this arrangement is one of the best possible on farms where no ice is available for cooling milk or cream.

Where the supply of water is limited, and no cooling tank available, except the family wash-tub, it is good practice to thoroughly soak a clean sack or blanket with water, and throw this over the can with one corner in the water. This will cause evaporation and cooling, and keep the milk and cream much sweeter. The principle of this method is the well-known fact that in order to evaporate water, heat is required. The heat in this case is taken from the milk and cream in the can, thus the temperature is lowered several degrees with a very small volume of water. Where milk or cream is delivered by the owner, direct to the factory, or to a shipping or buying station, it is a good plan to throw a clean, wet sack over the can while on the way to the factory or shipping point. Some shippers use a special covering for the cream can made of heavy felt, or quilted canvas to keep out the heat during transportation. The chief difficulty with these is, that they are likely to become badly contaminated from conditions as met with on trains and wagons, more particularly if there be a leak or spill of milk or cream, which in hot weather produces a very foul smell in a short time, and these can covers are not easily cleaned. The double jacketed can is also advocated, but they are heavy to handle, take up too much space on wagon and car, and if they "spring-a-leak," the smell is very bad, as it is practically impossible to get at the cause, which is located between the inside and outside parts. All that can be done is to "plug-the-hole" and allow the smell to be bottled inside.

Minor Remedies and Their Causes.

Among the more or less minor causes of sour and badly tainted milk and cream, may be mentioned, that of improperly washed cans, pails, strainers, separators, etc. The bacteriologists say that the water left in cans and pails is one of the most fruitful causes of "germs." Because of this, nearly all the up-to-date milk dealers have installed special drying apparatus, which, by means of blasts of hot, dry air, all the milk cans are thoroughly dried after washing and before

already "worked-to-death," the plan of washing separators twice a day, say some farmers, "is a very pretty theory, but isn't practicable." Well what are we going to do about it? We have "a condition and not a theory" and must make the best of it, by advocating a method which is practicable, and this seems to be, rinsing the separator parts in cold water after the evening milking and separating.

Where milking machines are used, we frequently have another source of "germs" in milk and cream. One of the American stations has recently issued a Bulletin on this question and they found that almost invariably the hand-milked product was freer of bacteria than where the machine was used, on the inspected dairy farms. As a result of their experience with the Station machines and with those tested on near-by farms, they recommend a mixture of common salt and chloride of lime solutions as the best antiseptic for keeping the teat-cups, rubbers, etc., in a sanitary condition.

Truly, when one considers the many things which may contaminate milk and cream, and the lack of proper means on most farms to control these, the wonder is that milk and dairy products are of such good quality as we find them. The present prices for milk, butter and cheese are none too high to compensate the dairy farmer for all his labor and trouble to produce the "vitamine" carrying products which are essential for the growth and improvement of the human race. There is need of an educational campaign among consumers of dairy food products, showing the great care needed in order to keep milk and cream sweet during not only hot weather, but at all times. A "movie-film" taken at one of our best farms, showing just what our best dairy farmers do, in order to produce clean, wholesome milk, would be a splendid lesson to town-dwellers, and would do much to counteract the prevailing impression which city-people have, that farmers are "profiteers" and that dairy farmers in particular will soon be in the millionaire class, judging by the prices which are charged for milk and milk products.

O. A. C. Guelph, Ont.

H. H. DEAN.

Ayrshire Demonstration at Ormstown.

On June 27 a demonstration and judging class was held at Ormstown by the Howick-Hungtingdon Ayrshire Breeders' Club. A Field Day had been arranged in addition, but this was prevented by inclement weather. E. S. Archibald, Director Dominion Experimental Farms, conducted the demonstration, and passed judgment on the work of fourteen boys who took part in judging a class of seven cows. Professor Archibald spoke highly of the Howick-Hungtingdon district, and commented on the community spirit existing in the district. He thought that competition at exhibitions did very much to appeal to the best in young manhood and develop individuality. The speaker also commented on the progress made in Ayrshire breeding advising breeders to adhere to the present type but to get more ruggedness, openness and size. He also advised breeding for production, urging an endeavor to make larger records so as to advertise the breed, although he said that the idea of the R. O. P. was not so much to make big records as to establish a line of good ones which would be of value in establishing families. Pure-bred Ayrshires are kept now on four Dominion experimental farms, and it is expected that they will have Ayrshires on at least ten farms within two years. The boys who won in the judging contest, and their awards, are as follows: 1, Jas. Winter, Ormstown, \$10; 2, Brodie Ness, Howick, \$8; 3, Wm. Ness, Howick, \$6; 4, Wm. Logan, Howick, \$5; 5, Lawrence Bruce, Huntingdon, \$4; 6, Wm. Winter, Ormstown, \$3; 7, Bruce Ness, Howick, \$2.

HORTICULTURE.

Celery is a shallow-rooted plant and should never be cultivated deeply.

Now is the time to consider renovating the old strawberry patch. Some very good crops can be secured the second year.

Don't allow the farm garden to suffer for lack of horse cultivation. Half an hour will go through most farm gardens once or twice.

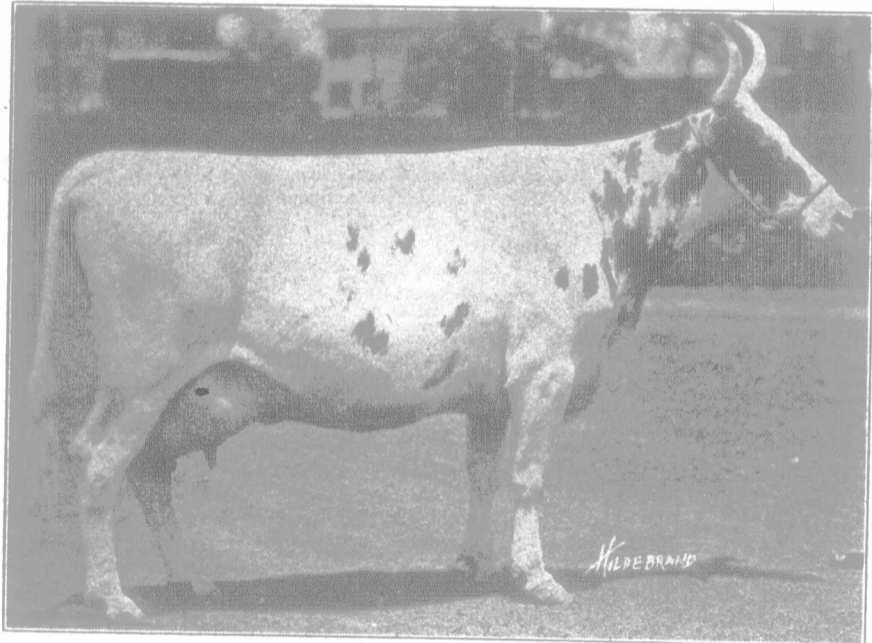
All apple orchards that have been cultivated this year should by this time have been sown to a cover crop, in order to avoid winter injury.

Care in the harvesting and handling of small fruits will put them on the market in better condition and so prejudice consumers in their favor.

Tomato plants in the garden should be staked up for best results. Stakes about five feet out of the ground will allow more fruit to form than will ripen.

Cultivating of raspberries should cease when the berries begin to color up, unless they can be cultivated without injury to the crop. One or two cultivatings after the crop is harvested will loosen the ground up.

Black rot of cabbage is caused by bacteria that find their way into the thick cabbage leaves through wounds made in cultivation, or it may occur from infected seed. Weeds such as mustards and other cruciferae help to spread it and it can be controlled partially through rotation of crops.



Chapmanton Nell 3rd.

Sold by R. R. Ness at Springfield sale for \$4,100.

returning them to the farms. This has resulted in a much improved quality of milk for town and city trade. Where cans are washed at the condenseries, creameries, and cheeseries, steam is usually relied upon to cleanse and dry the cans after washing. On the farm, neither hot air nor steam are available, as a rule, hence the person who washes the milk cans, and pails, has to rely on hot water. After thoroughly washing with a brush and the use of an alkali powder to remove the grease, the dairy utensils should be rinsed in boiling water, and then be allowed to dry of themselves in the sun and pure air. They should not be wiped with a dish-cloth, or any other kind of a cloth.

The milk-strainer needs special attention. If made of fine wire, it should be kept in good repair and be thoroughly scalded each day. A cloth strainer must have good care or it will soon smell badly and be a source of trouble for all milk which is strained through it—in fact some strainers are worse than useless. They have a very bad odor and will spoil the milk strained through them. As soon as the milk is strained, the cloth strainer should be rinsed in cold water until the water is no longer milky. Then it should be washed in hot water having a washing compound or powder dissolved, which will remove the grease. Then wash in clean, hot water and hang in the sun and air until needed for the next milking. As soon as it has holes in it, or becomes "smelly" it should be discarded and a new one purchased. Double-ply cheese-cloth is the best material for a cloth strainer.

Where the separator is not washed twice a day, as should be done, the bowl should be flushed and emptied and all the parts which come in contact with the milk, also the milk-pails, should be rinsed with clean cold water to remove all traces of milk. We do not like this plan, but on farms where labor is scarce and women are

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H. H. DEAN.

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British Fruit Prospects Poor.

The second fruit and vegetable crop report just received from C. W. Baxter, Fruit Commissioner, Ottawa, quoted from a letter from the Canadian Fruit Trade Commissioner at Liverpool, regarding price prospects for Canadian apples next season. The letter says the prospects seem bright for good prices and that the English apple crop which blossomed very well is showing considerable injury from insect pests, as well as from an unusual period of drouth. There seems to be a possibility of control prices again, although a later cable states that the suspension of the apple embargo has been extended to March 1, 1920. American pears are prohibited, but Canadian apples should find an attractive market. This later cable also states that control prices will probably be fixed in July. A telegram from the United States Bureau of Markets at Washington, to the Fruit Commissioner, states that there is no embargo on potatoes as far as disease is concerned, but roads serving Boston, Massachusetts, have an embargo on potatoes due to an accumulation at that point. The Fruit Commissioner directs attention to Section 320 of the Fruit Marks Act, which now requires that all open packages of fruit be marked with the shipper's name and address.

According to the Fruit Commissioner, the recent tariff changes do not affect apples at all since no war tax was placed upon apples in February, 1916. In fresh fruits the only change is the removal of the war tax. The same applies to fresh tomatoes and fresh vegetables. When imported from a country which imposes a custom duty on potatoes grown in Canada, the tariff is as follows: British preferential, 12½ cents per bushel; intermediate and general tariffs, 20 cents per bushel.

POULTRY.

Swat the rooster is a good motto at this season of the year.

Biddy may not be very big, but she can help a lot to swell the labor income from the farm.

One hen per acre and 100 eggs per hen is not only a good motto, but one that can be lived up to with care.

Cull the flock of hens now. July is the best month. An hour's work in a farm flock will mean dollars next winter.

Don't mix exhibition and utility types of birds in your flock. If your hens are of a bred-to-lay strain, get a bred-to-lay rooster too.

Ducks grow faster than do chickens and require a greater quantity of dry matter in the ration, as well as a greater proportion of protein and mineral matter.

Growing chicks require greater proportions of protein and mineral matter than does a hen in full laying because of the quantities of these constituents required for growing tissues, feathers, bone and vital organs.

Do not keep the farm flock shut up. Let them run out where they can pick up plenty of green feed and insects as well as get plenty of exercise. One of the first requirements in hot weather is shade.

A little blue ointment that can be purchased at any drug store is a splendid thing for lice on hens. Most flocks have more or less lice and they can easily be kept down. Rub a little of the ointment under the wings and in the most sheltered places of the hen's body.

FARM BULLETIN.

Parliament Words Harder as Parliament Nears an End.

Probably the most important thing that has transpired in the House of Commons during the past week, from the standpoint of the general public, had reference to the report of the Cost of Living Committee which was appointed somewhat late in the session and sat regularly from the 5th of June until Thursday, July 3. The report of the Committee presented on June 26 recommended "that legislation be enacted at this session of Parliament creating a tribunal with power to investigate mergers, trusts, monopolies or organizations of any kind or nature, which tend to limit facilities for transporting, producing, manufacturing, supplying, storing or preventing, limiting or lessening manufacture or production, or fixing a common price, or a resale price, or a common rental, or a common cost of storage, or transportation, or enhancing the price, rental or cost of article, rental, storage or transportation, or preventing or lessening competition in or substantially controlling within any particular district, or generally, production, manufacture, purchase, barter, sale, transportation, insurance, or supply, or otherwise restraining or injuring commerce, or unduly enhancing the price of the necessities of life, also with regulative power in connection with discriminations in price between different purchaser of commodities, exclusive purchase and sale arrangements, inter-corporate shareholding and interlocking directorates and unfair methods in commerce." Motion was made by the Chairman, G. B. Nicholson, East Algoma, on Tuesday, July 1, that this report be concurred in and a rather animated debate ensued. The members of the Committee were about equally

divided for and against this recommendation, it having been passed on to the House only after the Chairman had given the casting vote. Several members among whom was Thomas Vien, Lotbiniere, opposed the recommendation on the ground that the proposed commission would be practically powerless, and would only provide a shield for the Government, without providing an adequate remedy for the evil complained of. Mr. Vien attacked the Government for its failure to adopt the recommendations of W. F. O'Connor, former Cost of Living Commissioner, and of Dr. McFall, the present Cost of Living Commissioner, claiming also that those who were most active in effecting inflated prices were men like Sir Joseph Pavele, McKenzie and Mann, and the Bank of Commerce, who were "in the ring around the Government." Having listened to most of the evidence given before the Cost of Living Committee, the writer feels that he can agree with the following remarks by Mr. Nicholson, who said: "The question of distribution of foodstuffs, clothing, and all the great variety of commodities that enter into the necessities of life, is of the utmost importance, and we naturally ask what is the best channel through which these commodities can pass from the producer or the manufacturer to the ultimate consumer. It would be a simple matter to find any number of men who would be ready to tell you at once that our present system is inadequate, that it is cumbersome, that it is too expensive; but it would be an exceedingly difficult matter to find one man who would point to a method or practice that would result in an improvement."

The bulk of the evidence given went to show that under production is in large measure responsible for the present high cost of living, but sufficient evidence of excessive profits was brought out to prove the necessity of something in the nature of tribunal recommended, to whom, in the words of Mr. Nicholson, "all men in all walks of life can appeal whenever and wherever they feel injustice is being done in a commercial way." One instance given by Mr. Nicholson of excessive profits was in the case of a woollen product, "the cost of the manufacture of which in 1914 was \$4.37½ per dozen, and which was sold to the consumer at \$9 a dozen, or 75 cents for each article. The production cost of that article in 1919 was \$10.50 a dozen, but the consumer is paying for the article \$30 a dozen, or \$2.50 for each article, a direct increase of 100 per cent. in the spread between the cost of production and the cost to the consumer." It was pointed out that an excess of commissions have already been appointed, and that the Combines Act, if put into force should cover all necessary cases. Referring to this aspect of the case, Hon. Arthur Meighen, Minister of the Interior, said: "There has only been one action taken under that statute, so far as I am aware, and that was the case against the United Shoe Manufacturing company. That action was properly initiated in accordance with the terms of the Act, and after prolonged litigation extending over about three years no result whatever accrued. That is the complete result of the Combines Investigation Act after nine years of operation, and it ought to be a fair indication that that Act at all events is ineffective to bring about any of the results of which it was designed to achieve." Referring further to the war profits tax and the special tax on packers, the Minister said: "All things considered, the percentage of profits and earnings of industries taken in this Dominion is the largest of any country in the world. As it has worked out the Canadian percentage is higher than that of the United States, Great Britain or any other country. The special taxation of the packers is extreme and indeed radical and drastic legislation, and no such regulations as to packers exists in any country on the globe. However, notwithstanding these regulations and notwithstanding others, for there have been others, it still appears that undue profits are made; the report of the committee makes that clear." An amendment was offered by D. D. McKenzie, leader of the Opposition, to have the report referred back to the Committee for further consideration, but this was defeated by a vote of 86 to 45, and the main motion for the adoption of the report was agreed to.

Prohibition Turned Down by the Senate

It will be remembered that the House of Commons passed Bill No. 107 confirming the Order-in-Council prohibiting the importation, manufacture, and transportation of intoxicating liquors for twelve months after the close of the war. The Senate, with its usual arrogance and assumption of the Divine right of legislation, refused to concur so that it was necessary for Sir Robert Borden to move on Friday, June 27, a motion to the effect that the House of Commons disagreed with the amendment proposed by the Senate. This motion carried, but on Wednesday, July 2, the Senate again flouted the House of Commons and the Canadian people when it rejected prohibition by a vote of 30 to 22, in the face of the opinion of the House of Commons which was expressed by a vote of 105 for prohibition and 34 against. One of the senators characterized the members of the Commons as more or less temporary legislators, while the Senate is a life body composed of the ablest men in Canada. The sooner the much talked of reform or abolition of the Senate is brought about the better it will be for progressive legislation in Canada.

Consolidated Railway Act Passed.

The opinion of the House of Commons with reference to the Senate was very well expressed on Friday, June 27, when the Consolidated Railway Act was up for final settlement. This Bill has been before the House for three years and was passed by the House of Commons this session with over forty amendments. When it

went back to the Senate, four of these amendments were refused. One of them was disposed of in a manner agreeable to the Senate and three remained for disposition on Friday, June 27. On motion of the Minister of Railways, the amendment made to Section 325 was insisted upon, provided that the sub-section referred to shall remain in force only during a period of three years after the passing of this Act. Section 374 is the much mooted Toronto power clause, which has really been responsible for holding the Bill up. This was allowed to stand as passed by the Senate on condition that the Minister of Railways would bring in a separate Bill protecting the rights of municipalities, which Bill was given its first reading on Wednesday, July 2, the same day on which the Senate concurred in the House of Commons amendments to the Consolidated Railway Act. The Minister of Railways then moved that the House give way to the Senate with respect to Clause 376, and this motion was passed. During the discussion, however, the speaker had many times to call members to order for discussing the action of the Senate, which seemed to be quite generally regarded as entirely unsatisfactory and open to criticism.

Technical Education Bill, No. 131, was given its third reading during the week, and an amendment was offered by Hon. J. A. Calder, Minister of Emigration and Colonization, to the effect that the grant to the Governments of the several provinces be distributed by paying \$10,000 each year to each province, the remainder of the appropriation for each year to be divided on the basis of population as determined by the last Federal decennial census. In addition, the clause giving power to the Minister to encourage and foster the development of technical education, and to hold conferences throughout Canada, was struck from the Bill.

Highway Bill Finally Gets Through.

On Tuesday, July 1, the third reading was given to a Bill authorizing a general purpose loan of \$100,000,000, \$75,000,000 of which will be used to pay a loan maturing in New York on August 1. Negotiations are being carried on at the present time by the Government, through the Bank of Montreal, in order to raise the \$1,000,000,000 authorized by the Bill. The remainder will be used for the carrying on of public works authorized by Parliament. The Highways Bill was finally passed on Wednesday, July 2, after being on the order paper practically since the beginning of the session. Strong opposition developed from Western members and from others who make a business of championing provincial rights in the House, while Dr. Michael Clark, Red Deer, rang true to form when he advised against the expenditure of money which had to be borrowed unless it were absolutely necessary. Sir Thomas White argued the advantage of good roads to the farm, and while his general conclusions are no doubt correct, the actual net results to the farmer will not be nearly so profitable as the Finance Minister would have the farmer believe especially since the money is to be spent on the main highways of the country. "There is no policy," said the Finance Minister, "that the Governments of this country, Provincial and Dominion, can carry into effect of more national benefit to the people of Canada than the improvement of highways. The citizen who is immediately benefited is the farmer, but he is not the only one benefited. Good roads, as the Minister of Public Works has pointed out, will make farming more agreeable; it will make life on the farm more comfortable and enable the farmer to get much-needed recreation, and in that way it will relieve the monotony of his life upon the farm. If there is one thing this country needs to-day more than another it is a policy that will make life upon the farm more attractive, in order that those now on the farm may be contented, and that the sons of those now on the farm may, if they have a liking for farming, remain upon the farm, and that others may be attracted to it."

Supplementary Estimates Amount to \$36,000,000.

In addition to the main estimates amounting to \$437,000,000, the greater proportion of which has already been voted by Parliament, supplementary estimates amounting to \$36,723,120.66 were brought down on Thursday, July 3. Railway construction, purchases and subsidies amount to \$1,400,000 in round figures. The increasing of the permanent force in Canada accounts for another \$3,500,000. Still another \$4,500,000 will be expended by the Public Works Department, and the North West Mounted Police will utilize close to \$3,000,000 more. A half a million dollars will be the probable amount required to pay Canada's share of the expenditure made by the Imperial War Graves Commission, who are looking after the graves of soldiers who fell in France and Flanders. Three and a half million dollars extra are required for paying allowances for returned soldiers and sailors undergoing medical treatment, while five and a half million additional pay and allowance will be necessary for soldiers and sailors receiving vocational training. Over half a million is provided to purchase artificial limbs and a quarter of a million will provide a beginning for the Canadian air service. The civil service reclassification will mean the expenditure of \$81,500 more than was previously voted, and to educate the Indians of Ontario and Quebec over \$300,000 is required.

Canada Grain Act Amended.

The Canada Grain Act amendment was given its third reading during the week, and in view of the strong criticism offered at the previous discussion and reported upon last week, Hon. A. K. McLean, Acting Minister of the Department of Trade and Commerce, offered an amendment reducing the percentage of overages or surplus to be allowed the elevator company from one-half of one per cent. of the gross amount of the grain received in the elevator during the crop year, to one-quarter of one per cent.

Toronto, Montreal, Buffalo, and Other Leading Markets

Week Ending July 3. Receipts and Market Tops.

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

	CATTLE Receipts						CALVES Receipts					
	Week Ending	Same Week	Week Ending	Top Price Good Steers (1,000-1,200)	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Top Price Good Calves	Same Week	Week Ending
Toronto (Union Stock Yards)	5,575	4,547	4,793	\$14.25	\$15.50	\$14.25	1,679	1,466	1,754	\$19.50	\$17.25	\$19.50
Montreal (Pt. St. Charles)	582	415	467	13.75	14.50	13.50	2,061	2,306	1,638	14.50	15.00	14.00
Montreal (East End)	662	705	267	13.75	14.50	13.50	1,279	1,316	807	14.50	15.00	14.00
Winnipeg	998	2,339	513	14.50	16.50	13.50	179	204	146	14.50	16.00	16.00
Calgary	2,637	1,148	2,778	11.25	13.00	12.50				10.50		
Edmonton	653	585	653	10.50	13.50	11.75	167	59	140	12.00	14.50	12.50

	HOGS Receipts						SHEEP Receipts					
	Week Ending	Same Week	Week Ending	Top Price Selects	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Top Price Good Lambs	Same Week	Week Ending
Toronto (Union Stock Yards)	5,035	7,274	9,843	\$23.25	\$18.50	\$23.50	1,582	1,045	1,115	\$22.00	\$22.00	\$22.00
Montreal (Pt. St. Charles)	3,034	1,795	2,510	22.75	19.00	22.25	733	704	450	20.00	21.00	20.00
Montreal (East End)	1,447	866	1,115	22.75	19.00	22.25	484	542	318	20.00	21.00	20.00
Winnipeg	51.64	6,861	3,943	22.50	18.25	21.50	302	327	204	15.00	18.50	15.00
Calgary	1,900	3,744	1,623	21.00	17.35	21.75	360		547	13.00	14.25	15.00
Edmonton	637	889	563	21.75	17.25	21.25	324	445	2	13.25	14.50	

Market Comments.

Toronto (Union Stock Yards).

A moderate run of cattle sufficient to meet the requirements of the trade was responsible for a free movement during the week at unchanged quotations. Outside packers and speculators bid on all grades, and local abattoirs bought liberally. Several cars of butcher cattle were shipped to Montreal abattoirs during the week, two or three loads of bulls were railed for New Jersey, and several loads went out to Buffalo on speculation. A number of heavy steers were on sale, and the local trade was able to absorb them at satisfactory prices; a few of the steers in question weighed around thirteen hundred pounds and were sold at \$14.35 per hundred, while straight loads moved at \$14.25 per hundred. Steers weighing from ten hundred to twelve hundred pounds and showing quality found a demand generally from \$13.50 to \$14 per hundred, but some transactions were recorded above this level, nine head of ten hundred and sixty pounds selling at \$14.35, twenty-one head of eleven hundred and forty pounds at \$14.25, and a load averaging eleven hundred and ninety at \$14.25; medium grades within these weights changed hands at prices ranging from \$12.50 to \$13.25. The spread between heavy steers and handy-weight butcher steers weighing under ten hundred pounds, is not considered wide enough to justify the feeder in carrying his steers to heavy weights. The local trade is showing a preference for the lighter cattle, and the spread during the week was only 50 cents per hundred. One load of handy-weight butcher steers averaging nine hundred and sixty pounds was sold at \$13.65, while heavy cattle carrying three hundred pounds more weight realized but \$14.25; other sales of choice butcher cattle were made from \$12.50 to \$13.25, medium quality stock changed hands at from \$11 to \$12, and common kinds from \$9.50 to \$10.50 per hundred. Cows and bulls were in good demand; a few choice cows sold up to \$11.50 per hundred, while one bull sold at \$12.25, and several at \$11.50. Good cows met an inquiry at prices ranging from \$8 to \$9. There was very little demand for stockers and feeders and few loads were shipped out; quotations were unchanged. Calf prices continue to be the feature of the market, the high prices prevailing for calf skins assisting in keeping values at a record level. Choice veal sold during the week from \$17.50 to \$19 per hundred.

Spring lamb prices were a trifle easier, a range of \$19.50 to \$20.50; taking the best quality stock, while choice yearlings sold from \$12 to \$13, light sheep from \$10 to \$11, and heavy sheep from \$7 to \$9; the latter class of sheep are not wanted at present and might perhaps be carried along in anticipation of cooler weather.

The hog market developed strength during the week. Fed and watered selects sold on Monday at \$23 per hundred on Wednesday quotations given out were \$23, but no tickets were marked until the following day when prices advanced to \$23.25 per hundred. Receipts were comparatively light and included a number of unfinished hogs.

Of the disposition from the Yards for

CLASSIFICATION	No.	TORONTO (Union Stock Yards)				MONTREAL (Pt. St. Charles)			
		Avg. Price	Price Range	Top Price	No.	Avg. Price	Price Range	Top Price	
STEERS heavy finished	252	\$13.82	\$13.00-\$14.25	\$14.35					
STEERS good	616	13.31	12.75-14.00	14.25	76	\$13.25	\$13.00-\$13.75	\$13.75	
STEERS 1,000-1,200 common	65	11.55	10.75-12.50	13.00					
STEERS good	564	12.78	12.25-13.25	13.65	43	12.75	12.00-13.50	13.75	
STEERS 700-1,000 common	259	10.25	9.75-11.00	12.00	31	11.00	10.50-12.00	12.00	
HEIFERS good	652	12.60	12.00-13.25	13.50	14	12.00	11.00-13.00	13.00	
HEIFERS fair	381	10.80	9.50-11.50	11.50	7	10.50	10.00-11.00	11.00	
HEIFERS common	148	9.35	8.50-10.00	10.00	17	8.50	7.00-9.50	9.50	
COWS good	592	10.17	9.75-11.00	11.50	56	11.00	10.50-11.75	12.00	
COWS common	1,441	8.35	7.75-9.00	9.25	143	8.75	8.00-9.50	10.50	
BULLS good	46	10.40	9.75-11.25	11.50	5	10.50	10.00-11.00	11.00	
BULLS common	89	8.98	8.50-9.50	10.00	62	8.25	7.00-9.50	9.75	
CANNERS & CUTTERS	64	5.00	4.50-5.50	5.75	36	6.00	5.00-7.00	7.00	
OXEN					4	10.50	10.00-11.00	11.00	
CALVES veal	1,679	15.58	14.00-18.00	19.50	2,003	12.00	8.00-14.00	14.50	
CALVES grass					58	7.00	7.00-	7.00	
STOCKERS good	110	11.25	10.75-11.50	11.50					
STOCKERS fair	113	10.22	9.00-10.50	11.00					
FEEDERS good	166	12.48	12.00-12.75	12.75					
FEEDERS fair	20	11.55	11.50-12.00	12.00					
HOGS selects	4,692	23.04	22.25-23.25	23.25	2,209	22.25	22.25-	22.75	
HOGS heavies	2			23.25	109	20.50	20.25-21.25	21.25	
HOGS (fed and watered) lights	165	21.03	20.25-21.25	21.25	104	20.25	20.25-	20.25	
HOGS sows	261	20.49	19.25-21.00	21.00	415	17.25	17.25-	17.25	
HOGS stags	5	17.90	17.25-18.25	18.25	26	15.25	15.25-	15.25	
LAMBS good	821	20.32	19.50-22.00	22.00	238	20.00	20.00-	20.00	
LAMBS common	67	18.00	17.00-19.00	19.00	65				
SHEEP heavy	216	8.50	8.00-9.00	9.00					
SHEEP light	245	10.01	9.00-11.00	12.00	95	10.25	10.00-10.50	11.00	
SHEEP common	233	6.10	5.00-8.00	8.00	165	8.50	8.00-9.00	9.00	

the week ending June 26, Canadian packing houses purchased 885 calves, 3,408 butcher cattle, 12,638 hogs and 547 lambs. Local butchers purchased 516 calves, 296 butcher cattle, 146 hogs and 458 lambs. Canadian shipments were made up of 23 calves, 60 milk cows, 96 stockers, 180 feeders, 334 hogs and 111 sheep. Shipments to United States points consisted of 349 calves, and 104 butcher cattle.

The total receipts from January 1 to June 26, inclusive, were: 144,688 cattle, 34,344 calves, 182,456 hogs and 32,106 sheep; compared with 125,532 cattle, 34,483 calves, 187,632 hogs and 16,659 sheep, received during the corresponding period of 1918.

Montreal.

Prices were strong on all classes of butcher cattle a condition attributed to a shortage of stock in the packing house coolers, and partly responsible for a prediction of a good demand in the immediate future. A few loads of very good steers were on hand and these were sold at prices ranging from \$13 to \$13.75 per hundred. Of the sales made, one lot of twenty four steers averaging ten hundred and twenty-five pounds were sold at \$13.75 per hundred, and eleven steers of mixed weight ranged

from ten hundred pounds to eleven hundred and seventy-five pounds went en bloc at \$13.75. Three young cows in prime condition and averaging ten hundred and seventy pounds were weighed up at \$13; good fat cows changed hands at \$11.75; cows in fair flesh found an outlet around \$9.50, and thin cows from \$8 to \$8.50. The top price for bulls was \$11, while those of fair quality sold from \$9 to \$9.50, and common bulls from \$7 to \$8.50. Calf prices were firm for good veal stock, from \$12 to \$14 being the general quoted range. A large percentage of the offering however, consisted of very common stock, and this kind suffered a reduction in price, owing to suspension of trading on the Monday market due to strike conditions. The tone of the calf market was further depressed by a very light export inquiry on account of the holiday season in the States; common calves sold from \$7 to \$9 per hundred.

A few sales of sheep of good quality were made at \$10.50, and an odd sale of young sheep at \$11; common sheep sold from \$8 to \$9. Good lambs were weighed up within a range of \$18 to \$20 per hundred.

There were forty-three hundred hogs on the market, of which number about seven hundred and fifty were purchased

by Swift Canadian Company, Toronto, the balance by the local trade. Prices were firm throughout the week at \$22.50 per hundred, off cars, for selects. At the close, a few sales of selects were made at \$23. Drivers have manifested considerable dissatisfaction at the cut of \$5 per hundred on sows, and it is possible that that reduction may be modified.

PT. ST. CHARLES.—Of the disposition from the Yards for the week ending June 26th, Canadian packing houses and local butchers purchased 1,089 calves, 28 canners and cutters, 35 bulls, 308 butcher cattle, 2,452 hogs and 450 lambs. Canadian shipments were made up of 12 milk cows. Shipments to United States points consisted of 528 calves.

The total receipts from January 1 to June 26, inclusive, were: 14,883 cattle, 39,755 calves, 35,445 hogs and 7,953 sheep; compared with 16,805 cattle, 39,070 calves, 30,369 hogs and 7,132 sheep, received during the corresponding period of 1918.

EAST END.—Of the disposition from the Yards for the week ending June 26, Canadian packing houses and local butchers purchased 807 calves, 261 butcher cattle, 931 hogs and 255 lambs. Canadian shipments were made up of 184 hogs and 63 lambs. Shipments to

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Markets

Department of Agriculture, Live Markets Intelligence Division

Price Good Calves

Same Week Ending 1918	Week Ending June 26
17.25	19.50
15.00	14.00
15.00	14.00
16.00	16.00
14.50	12.50

Price Good Lambs

Same Week Ending 1918	Week Ending June 26
22.00	22.00
21.00	20.00
21.00	20.00
18.50	15.00
14.25	15.00
14.50	

REAL (Charles) Price Range Bulk Sales

Price Range	Top Price
3.00-13.75	13.75
2.00-13.50	13.75
0.50-12.00	12.00

1.00-13.00	13.00
0.00-11.00	11.00
7.00-9.50	9.50

5.50-11.75	12.00
8.00-9.50	10.50

0.00-11.00	11.00
7.00-9.50	9.75

5.00-7.00	7.00
0.00-11.00	11.00

8.00-14.00	14.50
7.00	7.00

2.25	22.75
0.25-21.25	21.25
0.25	20.25
7.25	17.25
5.25	15.25

0.00	20.00
0.00-10.50	11.00
3.00-9.00	9.00

an Company, Toronto, the local trade. Prices throughout the week at off cars, for selects. Wholesale of selects were covered have manifested satisfaction at the cut reduction may be

Of the disposition for the week ending June 26, 1919, the local and 1,089 calves, 28 hogs, 35 bulls, 308 butchers and 450 lambs. Canada were made up of 12 shipments to United States 528 calves.

Receipts from January 1 to June 26, inclusive, were: 14,883 cattle, 5,445 hogs and 7,953 sheep, compared with 16,805 cattle, 3,369 hogs and 7,132 sheep, received during the corresponding period of 1918.

The disposition for the week ending June 26, 1919, the local and 807 calves, 261 hogs and 255 lambs. Shipments to

United States points consisted of 6 butcher cattle.

The total receipts from January 1 to June 26, inclusive, were: 16,917 cattle, 28,908 calves, 19,386 hogs, and 8,425 sheep; compared with 14,996 cattle, 31,492 calves, 19,308 hogs and 7,134 sheep, received during the corresponding period of 1918.

Buffalo.

Cattle.—Market on cattle at Buffalo the past week, considering a very liberal run was far from being bad, considering that grass cattle are now running freely and that the beef trade remains in a very weak position. While prices were no higher on shipping steers, they sold readily and were cleaned up in good season. On the dryed and better kinds of handy butchering stuff, full steady prices with the previous week prevailed, while on a medium kind of steers and heifers and especially where grassy, values were lowered a full quarter to a half dollar. Fat cows generally brought steady prices, best landing up to eleven cents. Bull market was good, there being a demand for export of heavy grades, which sold readily at eleven cents. Stocker and feeder trade ruled steady, supply in this division, however, running largely to the medium kind of feeders and a light, common class of stockers. Milk cows of the best kinds sold at firm prices, medium and common grades rather slow sale at steady to possibly easier values. Receipts for the week totaled 5,425 of which around twenty-five cars were Canadians, as against 4,650 head for the previous week and against 3,050 head for the corresponding week a year ago. Quotations:

Shipping Steers—Natives—Very choice heavy, \$15 to \$15.25; best heavy, over 1,300, \$14.25 to \$14.75; fair, over 1,300, \$13.75 to \$14.25; best, 1,200 to 1,300, \$15 to \$15.25; good, 1,200 to 1,300, \$13 to \$14; 1,100 to 1,200 lbs., \$12.25 to \$14.50; plain, \$11.50 to \$12.

Shipping Steers—Canadians—Best heavy, \$12.75 to \$13.50; fair to good, \$12 to \$12.50; medium weight, \$12.25 to \$13; common and plain, \$11 to \$11.50. Butchering Steers—Yearlings, fair to prime, \$12.75 to \$15; choice heavy, \$14.50 to \$15; best handy, \$13.25 to \$14; fair to good, \$12.50 to \$13; light and common, \$10.50 to \$11.

Cows and Heifers—Best heavy heifers, \$12 to \$13; good butcher heifers, \$12 to \$12.50; fair butchering heifers, \$10.50 to \$11; light, common, \$8.50 to \$9; very fancy fat cows, \$11 to \$11.25; best heavy fat cows, \$10 to \$10.75; good butchering cows, \$9 to \$10; medium to fair, \$7.75 to \$8.50; cutters, \$7 to \$7.50; canners, \$5.50 to \$6.50; old rims, \$4.50 to \$5.

Bulls.—Best heavy, \$10.50 to \$11; good butchering, \$10 to \$10.50; sausage, \$9 to \$10; light bulls, \$8 to \$8.50; oxen, \$8 to \$11.

Stockers and Feeders—Best feeders, \$11 to \$11.50; common to fair, \$10 to \$10.50; best stockers, \$10.50 to \$11; fair to good, \$9.25 to \$9.75; common, \$8.75 to \$9.

Milchers and Springers—Good to best (small lots), \$100 to \$135; in carloads, \$90 to \$100; medium to fair (small lots), \$80 to \$85; common, \$50 to \$55; in carloads, \$70 to \$75.

Hogs.—Buffalo broke all previous American records for hogs again the past week. Demand was strong and a good clearance was had from day to day. Monday's top was \$22.25, with bulk selling at \$22.15; Tuesday's trade was steady; Wednesday the best grades brought \$22.75, with one deck \$22.85 and Thursday the bulk of the good hogs changed hands at \$23. The fore part of the week showed pigs selling at \$20 and by Thursday these weights brought up to \$21.50. Roughts ranged up to \$20 and \$20.50 and stags went from \$17 down. The past week's receipts were 12,600 head, being against 17,153 head for the week before and 15,300 head for the same week a year ago.

Sheep and Lambs.—Supply the past week was light, there being only 2,500 head. Offerings were against 3,178 head for the week before and 1,600 head for the same week a year ago. Demand was not overly large, however the light supply caused a good active trade and prices ruled about steady all week. Spring lambs on the tippy order sold from \$18 to \$18.50, one or two bunches reached \$19, and yearling lambs ranged from \$14.50 down. Top quotation for wether sheep

was \$9.50 and ewes, which went according to weight, brought from \$7.50 to \$8.50, outside quotation for heavy fat ewes being \$8.

Calves.—Market occupied a very favorable position the past week. Demand was strong and prices were on the jump. Monday top veals sold at \$19.50, Tuesday a few made \$19.75, Wednesday the best lots sold at \$20, with a few \$20.50 and Thursday's range on the good to choice lots was from \$21 to \$22. Cull grades sold up to \$19.50 and common grassy kinds sold around \$10. Weighty veals were discriminated against anything weighing above 210 pounds underselling the more desirable kinds by from \$3 to \$4 per cwt. Receipts for the past week were 2,950 head, as compared with 4,998 head for the week before and 3,200 head for the same week a year ago.

Toronto Produce.

Receipts of live stock, Union Stock Yards, West Toronto, Monday, July 7, numbered 220 cars, 3,768 cattle, 574 calves, 2,421 hogs, 739 sheep and lambs. Strong market. Butcher steers, heifers, cows and bulls active at last week's closing prices. Top for loads, \$14.50 for 19 head, average 1,300 pounds each. Calves higher, tops \$20 to \$21 per hundred. Sheep and lambs steady. Hogs, \$23.50 to \$23.75, fed and watered.

Breadstuffs and Feeds.

Wheat.—Ontario (f.o.b. shipping points, according to freights)—No. 1 winter, per car lot, \$2.14 to \$2.20; No. 2 winter, per car lot, \$2.11 to \$2.19; No. 3 winter, per car lot, \$2.07 to \$2.15; No. 1 spring, per car lot, \$2.09 to \$2.17; No. 2 spring, per car lot, \$2.06 to \$2.14; No. 3 spring, per car lot, \$2.02 to \$2.10. Manitoba (in store, Fort William), No. 1 northern, \$2.24½; No. 2 northern, \$2.21½; No. 3 northern, \$2.17½; No. 4 wheat, \$2.11.

Oats.—Ontario (according to freights outside)—No. 3 white, 77c. to 78c. Barley (according to freights, outside)—Malting, \$1.16 to \$1.20.

Buckwheat (according to freights outside)—No. 2, nominal. Rye (according to freights outside)—No. 2, nominal.

Corn.—American, (track, Toronto, prompt shipment), No. 2, 3 and 4 yellow, nominal.

Peas (according to freights outside)—No. 2, nominal.

Flour.—Manitoba (Toronto)—Government standard, \$11; Ontario (prompt shipment, in jute bags). Government standard, \$10.50 to \$10.75, Montreal and Toronto.

Millfeed.—Car lots delivered, Montreal freights, bags included)—Bran, per ton, \$40 to \$42; shorts, per ton, \$42 to \$44; good feed flour, \$2.90.

Hay.—(Track, Toronto)—No. 1, per ton, \$20 to \$23; mixed, per ton, \$18 to \$19. Straw.—(Track, Toronto)—Car lots per ton, \$10 to \$11.

Hides and Wool.

Prices delivered in Toronto: City Hides.—City butcher hides, green, 26c. to 28c. flat; calf skins, green, flats, 65c.; veal kip, 45c.; horse hides, city take-off, \$12 to \$13; sheep, \$3 to \$4; lamb skins and shearings, 75c. to \$1.

Country Markets.—Beef hides, flat, cured, 28c. to 32c.; green, 26c. to 27c.; deacon and bob calf, \$3 to \$4; horse hides, country take-off, No. 1, \$11 to \$13; No. 2, \$10 to \$11; No. 1 sheep skins, \$2.50 to \$4; horse hair, farmer's stock, 30c. to 32c.

Tallow.—City rendered, solids, in barrels, 11c. to 13c.; country solids, in barrels, No. 1, 11c. to 12c.; cakes, No. 1, 12c. to 13c.

Wool.—Unwashed fleece wool as to quality, fine, 43c. to 60c. Washed wool, fine, 65c. to 75c.

Farm Produce.

Butter.—Advanced on the wholesales during the week, selling as follows: Creamery, fresh-made lb. squares at 56c. per lb.; creamery solids, at 53c. per lb.; choice dairy, 48c. to 50c. per lb.; other grades, down to 40c. per lb.

Oleomargarine.—34c. to 37c. per lb. Eggs.—New-laid eggs also advanced, selling as follows, wholesale: new-laid, 46c. to 47c. per dozen; selects in cartons bringing 49c. to 50c. per dozen.

Cheese.—Prices kept stationary, old selling at 37c. per lb., and new at 32c. per lb.

Poultry prices kept practically stationary with fairly heavy receipts; the following prices being quoted for live

weight to the producers. Spring chickens, 40c. per lb.; hens, under 4½ lbs., 28c. per lb.; hens, over 4½ lbs., 28c. per lb.; roosters, 22c. per lb.; turkeys, 30c. per lb.; ducklings, 35c. per lb.; old ducks, 15c. per lb.

Wholesale Fruits and Vegetables.

Apples.—The first apples for this season came in during the week from Delaware, selling at \$4.50 to \$5 per hamper.

Blueberries made their first appearance also, and sold at \$3 per 11-qt. basket.

Cherries.—Shipments were especially heavy and a large quantity showed waste, and as there was only a nominal demand, prices declined, sours selling at 40c. to 65c. per 6-qt. flats; 65c. to 75c. per 6-qt. leno basket, and 75c. to \$1.25 per 11-qt. basket; sweets ranging from 90c. to \$2 per 6-qt. basket, and \$1.50 to \$2.50 per 11-qt. basket.

Red currants are beginning to come in quite freely, selling at 15c. to 16c. per box; 75c. to \$1 per 6-qt. basket.

Gooseberries also came in in larger quantities, selling at 12½c. per box; 50c. to 65c. per 6 qts., and \$1 to \$1.50 per 11 qts.

Lemons were a little lower in price at \$7.50 to \$8 per case.

Oranges kept stationary at \$5 to \$6.50 per case.

Peaches.—Georgia peaches came in freely, selling at \$3.50 to \$4.50 per six-basket crate.

Raspberries.—The first raspberries arrived on July 1st, selling at 40c. per box; later in the week selling at 35c. to 40c. per box.

Strawberries were only shipped in lightly and prices advanced, ranging from 18c. to 25c. per box for good fruit; poor selling as low as 12c. per box.

Tomatoes.—Canadian outside-grown tomatoes are increasing in quantity, selling at \$2.50 to \$3.50 per 11-qt. basket, and hot-house at 28c. to 32c. per lb.

Beans.—Home-grown wax beans also came in the first part of the week and daily increased, selling at \$1 to \$1.75 per 11-qt. basket.

Beets were shipped in fairly heavily, selling at 30c. to 35c. per dozen bunches. Cabbage declined, selling at \$2.10 to \$2.25 per bushel hamper, and \$4.50 to \$5.25 per large crate.

Carrots came in more freely, selling at 40c. to 60c. per dozen bunches.

Peas.—Shipments were heavy and a lot of them were rather old, due to the extremely hot weather, selling at 50c. to \$1 per 11-qt. basket.

Potatoes.—New potatoes after firming became lower in price toward the end of the week, selling at \$7 to \$7.50 per bbl. for No. 1's, No. 2's, ranging from \$4.50 to \$6 per bbl., according to quality.

Montreal.

The market for live stock continues strong and fairly active, and the tendency of prices is rather upward than downward. The weather is warm and not particularly favorable for trade.

Horses.—Dealers report that they have neither been receiving nor shipping horses during the past week. They quote unchanged prices. Heavy draft horses, weighing from 1,500 to 1,700 lbs., are quoted at \$250 to \$300 each; light draft, weighing from 1,400 to 1,500 lbs., \$200 to \$250 each; light horses, \$125 to \$175; culls, \$50 to \$75, and fine carriage and saddle horses, \$150 to \$250 each.

Dressed Hogs and Provisions.—The demand for dressed hogs is well maintained even at the exceptionally high prices, and the range of quotations consequently continues firm at 31c. to 31½c. per lb. for abattoir dressed, fresh-killed stock. Dressed and cured meats are in good demand this hot weather and prices are firm all the way round, with light hams quoted at 44c. to 45c. per lb.; mediums, weighing 12 to 15 lbs., 42c. to 43c.; heavies, 40c. to 41c.; cottage hams are quoted at 41c. Breakfast bacon is selling at 46c. to 48c. per lb.; Windsor Select bacon at 50c., and Windsor Boneless at 54c. to 55c. per lb. Lard is steady with Canadian Pure Leaf quoted at 38c. to 39½c. per lb.

Poultry.—Stocks of poultry in cold store are gradually becoming lighter. Demand is not particularly active. Prices are unchanged, with choice turkeys ranging from 48c. to 50c. per lb.; chickens, 36c. to 47c.; fowls, 30c. to 36c.; ducks, 40c. to 48c., and geese, 30c. to 31c. per lb.

Potatoes.—Old potatoes are becoming scarcer and the quality is not inviting,

but imported American stock is still too dear for general consumption. Quebec White potatoes are quoted around \$1.50 per 90 lbs.; ex-track, in car lots.

Maple Products.—Maple sugar is quoted at 30c. per lb., and maple syrup in 13-lb. tins is selling as high as \$2.50 to \$2.60 each.

Eggs.—Quite a demand for eggs has been experienced from Great Britain, recently, and shipments will take place in consequence thereof. Supplies are light of fresh stock, and the quality is poor. Strictly new-laid eggs have advanced to 54c., while selected stock is 52c.; No. 1 candle, 48c., and No. 2 candle, 40c. to 42c.

Butter.—During the week an advance has taken place in the price of butter at country points, and this has been reflected in the local market where pasteurized creamery is now unobtainable at less than 53c. per lb. Finest creamery ranges from 52c. to 52½c., and fine creamery at 51½c. to 52c. Dairy is 47c. to 48c. per lb.

Cheese.—Prices of cheese show very little change, but are somewhat below the recent high point. Quotations are 29½c. per lb., f.o.b., country points. At Peterborough 30½c. was paid.

Grain.—The market for oats shows increased strength, and prices were slightly higher than a week ago. No. 1 extra feed oats are quoted in car lots, ex-store, at 88c.; while No. 1 feed are 86½c.; No. 3 Canadian Western and extra No. 1 feed are 87c. to arrive by water. No. 1 feed, by rail, 85½c.; No. 2 feed, 81½c.; No. 3 Ontario white, 87c. Ontario No. 3 barley, \$1.35 per bushel, ex-track.

Millfeed.—Bran is quoted at \$42, and shorts at \$44 per ton, including bags, ex-track, and in smaller lots at about \$1 more. Feed cornmeal is \$70. Pure barley meal and mixed grain mouille, \$62 to \$64. Mixed mouille, \$56 to \$68. Dairy feed, \$48, delivered.

Hay.—Prices are very firm with carlots of No. 1 timothy hay quoted at \$35 per ton; No. 2 timothy, \$32. No. 3 timothy, \$30, and clover and clover mixed at \$25 to \$28 per ton, ex-track.

Hides and Skins.—The market has experienced another advance. Steer hides are up 5c. per lb. at 34c.; cow hides, 33c.; bull hides, 26c.; veal skins, 78c., and kips 28c. per lb. Spring lamb skins have doubled, and are now \$1.50 each. Wool skins are steady at \$4, and horse hides at \$7.50 to \$8 each.

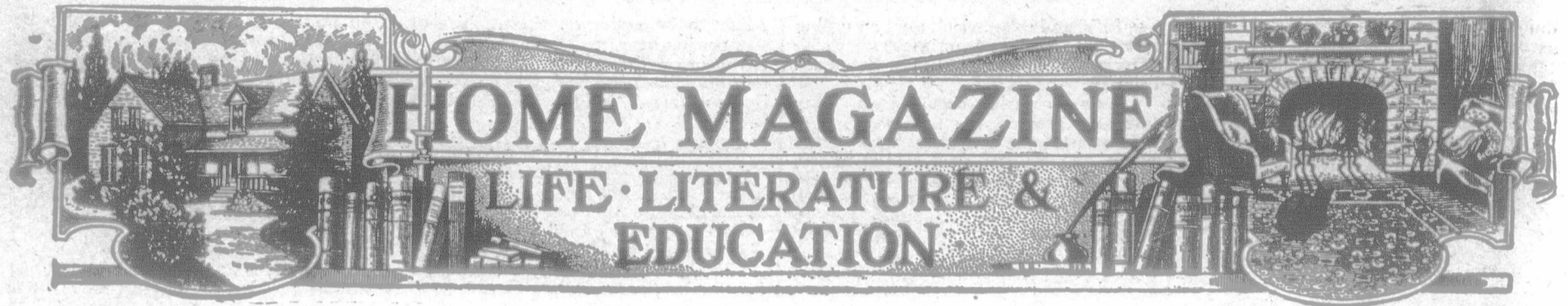
Cheese Markets.

London, bids, 28c. to 28½c.—no sales; Perth, 28½c.; Picton, 29 5/16c.; Watertown, N. Y., 30½c. to 30¾c.; St. Hyacinthe, Que., 27½c.; Montreal, finest easterns, 29c.; Cornwall, 29½c.; New York, flats, specials, 32c. to 32½c.; average run, 31c. to 31½c.; twins, specials, 31½c. to 32½c.; average run, 30¾c. to 31½c.

Victory Bonds.

Following were the values of Victory Bonds on the Toronto market on July 5: Victory Bond maturing 1922, 101½ to 101¾; Victory Bond maturing 1923, 101½ to 101¾; Victory Bond maturing 1927, 103 to 103½; Victory Bond maturing 1933, 105½ to 105¾; Victory Bond maturing 1937, 106¼ to 106½.

On Wednesday, July 23, J. J. Merner will hold an auction sale of Scotch-bred and Scotch-topped Shorthorns at Seaforth. This herd was purchased from A. R. McLachlan, of Renfrew, Ontario, and as Mr. Merner has no way of wintering them it is essential that they be sold. In the offering are fifty lots; twenty-five of the cows have calves at foot, and the balance are well along in calf. They are an array of splendid individuals and among them are such families as Nonpariels, Matchless, Wedding Gift, Crimson Flower, Butterfly, and Scottish Primrose. It is well worth anyone's while to see this offering. The cattle are all in good breeding condition and as so many of the females have calves at foot and are re-bred they should make an attractive offering. The majority of the cattle are good, strong individuals with plenty of substance. For further details consult the advertisement in another column of this issue and write J. J. Merner, M. P., of Seaforth, for a catalogue mentioning The Farmer's Advocate. Don't forget that the sale is on Wednesday, July 23, at Seaforth.



"The kitchen," say the French, "is the soul of the house."

The Ideal Kitchen.

IN planning for the farm kitchen the first consideration is to decide whether the room is to be used as kitchen only or as combination kitchen and dining-room, as suggested in last week's issue. That will decide the size of the floor-space. After that it must be remembered that the kitchen, or the kitchen end of the combination room, is a *work-room* above all things, and plans must be made accordingly.

In this article only the kitchen by itself will be considered, but it should be kept in mind that all that is said applies equally to the kitchen end of the combination room. Also only the *ideal* kitchen is dealt with; modifications must be adopted according to the means at disposal.

A score or more of years ago the kitchen was, as a rule, a large room, with cupboards and other furniture scattered promiscuously about it, and considerable distances to walk from stove to sink, from sink to cupboard, and so on. To-day the up-to-date one is invariably small, with the *shortest* possible distances to be walked while working. Sometimes it is long and rather narrow, with the work-tables at one side and the cupboards at the other, so that one has but to turn about and take a step or two to go from the one to the other. Sometimes it is more on the square, but in this case the working table is in the center of the room, with the sink, cupboards, stove etc., about it.

In either case the ventilation must be first class and the lighting good. To ensure good ventilation the windows should reach high up, and should be movable top and bottom. They should, of course, be at opposite sides of the room, or at one side and one end, to provide for cross-currents. In addition there should be a ventilating flue high in the wall above the range to carry off cooking odors and fumes as well as heat. In summer doors and windows should be fitted with rust-proof screens. If these cannot be secured the mesh should be preserved from rusting by giving it a coat of dark-green paint.

Ventilation and light disposed of, let us turn next to sanitation and convenience—two absolute necessities.

The absolutely ideal kitchen, of course, has a tiled floor, tiled wainscotting, and above the wainscotting a hard-finished wall well painted. Tiling is fireproof, easily cleaned, non-absorbent and germ-proof. As, however, it is rather expensive, many people fall back upon the "next best" which is a hard cement plaster (best applied upon metal lath for the wainscotting) finished to a smooth surface and painted; if blocked off a little on the walls to suggest tiling it looks somewhat better. In any case there should be no corners to collect dust and give extra work when cleaning. Everywhere edges should be rounded—the corners of the room, juncture of wainscotting and floor, etc.

The next alternative is a hardwood floor. If soft wood must be used then all cracks should be filled with cement, and the whole kept well-painted or covered with linoleum.

No fancy or even grooved woodwork should be tolerated in the kitchen. Every surface should be perfectly plain so that it can be wiped off quickly with a dustless duster. Another point to notice is that always when the floors are hard, small rugs, should be placed wherever one must stand much while working. Rubber rugs sold for the purpose are the best, as they will be found particularly easy on the feet, but thick braided rag rugs will do very well.

Kitchen Equipment.

The outstanding features that come to one's mind in thinking of kitchen equipment are: stove, table, cupboard, sink,—but these are only the beginning, there are so many other things, large and small, that go to make work in this workroom of the home more quickly and easily done. Let us take them in order.

Cupboards.—Once upon a time the kitchen was considered well supplied with a cupboard for the dishes and a pantry for groceries, or perhaps the latter held the dishes too. Such a pantry, however, was found to get in a

cupboard—then that is a different story; in that case it becomes a real stronghold of convenience and order, a place in which, as soon as you are used to it, you can find things "in the dark". To begin with, it is long—as long as the kitchen will allow, and part of it (probably the central third) has a ledge upon which to place things when necessary. This third may project into the room a foot further than the rest, and the upper portion is furnished with glass sliding doors before shelves upon which are kept the kitchen china and delft ware. Each side of this projecting portion there

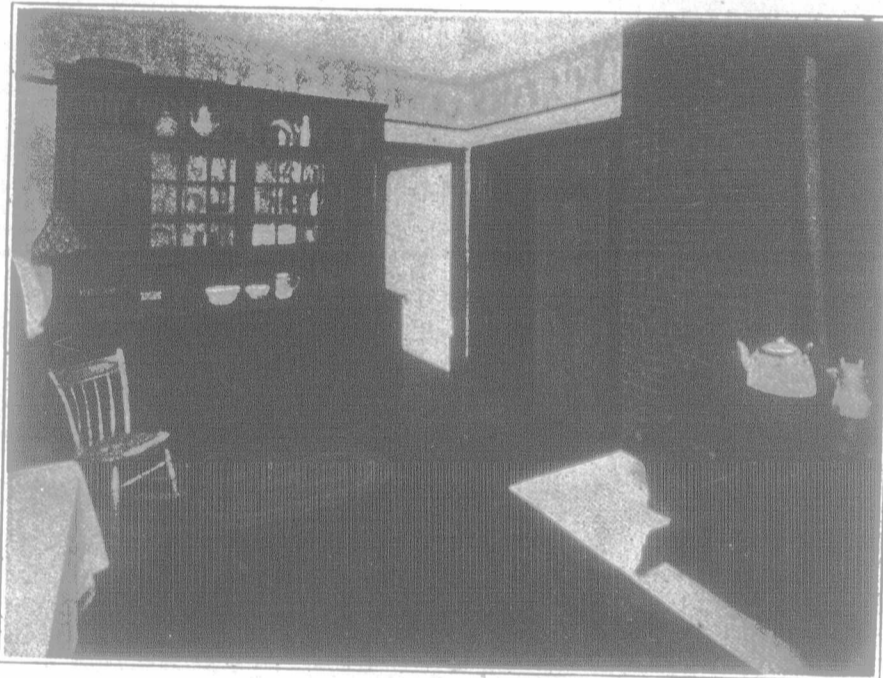
whip, grater and all the other little paraphernalia needed in the work of the kitchen. Beneath these, perhaps over a zinc background, hang the various saucepans, frying pans, basting pans, breadpans, kettles, etc., with a rack for the kettle lids. The projecting compartment beneath the china division, may be used for iron pots, which stand on zinc. In the store-room, whose door should be close to this cupboard, may be placed such things as the flour-bin and vinegar barrel, also hams, bacon, etc., hung on a zinc-covered stretch of the wall provided for the purpose. In this room may be the bake-table, if one chooses or it may be in the kitchen proper. The flour bin, by the way, should not reach the floor—but should be firmly fastened a little above it so that there will be no trouble in cleaning below. This will prevent cockroaches and other pests that love to lurk beneath the ordinary barrel.

To return to the kitchen.—The work-table here should be roomy and covered with zinc, which is non-absorbent and easily made perfectly clean. Above it or near it on a rack with hooks provided for the purpose may hang the spoons and knives most used for cooking, also the rack for lids, if one prefers to have that here. This table, by the way, may be a flat bake-table, with sliding bake-board and flour and sugar hoppers below.

Near the stove the sink should be placed, and be sure to have it high enough so that your back will not be broken when you are working at it; most sinks are far too low. If there is a door opening outside from the basement, as there should be, it is a good plan to have a galvanized garbage chute below the sink and leading to a close covered "box" in the basement in which stands the garbage can. This can be removed when necessary and the contents fed to pigs or buried to form compost for the garden, as suits one's purpose. In the kitchen there will also be space for the oil-stove and fireless cooker. A hood above the range and connected with the ventilating flue in the chimney before mentioned, will be found excellent to carry off smoke and fumes when the range has to be kept going.

The refrigerator, of course, must not be too close to the stove, but must be in such a place that it can be supplied with ice with no more than two or three steps across the kitchen floor, unless, indeed, arrangement is made to have the ice slipped in from outside. The other day we heard of a device to do away with the refrigerator altogether, nothing less, in short, than a sort of small cold-storage room in the cellar. This was made by insulating a little place big enough to hold the ice needed for the summer. In this small room a dumb-waiter fitted with shelves was placed, to hold things that must be kept cold, yet might be easily brought up to the kitchen in a moment by a strong pulley arrangement. A good drain to carry off the water from the melting ice, and thorough ventilation, made this cellar cold-storage room very satisfactory.

The dumb-waiter, by the way, should be near the door into the dining-room. Also, if liked, there may be a china cupboard between kitchen and dining-room, with doors opening into the kitchen on the one side and the dining room on the other. If this is not provided a dinner-wagon with rubber-wheels, for taking things in and out of the dining-room, will be found a great step-saver. Such a wagon may be easily made at home by any handy man. A very good one, for instance may be fixed up from an old wash stand, by putting in an extra shelf below, taking off the doors and sides, and painting nicely with enamel. Another wrinkle, if one has an old marble-topped table, is to slip it into the kitchen and use it as a bakeboard. Marble-topped tables are not liked for living-rooms nowadays, but there is nothing so nice for

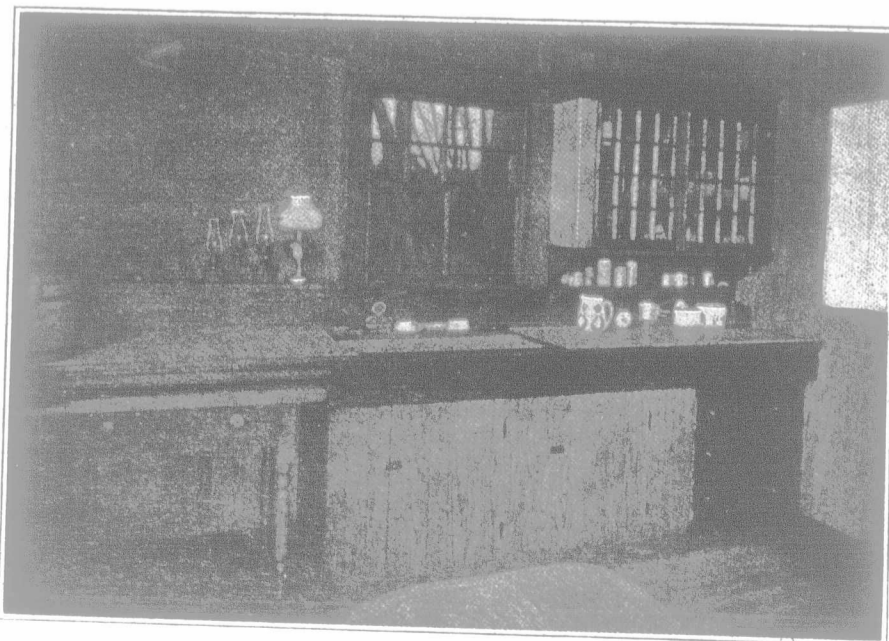


An Attractive Kitchen.

Note the drawers for kitchen towels, etc.

clutter; it was hard to keep things in order in it, and it required frequent tedious overhauls. To obviate all this, ingenious women began to plan in favor of built-in or built-on cupboards right in the kitchen, the pantry space being turned into a small store-room for such things as must be kept in bulk. The kitchen cupboard of to-day, by the way, is decidedly interesting, a regular place of mystery,—you never know what you will come upon if you open the doors. But if you are the owner of the

are long doors that reach the floor. Open one of these and you find a single shelf near the top reserved for things that must be kept about the place but are seldom used. Beneath are shelves filled with groceries, either in broad-mouthed glass jars, or in tin boxes or covered crocks neatly labelled. Open the door on the opposite side and you find no shelves at all, but a flat smooth wall upon which are pegs and pegs upon which in the most convenient spots hang the egg-beater potato masher, cream



A Convenient Cupboard.

Note the separate table which slips under the high working extension of the cupboard. Also note that there is no foot-board across the front of the pot-cupboard. This makes it possible to sweep or wash it out easily.

baking. then a w a table fo top fixed board.

Other i ing ironi up again upon whic vegetable found nic sewing; an vided to l the stove placed to h

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baking. If the legs and frame are walnut then a walnut top can be added to make a table for the living-room and the marble top fixed to a cheaper frame for the bake-board.

Other items for the kitchen are a folding ironing board that can be swung up against the wall, and a high stool upon which to sit while ironing, preparing vegetables, etc. A covered box will be found nice for papers or for "pick-up" sewing; and a small shelf should be provided to hold the cookery books. Near the stove another small shelf should be placed to hold salt, pepper and seasonings.

As will be seen the modern kitchen resembles a scientific laboratory rather than a living-room, and rightly so. Nevertheless since the housewife must needs spend about two-thirds of her time in it, it should be made cheerful. Pretty cream-colored paint on the wall, plants in the window, and a comfortable rocking-chair for odd moments will achieve this little extra expense.

Canadian Wild Flowers.

Fringed Milkwort (*Polygala paucifolia*), also known as "Flowering Wintergreen." The *Polygala* gets its name from a Greek word that means "much milk," this arising from an ancient idea that these plants in pasturage increased the flow of milk of cows. There are many species belonging to the family, one member being the pretty white "snakeroot" of the woods. Fringed milkwort, also grows—rather rarely in most places—in moist woods, where its pretty rosy purple (rarely white) flowers are quite conspicuous. The picture gives a very good idea of the form of the flower and of the leaves, which grow in a cluster at the top of the stem, the whole plant being from 3 to 6 inches high. It is to those versed, more or less, in botany, however, that the plant is of the greatest interest. The flower is curiously irregular. There is a calyx of 5 sepals, 3 of which—2 on the lower and 1 on the upper side of blossom—are very small. The remaining 2, one on each side of the blossom, are colored, and might easily be mistaken for petals. They are much larger than the others. Within these "wings" on the lower side are 3 united petals, of which the middle one is keel-shaped and bears a curious fringed crest. There are 6 stamens and a curved style. The flower is about an inch long, and flowers from May to July, depending on latitude and other conditions.

The Field Milkwort (*polygala sanguinea*) grows in moist, sandy fields or roadsides, and is more difficult to examine, botanically, than the fringed milkwort, since its flowers are very small. They are, however, crowded together in a dense little head, and so present a quite showy effect. The flowers, which bloom from July to September, are sometimes a bright rosy-purple, but occasionally are a pale magenta or even white. The plant is from 4 to 8 inches high and leafy to the top, the leaves being quite narrow.

Nasturtiums—Flowers and Fruit.

BY KATE HUDSON

Not only are nasturtiums, shaded from palest yellow into dark velvety amber, most ornamental for beds, borders, and rocky climbers, but they also furnish us with a pungently appetizing condiment—the caper.

Such capers, picked ripe and used while fresh, mashed and slightly salted in meat-sauces with beets or fresh cucumbers, are delicious. When assorted in sizes and pickled, they are an unsurpassed relish, and will keep for years. The smallest may be put up for mutton-sauce; the larger ones make an effective garnish for cold meats, salads and aspics. Indeed, there are people who greatly prefer them, as a relish, to olives.

The leaves and blossoms of the nasturtium can be made into a toothsome and most dainty-looking and tasty salad. They are just the thing for a ladies' luncheon. The blossoms and the youngest, tenderest leaves should be picked before the sun has reached them; they should be sprinkled with vinegar, in which a small chopped onion has been steeped for a couple of hours, and should

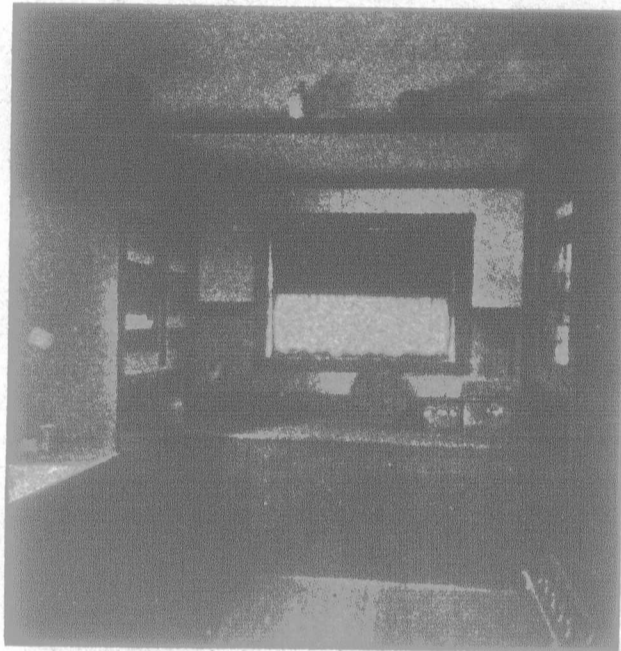
be lightly tossed up with salt and white pepper, to make a piquant salad.

The young and tender leaves, chopped fine and sprinkled on the small boy's school sandwich, will make the latter into a tasty, wholesome spring delicacy. Mixed with cream cheese which has been lightly kneaded with butter, and a silver fork, such nasturtium leaves make a delectable spring-luncheon dish.—Sel.

Hope's Quiet Hour.

The Vision of Victory.

Behold, the hour cometh, ye are now come, that ye shall be scattered, every man to his own, and shall leave me alone: and yet I am not alone, because the



End of Kitchen, Showing Built-in Cupboards.

Father is with me. These things I have spoken unto you, that in me ye might have peace. In the world ye shall have tribulation: but be of good cheer; I have overcome the world.—S. John 16 : 32, 33.

Live on in hope!
Press on in faith
Love conquers all things,
Even Death.

—JOHN OXENHAM.



Fringed Milkwort (*Polygala paucifolia*) (left.)
Field Milkwort (*Polygala sanguinea*) (right.)

The words of our text are a confident declaration of victory—a defiance of oncoming Death. We see a young Man, in the glory of untarnished manhood, rejoicing in His strength. There He stands in the midst of His chosen friends, who have just proclaimed their certainty that He is their God-given Leader and Lord. Quietly He says that even they will desert Him in His hour of agony—that hour which he sees has even now come. Yet His words are not intended to crush them with shame. They are not an accusation but a message of good

cheer. He is thinking of them and encouraging them to hope on in the blackest hour. They may still find peace, through trust in their Commander, even when He seems to be crushed by deadly foes. Though He may hang, deserted and dying, on the Cross of shame; yet He is still the Mighty Victor. Preparing them for the worst, He still holds before their dazzled eyes His Vision of Victory. A few hours later they will see an apparent victory of the world. Then they must walk by faith and not by sight, knowing that their Lord has really "overcome the world."

He is still the Conqueror. Wrong can never be victorious; though Right may seem for a time to be crushed by evil Might. As John Oxenham says:

"Who waits His Time shall surely see
The triumph of His Constancy;—
When, without let, or bar, or stay,
The coming of His Perfect Day

Shall sweep the Powers
of Night away;—
And Faith, replumed for
nobler flight,
And Hope, aglow with
radiance bright,
And Love, in loveliness
bedight,
SHALL GREET THE
MORNING LIGHT!"

The weakness and cowardice of the disciples, which their Master saw so plainly, did not weaken His love for them. Though He fought the battle alone—or apparently alone—the Father's Presence sustained Him and He went forth conquering and to conquer. Though they might turn back in the day of battle, yet He would return as a Victor over Death and call them together again. They should share His triumph in the end; for they would again rally round His banner, in penitence and love, in peace and joy.

When we grow discouraged over our own weak faith, dim hope and half-hearted love, let us forget ourselves and think of our glorious Leader. He was able to take a disciple who openly disowned Him, another man who refused to believe in His power, and a third (Saul of Tarsus) who was a fierce and open foe; and of such unpromising material He made saints, apostles and pillars of the Church.

When you are called to some difficult duty, don't say with Moses: "I am not eloquent," and fancy that you are being humble. Say with St. Paul: "I can do all things through Christ which strengtheneth me," and then you will glorify Him Who is your Life.

When Saul of Tarsus was rushing from place to place, breathing out threatenings and slaughter against the disciples of the Lord; the Master of his soul had a vision of victory over that fierce and determined foe. He looked ahead a few years and saw the wolf transformed into a shepherd of the flock. He saw Saul (changed into Saint Paul) going over all the country "strengthening all the disciples."

Transformed lives may seem like miracles to us but they are everyday matters to God. When the cause of righteousness seems to be defeated—as on that first Good Friday (which seemed to be far from a "good" day) let us still be of good courage, knowing that Right must be victorious. It is disloyalty to our Master to think that His Cause is losing. Even when things look as hopeless as they did to the little group of disciples about the Cross, let us remember that He who foretold the great tribulation said with calm certainty: "I have overcome the world."

Victory over death does not necessarily mean escape from death. Just think of that little French boy who was captured by the Germans and refused to give information about his comrades. He stood against a telegraph post, with head erect and a smile on his face, to receive the death-dealing volley of the German soldiers. He was victorious though he died. If fear of death had caused him to buy life at the price of dishonor, no one could have called him a victor.

Let us trust our Lord even when the tribulation which He prophesied is heavy upon us. Tribulation is no proof that God is failing to answer our prayers for help. The very word means "threshing," and a farmer knows the value of threshing when he is dealing with grain. We are God's grain, and in love and faithfulness He uses tribulation to free our souls from the chaff of worldliness and selfishness. The Divine Husbandman loves us too well to stay His hand in answer to our selfish prayers. He will purge His floor thoroughly, and when the purified grain is gathered into His garner His love and wisdom will be plainly visible.

In one of the letters of Forbes Robinson is this beautiful passage: "To allow us to suffer without telling us the reason, when He knows that we shall be inclined to think harshly of Him—that is, perhaps, the greatest proof that He believes in us. He can try our faith and perfect it by long-continued trial, because He knows that we shall respond, that we shall prove 'worthy to suffer'."

When our Lord's suffering reached its terrible climax, and He felt forsaken even by the Father, He was still victorious. There was no yielding to the enemy, no using of supernatural power to save Himself from agony and death. He had taken our human nature upon Him—as a King might join the privates in a first line trench—and He would not use royal power to save Himself. Reaching out to the Father when His shining Face was veiled, He still pressed forward through the darkness, and justified the Father's faith in His courage. When the Father hid His face and no longer showed His love, the heart of the Son leaped towards the heart of the Father as steel leaps towards a great magnet. "My God!" He cried, in eager desire; and His weary spirit went straight to the Father's heart like a home-coming dove in the darkness. The most awful temptation to lose trust in the Father's love was met victoriously.

As the world looks back and studies that great battle, more and more hearts are won by the Man lifted up on the Cross. Never did a man live and die more grandly than this Man. Let us trust Him when our hour of battle comes. Let us have courage, knowing that we also may be conquerors through the indwelling might of our Captain—Comrade. "Be of good cheer!" He said, "for I am conqueror!" ready to conquer in those weak disciples, though He had just told them they would for a time, desert Him and His cause. Be of good courage! though we are so weak, He can conquer in us also.

"Can it be true, the grace He is declaring?
Oh, let us trust Him, for His words are fair!
Man, what is this, and why art thou despairing?
God shall forgive thee all but thy despair.

"Then, tho' our foul and limitless transgression
Grows with our growing, with our birth began,
Raise Thou the arms of endless intercession,
Jesus, divinest when Thou most art Man!"

DORA FARNCOMB.

For The Needy.

Three gifts for the needy were sent by readers this week. A Kendal reader (M. J. S.) and Mrs. T. sent two dollars each, and Miss G. M. sent one dollar. Some of this money went out at once to help sick and needy people, and the rest of it will probably go forward before long. Those who have been helped through the kindness of our readers have asked me again and again to express their gratitude. For the most part I forget that part of my duty—you must take it for granted, when I fail to mention it. The papers sent for the "shut-in" are also very welcome.

DORA FARNCOMB,
6 West Ave., Toronto.

It's faith in something, and enthusiasm for it, that makes a life worth looking at.
—Holmes.



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Making Jelly.

THE selection of the fruit for making jelly is very important. It should be just a little under-ripe, as then it contains more pectin, or jelly-making property, than when it is ripe. The sour fruits, such as currants, grapes and apples, contain most pectin and are easiest to make into jelly; but the juice of strawberries, cherries and raspberries may be bottled when those fruits are in season, and added, later, to plain apple jelly when it is being made, to give variety. Also raspberries and currants are often combined.

Have the fruit, whatever it is, very clean, without spot or stem. Juicy fruits should not have any water added, but should be washed, then crushed in a granite kettle. Apples, etc., need a little water, the rule is about half as much water as fruit. Leave skin and core in, as these will greatly help the quality of the jelly.

Cook the fruit slowly, stirring once in a while, and when it looks thoroughly cooked strain through a jelly bag of closely woven material. Do not squeeze, just let drip if you want the jelly to be clear. A second-grade jelly may be made from the juice that can be squeezed out afterwards, while the pulp left in the bag may be made into delicious marmalade or fruit-butter.

The old rule is equal parts of juice and sugar, or "a pound of sugar to a pint of juice," but often less sugar can be used. Remember it is not the sugar that makes the jelly "jell," but the pectin with the sugar. Let the juice boil down first, skimming when necessary, then add the heated sugar and boil about 5 minutes longer, or until the consistency seems right when tested on a cold plate. Remove from the fire at once. Pour into glasses set on a cloth wrung out of hot water, and when cold pour melted paraffin over the top. (Paraffin may be used over and over if carefully washed when taken off and stored in a covered jar.) Put on lids of glasses and store in a cold dark place.

Remarkable Remarks.

"I once believed whiskey could not be prohibited. I have discovered that it can be, or nearly so, and am now a prohibitionist."—E. W. Howe.

"Ill-gotten gains are often troublesome."

"True," said Mr. Dustin Stax. "Many a chap who thinks he is feathering his nest inadvertently picks up a bunch of porcupine quills."—Washington Star.

When Small Fruits are in.

Berry Preserves.—Clean the fruit, and for every pound add a pound of sugar. Use an enamelled kettle. Allow the sugar to melt with the fruit over a slow fire, then boil quickly for half an hour. If there is too much liquid drain it off and boil it separately for a few minutes. Pack the fruit in sterilized jars, pour the syrup over to fill the jars. This makes a rich jam-like preserve.

Raspberries, Canned Without Breaking.—The oven method is excellent to give raspberries good form and color. Fill the perfectly clean jars with berries and place in a shallow pan on a thin cloth. Pour cold water into the pan about 2 inches in depth. When the berries sink about one-third down, take the pan out and fill the jars to overflowing with boiling syrup, then seal at once. Plums may be done the same way but the syrup should be richer.

Syrups for Canning.—Soft fruits such as strawberries, some cherries and raspberries need a syrup made of sugar, 2 parts, water one part. Currants, peaches, firm cherries, quinces, call for a syrup made up of sugar one part, water one part.

Dried Berries.—Raspberries dried in the sun are very nice for winter pies and puddings. The drying frames can be made of lath and cheesecloth, with some mosquito netting fixed above to keep

off flies. Put the uncooked berries on the screen, and take under shelter at night and during showers. Be sure to turn the fruit two or three times during the first day's exposure. It should be absolutely dry before it is stored away in jars or bags, else it is sure to mildew. Before storing wrap it in oiled paper. Keep in a cool place. If preferred the berries may be stewed then dried on granite pie plates.

Raspberry Vinegar.—Put four quarts of raspberries into a bowl and pour over them two quarts of vinegar. Cover the mass and set in a cool place for two days. Then strain the vinegar through cheesecloth. Put four quarts of fresh raspberries in the bowl, and pour over them the vinegar strained from the first raspberries. Set the bowl in a cool place for two days, and then strain the vinegar as before. Put the strained vinegar in a preserving kettle with three quarts of sugar. Heat the mixture slowly and when it boils skim it carefully. Boil it for twenty minutes and then pour it into sterilized bottles. About two tablespoonsfuls of this vinegar to a glass of water makes a refreshing drink. Similar vinegars may be made from blackberries and strawberries.

Raspberry Jam.—Eight lbs. berries, 6 lbs. sugar. Let fruit and sugar stand together over night. In morning heat slowly, stirring until sugar is dissolved, then cook without stirring until of the right thickness when tested on a cold plate.

Raspberry and Currant Jam.—Seven lbs. berries, 1 pint red currant juice, 6 lbs. sugar. Proceed as for Raspberry Jam, but will need a little longer cooking.

Black Currant Jam.—To every pound of fruit, not over-ripe, allow $\frac{3}{4}$ lb. sugar. Put currants in a saucepan, heat slowly, and mash. Add no water. Bring to a boil, stirring occasionally. Cook until the quantity is reduced somewhat, then add the heated sugar. Boil 3 to 5 minutes and seal as usual.

Raspberry Sherbet.—Two cups sugar, 3 cups water, 2 cups crushed berries, juice of 2 lemons. Boil sugar and water together for 20 minutes, then add the crushed fruit and lemon juice. Remove from the fire and when cold strain through a sieve. Serve very cold.

Hot Raspberry Shortcake.—Sift 1 pint flour twice with $\frac{1}{2}$ teaspoonful salt and 2 teaspoons baking-powder. Chop into the prepared flour 1 tablespoonful butter, and when thoroughly mixed add enough milk to make a soft dough that can just be rolled out. Turn upon a floured pastry-board and pat out into the size of a large pie plate. Bake to a golden brown, tear open and butter thickly. Cover lower half with a thick layer of the berries that have been crushed, mixed with sugar and left so for 2 hours. Put on the upper half of the cake, then pile the top with the rest of the crushed berries. Let stand half an hour before used. Serve with rich cream.

Currant Jelly.—Pick currants from stems and wash clean. Put into a kettle with a very little water and cook 10 minutes, covered, boiling hard. Strain through a flannel bag. Use 1 pint juice to 1 pint sugar. Boil the juice 15 minutes, add heated sugar and boil 5 minutes more. Pour into tumblers and when cold cover with paraffin.

Some Safe Hints for Canning.

SET "perfection" as the goal when canning. Sealers should be flawless, without chips around the edge; rubbers should be pliable, rather soft, and of good quality, and should fit snugly. Fruit should be perfect. Do not use any with bruised or rotted spots. Better cut off such spots and stew the rest up for immediate using. Vegetables should be young and firm. They are of better flavor if the water used in canning is salted to taste before filling the jars. "When the time of boiling is up," says E. L. Davies in Bulletin 236, "the boiler should be removed from the heat but not opened for 5 or 10 minutes. Then the covers should be screwed down tightly, the jars taken from the water and placed on a wood surface away from draughts. It is advisable to stand the jars upside down for the cooling period, then any leaks of air can be observed. If the product only calls for one period of heat the jars must be observed closely; if leaks occur, as shown by bubbling of air into the jar, teh

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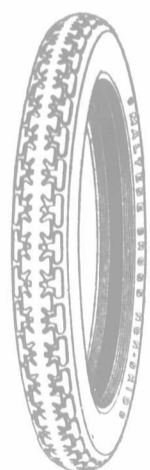
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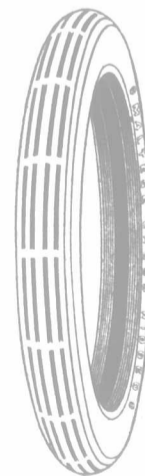
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Cooking Currants.

When cooking either red or black currants do not add sugar until almost done; otherwise the fruit will be hard.

Watch the Bulbs.

Don't allow the bulbs, stored in the cellar for fall planting, to dry out and shrivel up. If necessary move to a cooler, darker place and keep a pail of water near them. Do not wet the soil.

Thin the Pears.

If there is a very heavy crop on your pear trees, thin the fruit out a little. What is left will be larger and of better quality.

Prune the Tomatoes.

Prune out all suckers of the tomato, and as the fruit reaches the size of a silver dollar cut the lower leaves in half. This will hasten the ripening of the fruit.

"Really Cooling?"

A doctor is responsible for the following: "Iced creams and drinks are gastronomically pleasing, no doubt, and during the actual moment of eating produce a passing sensation of coolness. There is in reality, however, no type of food more heating, because the stomach is chilled and digestion consequently retarded; the sudden cold checks the flow of perspiration causing waste ordinarily expelled through the pores to be retained, and metabolism, the burning of the tissues, is thereby increased, because the body machinery is clogged. Besides all this most ices and cold drinks are dependent upon ice cream, chocolate or cream in varying degree as a basis, and are highly sweetened to suit the popular taste. Cream and chocolate are heating foods, while sugar in any form is a heat producer; so in addition to the clogging of the system most so-called cooling creams and drinks become heating agents because of their constituents."

It appears, then, that ice-cream, while nourishing because of the cream and sugar, and useful at certain times (it is often ordered for hospital patients) is not a very good refreshment for hot summer days. If one must have something very cold it is better to take water-ice or sherbet, both of which are as easily made at home as ice-cream.

Onions.

Bending over the tops of the onions this month, (when they are large enough) will tend to increase the size of the bulbs, preventing the plants from going too much to tops.

Lettuce.

Shade the lettuce bed with a framework over which old cotton is stretched to keep off the sun while admitting plenty of air and the leaves will be tender and free from bitterness. Water frequently.

Mulching.

Don't forget to stir the surface of the soil about the plants very frequently—and *always* shortly after rain—to keep up a dust mulch and so conserve the moisture about the roots. Also grass clippings, or other loose material may be drawn over the soil about shrubs, currant bushes etc.

The Windrow

All over the United States school teachers are forming trade unions characterized under the American Federation of Teachers, of which Charles B. Stillman, of Chicago, is president. The teachers' unions are affiliated with the American Federation of Labor and the National Woman's Trade Union League, and they are demanding fair working conditions and fair salaries for teachers.

Dr. Frederick G. Cottrell of Washington D.C., in experiments aiming to do away with the smoke nuisance, has discovered a process which not only prevents smoke from being an annoyance but saves large quantities of copper and gold hitherto lost through the chimneys of great smelters. Also the great stretches of vegetation hitherto destroyed about smelting plants can now be reclaimed, the poisonous gases being turned into sulphuric acid, sulphur, etc. Dr. Cottrell has presented to the Smithsonian Institute at Washington all his valuable patents, the only proviso being that any



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proviso being that any

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FERTILIZERS FOR FALL WHEAT Sydney Basic Slag is, undoubtedly, the best value obtainable. Don't take our word for it. Don't take the word of those interested in the sale of other goods.

profits arising from the practical application of his inventions shall go to the up-building of a fund to aid in the advancement of scientific research.

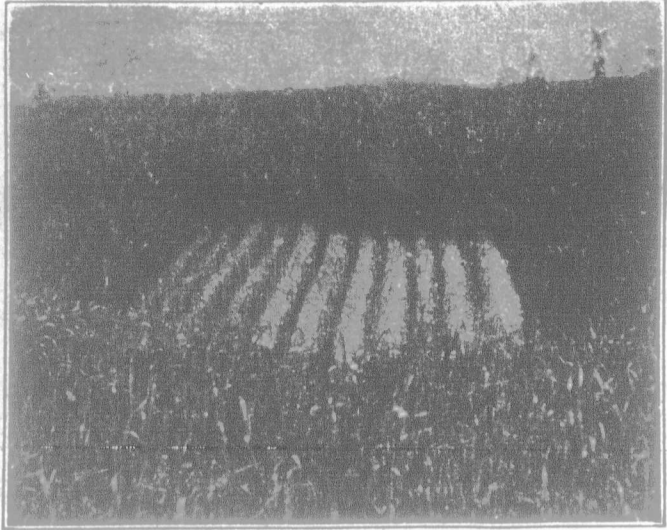
Our Serial Story. The Forging of the Pikes. A Romance Based on the Rebellion of 1837. Serial rights secured by The Farmer's Advocate and Home Magazine.

ALAN'S narrative closes abruptly with the last words of the last chapter here given. If he wrote more, the manuscript, without doubt, has been long since lost.

Stifel's Indigo Cloth Standard for over 75 years OVERALLS—when you buy them get your money's worth! Men, ask for Overalls made of Stifel's Indigo Cloth.

ALMA LADIES' COLLEGE Canada's National Residential School for Girls combines all the advantages of health, culture, and practical and aesthetic training.

But let that go, too. At all events here I am. I don't blame you, Alan, for not staying with us. I know your views, and that the British connection means much to you.



No fertilizer where machine clogged. Very poor wheat stand and grass catch.

What it profits a man

to fertilize his crop. Take, for instance, the experience of Indiana Experiment Station. Through judicious use, fertilizers (average for a period of 27 years) increased the yield of wheat 12.9 bus. per acre. At Rothamsted, England (61 yr. average) 18.4 bus. per acre increase and at Ohio (20 yr. average) 13.5 bus. per acre.

The picture above shows a Southwestern Ontario fertilized winter wheat field, where the fertilizer-feeding attachment clogged and did not drop any fertilizer. Fertilizers strengthened this crop to withstand the rigours of winter, and supplied necessary plantfood, enabling it to grow ahead of the unfertilized wheat and escape the Hessian Fly.

Not total acreage but yield per acre is what counts.

Fertilizers on winter wheat provide readily available plantfood, which strengthens the wheat to withstand winter weather, starts it strong in the spring and makes it go "over the top" with a substantially increased yield per acre over unfertilized wheat.

Wheat fertilization is good crop Insurance

Booklet on Wheat Production mailed on request.

The Soil and Crop Improvement Bureau

of the Canadian Fertilizer Association

1111 Temple Building - Toronto 31

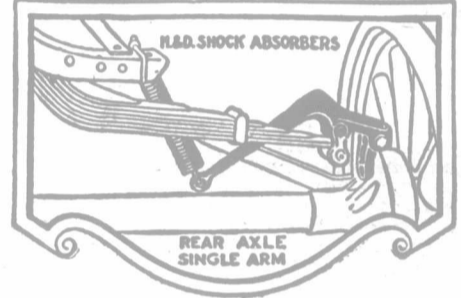
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THE EFFECT of putting a set of these exclusive FORD Shock Absorbers on your car will be wonderful in the easy-cushioned riding you will enjoy thereafter.

The cantilever construction used in H & D's is a patented feature and cannot be found in any other. Because of this exclusive principle, H & D Shock Absorbers—instead of putting an additional strain on the Ford springs—relieve them and prevent spring breakage.



They do away with bumps, jolts, sidesway and rebounds, saving frame, engine, springs and tires. Easily attached—no holes to bore.

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If your dealer cannot supply you, write us direct.

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CANADIAN COMPANY, LTD
LONDON, ONTARIO.

Guarantee
If, after 30 days' use, you are not entirely satisfied with H & D Shock Absorbers, take them off and get your money back.

By the way, through The Master I've met several men who are very interesting. I suppose the people over there look on Van Renssalaer as a desperate brigand. He strikes me as a pretty fine fellow and a gentleman, as does Von Shultz. I don't suppose you've heard of him, but he's bound to come up some day. He's a Pole, with Kosciuszko's own fire in his soul. I like him very much.

For the present I am working, as the folk at home have already informed the settlement—bless its heart!—I'd like to drop in upon it one of these days, but—well, when a fellow has made his bed he must lie in it, I suppose.

We were very glad to hear that Doctor Morrison got off.—By the skin of his teeth, wasn't it? We hear a very joyful crowd escorted him to his house after the trial. Rolph I have seen several times. He seems to be establishing himself in this place. Mackenzie, we hear, is here and there, very busy as he always was, but we have seen very little of him personally.

Still we grieve for Lount and Matthews. But they died as the greatest heroes always have died, for liberty for others. Alan, doesn't life all seem to be like a shuffle of dice? One man throws and down come death and disaster; another throws with the self-same shaker, and down come fortune and renown; while the rest get a little of this and that and not much of anything.

Write soon, old duffer, and tell me all about yourself and the settlement.—And say, take Dimple out in my canoe sometimes, will you? I flatter myself that she misses me, and you can help to put in the time for her if you will.

"As ever,
HANK."

The second letter was dated from Oswego, on the 25th of December, 1838.

"Dear Allan:
As you will see by the super-

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CATALOGUE
of
Automobile
Accessories
No. 2

Samuel Trees & Co.
42 Wellington Street East
TORONTO

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WRITE
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TO-DAY

This is the most complete Auto Accessory Book that has yet been published exclusively for farmers. We will send it with our compliments if you will ask for it. Farmers need tires that are tough enough to withstand the rough country roads. There are too many breakdowns along the highways, due to poor tires. Sensible farmers will get the best all-round tire made—the Partridge Tire. Partridge Tires reduce those exasperating road troubles to a minimum. Standard prices and super-standard quality. Ask your dealer. Write for Catalog.

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Imperial Brand Harness is guaranteed. Our fifty years' experience is back of every set. SPECIAL.—Light buggy harness, rawhide lined, track style. Shaft wrap belly band; beaded lines; track blinds; traces double and stitched throughout; genuine hard rubber or near gold trimmings. A dandy harness for the price—only \$37. Ask your dealer for it.

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FOR YOUR CHICKEN COOP
As a disinfectant, PURALIME should be sprinkled freely on the drop-boards, roost, nest-boxes and in all cracks and crevices in your chicken coop. It will keep all disease away from your poultry, and helps growing stock. It is the cheapest Health Insurance. At your dealer's, or mail 25c in money or stamps, and a large sample package will be mailed direct to you.

Acco Chemical Co., Limited, 23 River St., Toronto

When writing please mention Advocate.

though you cannot immediately give me yours.

Of course you will have heard from the folk that I am safe. I have not yet, however, written to them all the things, in detail, that I shall now relate to you.

"You have probably heard that I was one of the ill-fated party which went over about the middle of November to Prescott.—Indeed there seems to have been nothing but ill-fate for the spirit of Liberty in all this undertaking—first Montgomery's, and then the rout from Navy Island, and now this last fiasco at The Windmill.—But the day will come, Alan, when there will be a different light on all this. —You remember what old John Montgomery said in the court-house at Toronto, last spring, when he was condemned to death. If reported aright in the papers here he said to the judge, after protesting before the whole crowd that he had not had a fair trial, 'When you, sir, and the jury, and all those who take part in my sentence shall have died and perished in hell's flames, John Montgomery will yet be living on Yonge Street!' I don't know how the old fellow got on the inside track there, since, they say, he is to-day hale and hearty, having had his sentence commuted next day, but I'm right glad he missed the gallows since, had I had anything to do with the sentence I'd have popped it on Linfoot for failing to give us enough grub when we were at Montgomery's.—But I am bolting. . . . To return to my subject, like old John I turn prophet and say this: That when the whole of the Family Compact are rotting in their tombs it will be said that the 'rebels' whom they drove into banishment and executed fought only for the rights that any man should have. I know Alan, that you think we fellows who kept on are all wrong. As for me I care not a hair under what Government or State Canada lies, so long as the people within her borders are free and happy. It was because the

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From Birth to Finished Pork

TO raise hogs from birth to finished pork in the least possible time at the least possible expense, this is the aim of the farmer who would make the most money from his hogs.

Bran and shorts are expensive feeds, they contain too great a percentage of hulls and other fibre.

The ideal feed for hogs of all ages is



Milk Hog Feed

It is guaranteed to contain Canadian peas, No. 1 Argentine Maize, No. 2 American Corn, Fine Thirds, fifteen per cent. Powdered Milk, and an imported high protein food that is superior to tankage.

This can be used with absolute safety from birth to finished pork.

The price is \$4.25 per cwt., freight paid on five bag lots to your nearest railroad station in Ontario. On 100 lb. lots, sent by express, 50 cents extra.

Sold by all first class dealers, or by the manufacturers direct.

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DUNDAS - ONTARIO

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THE CALDWELL FEED AND CEREAL COMPANY, LIMITED

64

many years, regretting his part in the later phases of his Rebellion, he returned to Canada and once more became a familiar figure on the streets of Toronto. Perhaps it says much both for him and for the country that in 1851 he was once more returned to Parliament. In 1861 he died at the age of sixty-six, and, by a curious ending to the stirring sequence of events that had marked his life, was buried, in the Necropolis at Toronto, close to the spot to which had been removed, from the Potter's Field, the bones of Lount and Matthews, at which removal, indeed, he himself had been present.

The generous Rolph, too, in time returned to Canada where, for a time, he served as Commissioner of Crown Lands, but always he will be best remembered as founder of the Medical School in Toronto. In October, 1870, he, too, died, at the ripe old age of seventy-eight, at his son-in-law's house at Mitchell, Ontario.

But why follow out here the tale of the last days of those leaders, whether Tory or Reformer, of whom glimpses have been given in Alan's story? Those who wish to read the history of their lives may find it, writ clear and large, in the annals of Canada.

Whether pawns or kings in the great game of life, they played their part, did well, made mistakes and were perhaps sorry for it. Judgment, looking back through the mellowing of the years, may at last see them as they were, and so they stand in their place, as every man must at last stand.
The End.

Current Events

Rains have practically stopped the disastrous forest fires that have been raging in parts of Northern Ontario and Northern Michigan.

The big dirigible R-34, which left East Fortune, near Edinburgh, Scotland, on July 2nd on a non-stop flight across the Atlantic to America, under command of Major G. H. Scott, arrived safely at Mineola, Long Island, on the morning of July 6th, having completed the long flight of 3,600 miles (land miles) in a few minutes over 108 hours. The big airship brought over 30 persons, one of whom was a stowaway, and a tortoise shell cat.

The Marks of a Thoroughbred

The farmer knows the "points" of good binder twine just as he knows the "points" of his pure-bred stock. The four Maple Leaf brands are the thoroughbreds of all binder twines.

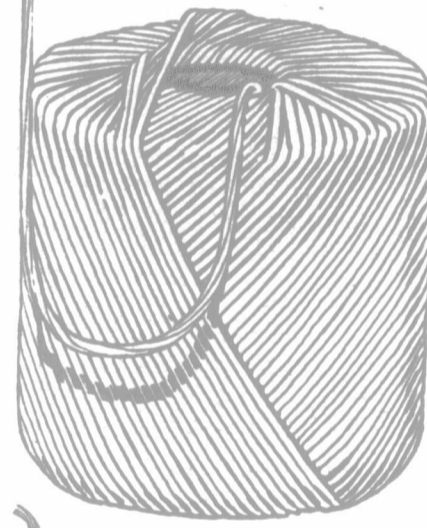
Brantford Binder Twines are standards from which all other twines are judged.

Compare them with any other. Notice their "points".

Uniformity, evenness, length,
Smoothness, firmness, strength,
No thick or thin places,
No fuzzy, bunched knots,
Perfectly spun and uniformly twisted,
A clean glazed surface.

BRANTFORD Binder Twines

have a pedigree. They come from the longest, cleanest, best fibres, prepared by special methods.



The quality of our twines is assured by rigid and careful inspection in our factory.

We have our own special mechanical devices for perfecting their quality.

They are smooth, clean, long and strong.

Every inch of the Brantford Binder Twines is tested in the factory. We submit them to a special preserving treatment to make them insect proof. Every ball is guaranteed as to length, strength, and quality.

The Maple Leaf Brands

Gilt Edge—650 Feet

Gold Leaf—600 Feet

Silver Leaf—550 Feet

Maple Leaf—500 Feet

THE BRANTFORD CORDAGE CO. LIMITED

Western Branch
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Brantford, Ontario

3

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

The ex-Kaiser is to be put on trial in London. German officers charged with ordering atrocities will also be put on trial.

A new Council, of five, is assuming the direction of the Peace Conference. The Big Five are: Foreign Minister Balfour, Secretary Lansing, M. Pichon, Italian Foreign Minister Tittoni, and Baron Makino, head of the Japanese delegation.

The whole United States went dry, so far as the stronger liquors are concerned, on July 1. Owing to the fact that as yet the law does not state explicitly what intoxicating liquors are, beer and light wines are still being sold in the Eastern districts.

Four of the German provinces, headed by Hesse-Darmstadt, have decided to cut loose from Prussia, hold elections, and elect their own President.

In Southern Russia the campaign against the Bolsheviki progresses. The Cossacks under General Denikin, equipped with British guns and whippet tanks, are rapidly regaining the ground taken by the Bolsheviki, and have now access to the eastern Black Sea ports.

Prof. Francesco Nitti of the University of Naples, becomes Premier of Italy in place of Orlando. He is well known as an economist and social reformer.

The Conference Managers for the Senate and House of Commons have failed to come to an agreement on the prohibition issue, and the matter may have to be settled in the courts.

Terms of Peace Treaty.

The principal items that Germany agrees to under the terms of the Treaty are thus summarized by the New York World:

Relinquishment of Alsace-Lorraine to France, Posen and West Prussia to Poland, of part of Schleswig to Denmark, and of 382 square miles of Rhenish Prussia to Belgium.

The Sarre coal-basin to be internationalized for fifteen years, pending a plebiscite to determine permanent control, the coal mines going to France.

Luxemburg is freed from the German customs union.

Germany recognizes the independence of German Austria, Poland and Czechoslovakia.

Germany loses all colonies and her valuable concessions in Europe, Asia



Capt. T. Robson Frank Taylor
C. W. Robinson Thos. Brown Auctioneers

DISPERSION SALE OF 50 Scotch and Scotch-Topped Shorthorns

Wednesday, July 23rd, 1919, Seaforth, Ont.

I have recently purchased the entire herd of Shorthorns of A. R. McLachlan Renfrew, Ont., and must sell, as I have no way of wintering them.

Believe this offering is one of the strongest lot of breeding cows placed for your appraisal in a long time—25 cows with calves at foot, balance well along in calf, and all have great substance and are in breeding form.

In the sale are Nonpariels, Matchless, Wedding Gifts and Crimson Flowers, and a remarkable lot of grand Scotch-Topped cows, with color and form for the most discriminating buyer, with size and substance as well. We know they will please.

Come to the sale, and write for catalogue to

Terms of Sale: Cash, or 6 months with 6% per annum added.
Sale will be held in town of Seaforth. Trains (London, Huron and Bruce) will be met at Brucefield.

J. J. MERNER, M.P., Seaforth, Ontario

and Africa, and recognizes the British protectorate of Egypt.

The German Army is to be cut to a temporary total strength of 200,000 men, but ultimately must be 100,000.

The German Navy is limited to six battle-ships under 10,000 tons each, six light cruisers, and twelve torpedo-boats, surrendering or destroying all other war-vessels. She is to have no more submarines. The navy personnel is limited to 25,000.

Military and naval air forces are abolished.

Munition factories are to be operated only by permission of the Allies, and import or export of war materials is forbidden.

Helgoland defenses will be dismantled. Fortifications aiming at control of the Baltic are forbidden.

The Rhine and the Moselle are put under the control of an international commission, on which Germany will be represented. The French, Belgians, and other nations may run canals from the Rhine, but Germany is forbidden to do so. German forts within thirty-three miles of the river will be dismantled.

Other great rivers, hitherto German, will be under international control, the Czecho-Slovaks and Poles having free access to the Elbe, Oder and other streams, and the Poles to the Niemen.

The Danube will be controlled by an international commission. The Kiel Canal will be open to all nations, and the Czechs get harbor rights at the mouth of the Elbe.

German railroads must be of standard gage, and rights are granted to other Powers to use them. Traffic discriminations against outsiders are forbidden.

Offenders against the rules of warfare and humanity are to be delivered up to the Allies. An international high court is provided for trial of the Kaiser, whose surrender will be asked of Holland.

Germany's indemnity payment is to be fixed by an Interallied Commission. An initial payment of \$5,000,000,000 must be made within two years. Bonds running thirty years will be issued for later payments. Occupation of the Rhine country will continue until the Allies are assured of Germany's good faith.

Germany must help build ships to replace those she sank, help rebuild devastated regions, surrender her fourteen submarine cables, and cede all German ships over 1,600 tons and many smaller ones.

She accepts the League of Nations' principle, but is barred from membership for the present.

Her peace treaties with Russia and Roumania are abrogated, and she recognizes the independence of states formerly Russian.

"It is an inspiring fact filled with promise for the future that once more England and America—mother and daughter—sit hand in hand in the great council chamber of the nations. May we never part again, but in perfect sympathy work together for the peace and progress of the world."—Claude H. Van Tyne, University of Michigan.

Canada's Victory Celebration to be opened by H.R.H. The Prince of Wales

Aug. 23rd **Exhibition Toronto** Sept. 6th

Incomparable Programme Eclipsing all Previous Triumphs.

Buyers of pure-bred stock will attend the Exhibition in greater numbers than ever before.

Mr. Exhibitor, it will pay you big to be here.

Entries Close August 11th.

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A vast new land of promise and freedom now open for settlement to returned soldiers and sailors free; to others, 18 years and over, 50 cents per acre.

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

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

H. A. MACDONELL, Director of Colonization, Parliament Buildings, Toronto.
G. H. FERGUSON, Minister of Lands, Forests and Mines.

KILLS ALL INSECTS

Send 25c. and we will mail you 1/2 lb. package of Acco Spray Powder. The best potato bug and insect killer on the market. "Government Tested". You want it for your garden, or to save your roses and house plants from the insects. Sold by your dealer, or direct from ACCO CHEMICAL CO., Limited, 23 River St. Toronto

Flowers Where We Eat.

THOSE of you who have read "Barbara's" delightful story, "The Garden of a Commuter's Wife," will remember her saying that on the dining-table at which she and the commuter and the dear old doctor—her father—sat three times a day, the flowers were changed three times a day. Sometimes for breakfast just a single morning glory graced the centre of the table; at noon there might be nasturtiums, and in the evening a rose.

I remember thinking, as I read that—as you, probably, also did—what a pretty custom it was.

These are very busy days, and yet it does not take long to gather a flower or two—if one has them in the garden—and put them in a suitable holder. If one has not time to change them for every meal, then they may be left for the three meals, or even two or three days. Better that than not at all, for even the men

soon learn to miss the centre flower-piece if it is omitted.

"Even" the men?—I should not have said that, for I believe that men are just as fond of flowers as women. One in particular, I remember, who used to go about in the garden every morning before breakfast to see "if there were any new morning-glories out." He was a farmer too, and busy as the proverbial farmer.

If one has no flowers in the garden, perhaps the children may be prevailed upon to bring in some from the fields, and may be given a lesson in good taste when arranging the flowers in holders. . . . Or if there are no children a Sunday tramp may result in bringing home enough to do the whole week.

Kate Douglas Wiggin, who wrote "Rebecca of Sunnybrook Farm," and many other delightful books, once went to the trouble of making a little guide for twenty wild-flower combinations for farm house dining-tables. Here it is,—for I am giving it to you just as she wrote it, although part of the summer has already gone.

"A saucer of the very first dandelions, just as a spring surprise.

"A tall glass of purple 'flags' or one of the gentians.

"Mayflowers or anemones, or a plate of partridge berries and their leaves.

"A few apple blossoms from some

heavily laden tree that bears poor fruit. "Field daisies; sometimes with grasses, sometimes with buttercups.

"Long-stemmed purple clover.

"Ferns of any sort.

"A bowl of wild roses.

"'Butter and eggs' in a yellow vase.

"Vase of pink or white wild spirea.

"Wild clematis. Let it droop from the vase on to the table.

"A low glass dish filled with pond lilies.

"A bowl of tiger lilies, day lilies or red lilies. One kind or another is generally to be found growing near some deserted house or by the roadside.

"Goldenrod and Queen Anne's lace (wild carrot).

"A glass bowl of goldenrod with little branches of red chokecherries.

"Black-Eyed Susans.

"A low bowl of scarlet bunchberries.

"Pink hardhack.

"Goldenrod and brown autumn leaves.

"Red and yellow autumn leaves.

"A branch of bright-cheeked crab-apples, laid flat in the centre of the table.

"Arrangements of flat hemlock or juniper branches, sometimes with the addition of little pine cones. This is for the holidays. For Christmas morning you can have a tiny tree, twelve or fourteen inches high, and decorate it as you please."

So much for the "guide," and then she adds the following warning and suggestion:

"Never use any decoration of plush or silk or ribbon on a plainly furnished table or a coarse tablecloth.

"Never make your centre bouquet tall enough to conceal from each other the faces of the persons opposite.

"Never pack flowers tightly in a vase or fill it too full.

"Never allow a faded flower on the table.

"Do not use one vase or one kind of flowers until the family is tired of the sight of them. Variety is the spice of life.

"If you ever do find a soiled cloth on your dining-table don't shame the flowers, but put them aside for the next meal.

"There is another thing you can do—no, it's not at all impossible, it's simply unusual: Your mother or your one tired maid-of-all-work will wash the tablecloth oftener if you agree to iron it, smoothly and beautifully."

Recently a large number of high-quality stock have been exported from Great Britain to various countries.

Among the Canadian breeders in Great Britain at the present time, buying up stock, are D. E. McEwen, a son of Col. McEwen, of Byron; W. A. Dryden, of Brooklin; and J. Patrick, of Ilderton.

It is the intention of these breeders to bring over a number of choice representatives of their favorite breeds.

"I would rather a man shot me with a rifle and let out my blood upon the Arctic snows than that he should blast my reputation and destroy my ability to make my ideals effective in the world."

—Upton Sinclair.

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He is well known as
social reformer.

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**THE
MOLSONS
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Established 1855
Capital and Reserve, \$3,800,000.
Over 100 Branches

The Molsons Bank is an important factor in Canada's business prosperity. It is supplying many industries and many farmers with adequate banking facilities, thus enabling the developing of their business.

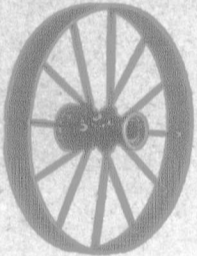
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Cream Wanted

Ship your cream to us. We pay all express charges. We supply cans. We remit daily. We guarantee highest market price.

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LONDON ONTARIO

**FARMERS! "COOKE" WIDE-TIRED
Save Money on STEEL WHEELS**



For the month of July we will prepay freight, without additional charge, on all wheel orders to be shipped to points in Old Ontario and Western Quebec. Send to-day for illustrated circular and price list describing our Steel Wheels, also free chart showing how to take measurements correctly. "COOKE" wheels are giving satisfaction all over Canada. They are made to fit any axle or skoin.

The cost is small, and the labor-saving qualities are unexcelled.
THE COOKE METAL WHEEL COMPANY
19 West St., Orillia, Ont.

**Horse Owners! Use
GOMBAULT'S
Caustic
Balsam**

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. **SUPPRESSES ALL CAUTERY OR FIRING. Impossible to produce scurf or blisters.** Every bottle sold is warranted to give satisfaction. Price \$1.75 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.
The Lawrence-Williams Co., Toronto, Ont.

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Interest Rates and Tax Exempt Bonds.

During the latter part of the Budget debate, Sir Thomas White, Minister of Finance, took occasion to reply to some of the criticisms offered of the Government war financing, and dealt particularly with criticisms that the Government had offered interest rates that were too high when calling for domestic loans and the further criticism that these bonds should not have been exempt from taxation. With regard to the former, the Minister of Finance said that before the war American securities sold on a one and a half and two per cent. basis, and that in Great Britain securities were sold on three and a quarter or a three and a half per cent. basis. Recently the British Chancellor of the Exchequer has been subjected to serious criticism because he is putting out a fifty-year five billion dollar loan at five per cent. "It is right," said Sir Thomas, "to face your interest rates and get your money. In the United States interest rates have gone up from a basis of less than two per cent. to four and a quarter per cent. Is it fair to compare this with a country that never borrowed or was not able to borrow five million dollars within its own borders with the great opulent United States which experienced two and a half years of the most unexampled prosperity before it entered the war, and then to compare our rate of interest at the end of the war with the rate of interest that that great nation is paying? If the United States had been in the war for four years and had raised proportionately the money that this country has raised in proportion to her wealth, which is at least twenty-five and I think more times as great as that of Canada, the United States debt to-day instead of twenty-five billion dollars would have been fifty, sixty or seventy billion dollars at least. If there is any criticism coming to the Government for its financing during the war, that criticism is due to the fact that we participated to the extent that we did in the war and for no other sound reason."

With regard to tax exempt bonds, the Minister called attention to the fact that United States securities during the war were tax exempt. "The State and Municipal securities of the United States were tax exempt," said Sir Thomas. "I had an estimate made up some time last fall which shows that some thirteen billion dollars of American securities to some degree, at least, were exempt. Now I say this: a sharply graded income tax is to a certain extent inconsistent with tax exemption. When you put out tax exempt issues you justify it on two grounds in war time; no one would ever think of putting it out in ordinary times. In the first place, your rates of interest are going up and you have to offer special inducements to the people of the country in order to get the greatest possible return. Now it is easy to say "you should not have made your bonds tax exempt." I want to say to the House, and I think I know because I discussed this question with financial institutions and with other people who know the investment situation very well, that if the last Victory Loan issue had not been tax exempt we should not have obtained anything like the amount of money we did obtain, or we should have had to pay a much higher rate of interest, and I will show you how that works out.

"In the United States a tax exempt bond will sell on a 1 per cent. interest basis lower than a taxable bond. Supposing we had paid 6 per cent. instead of 5½ per cent. last year, supposing we had paid only one-half of one per cent. more during the war, how much would we have to pay in annual interest on \$1,500,000,000? About \$7,000,000 or \$8,000,000. Now, it may be that it would have been worth while to pay that in order not to have any discontent by reason of the fact that parties can buy tax exempt bonds and get certain exemption from income taxation in respect of them. But from the purely financial standpoint I have not any hesitation in saying that if you regard what you would have had to pay in additional interest, and take that excess amount of interest and apply it on the whole volume of your securities outstanding so far as our national Budgets are concerned they will be in a better position than they would be if the bonds had been floated at a higher rate of interest and subject to taxation."

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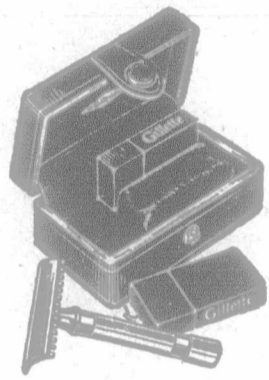
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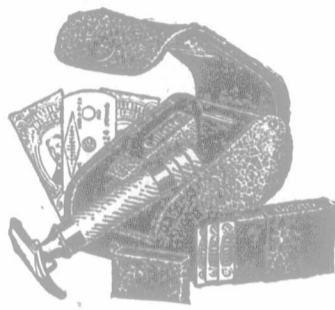
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Adjusting of Walking Plows.

The three general types are the sod, stubble, and the general-purpose, which is also called the turf-and-stubble. Modifications of these general types are made by all plow manufacturers and the farmer should be able to find just the type suited to his special conditions. The sod bottom is used for breaking tough sod, the general-purpose bottom is used for the lighter sods and where the soil is loose and more friable. The stubble bottom is the most effective pulverizer and is used in the heavier soils and whenever pulverizing qualities are desired.

There are some adjustments on the walking plow that should be familiar to every farmer who aspires to be a good plowman. A properly-adjusted plow should swing along free and easy without any great effort on the part of the plow-

man. The frog is the foundation of framework to which the other parts are attached. The share is the cutting edge. The landside is the part that receives the side pressure of the plow against the furrow wall. The moldboard turns and pulverizes the furrow slice. That part of the moldboard which receives the hardest wear, or the lower forward corner is called the shin.

The point of the share is turned down so that the plow will go into the ground and stay there. This is termed the suction of the share. The amount of suction is measured by laying a straight edge from the heels of the landside to the point of the share and noting the greatest distance between the straight edge and the share. The amount of suction will vary from practically nothing to three-eighths of an inch. Light and moist soil do not require much suction, while heavy, dry soils require a great deal to keep the plow in the ground.

The heel of the share is turned up so as to present some bearing surface at this point. This is termed the wing of the share. The amount of wing is measured by laying a straight edge from the heel of landside to the heel of share and measuring the distance that the straight edge touches the share. This measurement will vary from practically nothing to one and one-half inches. Light, moist soils require much wing and hard dry soils none. If too much wing is provided for any particular condition the plow will wing over toward the unplowed land; if too little wing, the plow will lean the other way.

The measurements for suction and wing should vary not only for the different soils, but for different moisture conditions of the same soil. A farmer may notice that a plow which did splendid work in the spring has a tendency to run out of the ground and wing over to the unplowed ground when used late in the

summer or early fall. This is due to the fact that the soil contained more moisture in the spring and the amount of suction and wing were correct for that condition, but were not correct for the dry soil later. When a plowman needs to exert himself to any extent to keep the plow running level and at the proper depth, both the man and team are doing unnecessary labor in addition to a poorer quality of work.

If the plow bottom is made of soft-centre steel, it should be taken to the blacksmith to be adjusted for wing and suction. Plow shares must be kept sharp and it will be best to take the entire plow bottom to the blacksmith so that he may know just how much suction and wing is being given the share when sharpening it. In case a wooden-beam chilled plow is being used and it wings over to either side, the beam should be moved over toward the unplowed land if the plow leans that way and toward the plowed land if the plow leans in that direction. The castings by which the beam is attached to the plow are slotted to permit of this adjustment.

After hitching to the plow, have the horse step up so as to take the slack out of the traces, then stand to one side of the plow, and note whether or not there is a direct straight line from the point of attachment at the hames to the shin of the plow. If the line is broken, the proper adjustments should be made at the hitch. The traces should be removed from the hip straps, as these throw the traces out of line if they are too short. Care should also be taken to see that the traces are of the right length. Long traces will cause the plow to run deep and short traces will tend to lift the plow out of the ground. Proper doubletrees should also be used as heavy wagon doubletrees cause the plow to handle badly.

Adjustments of Sulky and Gang Plows.

The word "sulky" is generally used where a riding plow carries but one bottom and the term "gang" plow is applied where the plow is supplied with more than one. Sulky and gang plows differ from walking plows in that every effort is made to convert the sliding friction of the landside and share in the walking plows into the rolling friction of the wheels turning on their axles in the sulky plow. A standard sulky or gang plow should be provided with a number of adjustments such as are discussed below, by means of which the sliding friction can be reduced to a minimum, regardless of the conditions under which the plow may be working. If through carelessness, a sulky plow is so adjusted that the weight of the operator, the plow frame, and the furrow slice are carried by the share and landside the draft may easily be one-fourth more than it would be if the plow was properly adjusted.

It is very essential that the bottom of a sulky plow has suction. The suction is measured in sulky plows by lowering the bottom and adjusting the levers so that both the point and the heel of share rest on a flat surface. The distance from the heel of landside to this surface is the amount of suction. In some makes of plows the suction is changed by raising or lowering the rear end of the frame by means of a collar on the upright extension of the rear axle. In others a slotted connection between the bails and the plow frame is provided. Other devices are found on different makes of plows, as every standard plow has some provision for making this adjustment. It is well to add in this connection that a scraper should be provided for the rear wheel, for if the dirt is permitted to accumulate on the rim it will increase the suction of the plow by raising the rear end and thus cause heavier draft. The amount of suction will vary for different soil conditions, or for different conditions of the same soil, and it will usually approximate one-half inch. Either too much or too little suction will increase the draft of the plow. When plowing the plow bottom should swing freely without the heel of the landside touching the bottom of the furrow. It is not necessary to provide any wing to the share to keep a sulky plow level, as a lever is provided which must be used for this purpose.

The furrow slice, as it is being turned over, presses heavily against the moldboard, the amount of pressure depending upon the soil and its conditions. This pressure would cause the landside to rub heavily against the furrow wall if provision

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were not made to prevent it. The rear furrow wheel is set outside the line of the landside, or toward the unplowed land, so as to hold the landside away from the furrow wall. The amount that the wheel is set over will depend upon conditions. It must be set over a sufficient amount to prevent the landside from rubbing against the furrow wall, and it may be necessary to set the wheel over one and one-half inches to accomplish this. The device for making this adjustment is usually found in the brackets by which the rear axle is attached to the frame.

The pressure of the furrow slice against the moldboard tends to push the rear end of the plow around towards the unplowed land and the front end away from it. This gives the plow a tendency not to follow the team as a wagon would, and is spoken of as a side draft. As an aid in overcoming this side draft, the rear furrow wheel is usually given a little lead away from the unplowed land, or putting it another way, the wheel runs at an angle to the furrow wall, the front end of the wheel being farther away from the furrow wall than the rear end. If there is still much side draft, which may be determined, among other ways, by noting whether the land wheel runs straight ahead or whether it tends to slide sideways, it may be necessary to increase the lead of the rear wheel and give the front furrow wheel some lead toward the unplowed land. It should be understood that these adjustments tend to overcome, but do not eliminate side draft. It must also be noted that the draft of the plow will be increased if the furrow wheels are given the leads indicated. They should, therefore, be kept running straight ahead whenever possible. The lead of the rear wheel is generally adjusted by shortening or lengthening the controlling rod. This controlling rod should be so attached to the pole that the in and out movements of the front furrow wheel do not affect the movements of the rear wheel unless a corner is being turned. The lead of the front wheel may be controlled either by means of a landing lever or the slotted adjustment at the pole plate.

It is possible on most plows to change the width of the furrow by setting the front furrow wheel in or out on the axle or by setting both the wheel and the axle in or out by means of adjusting devices found on the frame where these parts attach.

Careful attention should be given to the hitch of sulky plows. If the hitch is too low the team will lift up on the beam, thus taking some of the weight off of the front furrow wheel. Under these conditions the wheel will not run in the corner of the furrow wall and a crooked furrow will result. On the other hand, a high hitch will put too much weight on the front furrow wheel, causing the wheel to run away from the unplowed land and the plow will develop side draft. This also results in rapid wearing of the share points and an uneven furrow bottom. It is evident, too, that the draft of the plow will be increased with a high hitch. It will be necessary to hitch higher when the traces are short than when they are long. The traces should be just long enough so that they will not pull up on the beam. Traces of this length will also permit the horses to turn the corners better. The height of hitch is right if there is a direct line from the point of attachment at the hames through the clevis to the shin, when the horses are pulling the plow.

Plow Accessories.

Different types of coulter are provided for plows. The rolling coulter is used most. It should be set over at least one-half inch toward the unplowed land. It should be one-half inch above the share. Do not set the coulter too far forward when plowing hard ground, for it will tend to carry the plow out of the ground. Set it well forward and down for stony ground. When cutting trash and corn stalks the coulter should be well set back so as to cut the trash between the coulter and shin of the plow.

The jointer is especially desirable when plowing sod lands. This little miniature plow will cut out a narrow strip of sod and turn it over in the bottom of the furrow. A field that has been plowed with a plow equipped with a jointer will not have so many chunks of growing sods. Weeds and trash are also effectively buried by using the jointer. Do not set the jointer to cut deeper than one and

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We are offering several very choice young bulls of the best breeding. Will be priced to interest prospective purchasers. Inspection invited.

LARKIN FARMS

QUEENSTON

ONTARIO

Heaves CURED

—by removing the cause—and cured to stay cured—if 3 boxes of Fleming's Tonic Heave Remedy fail to effect a cure of any case, old or new, we will refund the full amount paid.

Per Box, \$1.00; 3 for \$2.50 Mailed on receipt of Price.

Scratches Disappeared
Gentlemen—I gave a course of your Tonic Powders, which has put a horse and his mate in fine shape, and a touch of scratches has quite disappeared. Geo. A. Miles, Orville, Alta.

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

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

The Only Breed

which can furnish both market topping steers and cows which are profitable milk producers, is the Shorthorn.

More pounds of beef, more milk, more profits.

Write the Secretary for free publications.

Dominion Shorthorn Breeders' Association

W. A. DRYDEN, President
Brooklin, Ont.

G. E. DAY, Secretary
Box 285,
Guelph, Ont.

Shorthorns

ANTICIPATION

will be greater than REALIZATION if you are not using a Good Shorthorn Bull

I have a few imported ones ready for service, as well as several of my own breeding. The price is not high.

WILL A. DRYDEN
Maple Shade Farm Brooklin, Ont.

English Dual-Purpose Shorthorns

For sale: Bull calves and young bulls. English bred for milk and beef. The right kind to head Canadian herds to increase profits. From very moderate prices and up. English Large, Black Pigs. A great bacon type, long and deep, thrifty. Come or write.

LYNNORE STOCK FARM
F. Wallace Cockshutt
Brantford - Ontario

Mardella Shorthorns

Herd headed by the Duke, the great, massive 4-year-old sire, whose dam has 13,599 lbs. of milk and 474 lbs. of butter-fat in the R.O.P. test. I have at present two exceptionally good, young bulls ready for service, and others younger, as well as females all ages. Some are full of Scotch breeding, and all are priced to sell. Write or call.

Thos. Graham Port Perry, Ontario
R. R. No. 5

I HAVE FOUR CHOICE SHORTHORN BULLS

All are of serviceable age and from good milking dams. They are sired by my former Wedding Gift herd sire which was a son of Broadhooks Prince. Also have younger calves by present herd sire Primrose Duke, as well as females bred to him. Inquiry invited. Write me also for anything in Tamworths.

A. A. COLWILL (Farm adjoining Village, Bell phone.) Newcastle, Ont.

Butterfly King the 19th

A Dual-purpose Shorthorn bull sired by Butterfly King (Imp.). Each have eight or nine daughters in the R.O.P. His dam won the dairy test at Guelph two years in succession. He is the only bull in Canada whose sire is also in the R.O.P. He is large, sure, and active. For sale, to avoid inbreeding.

G. A. JACKSON, Downsview, Ont.

one-half inches unless the ground should be very rough.

Gauge wheels are used with walking plows to regulate the depth of plowing. Always set them to run parallel with the furrow. The use of these wheels will increase the life of the shares and make the work easier for both the team and the plowman. It is advisable to use them in soft ground. They are generally put on a plow when a jointer is being used.

The Disk Plow.

The disk plow has been used where it is necessary to plow the ground when it is sticky or when it is very hard and dry. It is of the utmost importance that the disk plow be provided with a very strong frame and with substantial bearings. Plenty of clearance is also desirable, especially when plowing under high weeds and trash. Comparatively few plows are made strong enough to stand up when plowing in the hard, dry ground. The scrapers on a disk plow perform much the same function as a moldboard does on a moldboard plow. Ample adjustments should be provided for the scrapers so that it will be possible to adjust them to do the best possible work. A number of disk plows are so made that it is possible to add more disks so that one or more disks may be used. Better work is done by a disk plow when the width of furrow being cut is not over 10 inches.

Why is Home-Grown Clover Seed Best?


The Dominion Experimental Farms' system has for years advocated the use of Canadian-grown red clover seed on the ground that heavier and more reliable crops may be expected from the home-grown seed than from seed imported from some other country.

The superiority of Canadian-grown red clover seed has been demonstrated over and over again and, as a result, many progressive farmers prefer it to any imported seed and, knowing its superior value, raise the red clover seed themselves rather than take a chance of getting unsuitable seed through the trade. In order clearly to understand why the home-grown seed is superior to the imported article, it should be remembered that there is not a single pound of red clover seed on the market which can be said to represent a distinct variety. In fact, every pound of red clover seed sold in Canada represents a mixture of a large number of varieties. What this means may be exemplified if we assume, for the sake of comparison, that all kinds of corn varieties are being mixed and the mixture thus obtained put on the market for seeding purposes. The comparison applies perfectly to red clover, for all red clover seed sold in Canada is a mixture of a large number of different types of plants. Some of these types are what is called winter-hardy, that is to say, capable of coming through the winters without injury on account of their hardy nature. Others, however, are tender types which in this climate, are unable to stand the rigor of the winters.


As the ordinary red clover is a mixture of hardy and tender types, there is always a certain amount of winter-killing going on, the result of course being that the greater percentage of tender types in a clover field, the greater the winter-killing. On the other hand, the plants which come through the winter may be considered to represent a stock much harder than the original mixture of hardy and tender types.

Here is where the value of home-grown red clover seed comes in for it is obvious that seed, harvested from a Canadian clover field from which a large percentage of the tender types have been eliminated through the weeding-out process caused by the winter, is bound to produce a harder and consequently more reliable and more remunerative crop than any imported seed which may consist of a mixture of both hardy and tender types. And, furthermore, it is obvious that the farther north the seed is grown, the more suitable it is for a country like Canada, because the farther north it is grown, the harder is the crop raised from it likely to be. In view of this we must strongly recommend, not only that red clover seed raising be taken up on a large scale, especially in the northern red clover producing districts, but also that, whenever possible, northern Canadian red clover seed be used in preference to imported seed.—Experimental Farms Note.

Ontario Hereford Breeders' Association



"Hello, Harry! Do you know that Hereford calf I bought from you is one of the best investments I ever made? My boy is feeding it for the Baby Beef Contest this fall, and he is some contented now to stay with the farm."



"Yes, Bill, that's one beauty about feeding Herefords, you don't have to wait long to see results."

J. E. HARRIS, Pres., Kingsville, Ont. JAMES PAGE, Sec., Wallacetown, Ont.

Imported Shorthorns

SIRES IN SERVICE:

Imp. Collynie Ringleader (Bred by Wm. Duthie)	Imp. Clipper Prince (Bred by Geo. Campbell)	Imp. Orange Lord (Bred by Geo. Anderson)
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We are offering a large selection in imported females with calves at foot or in calf. A few home-bred females, 19 imported bulls and 8 home-bred bulls, all of serviceable age. If interested, write us, or come and see the herd.

J. A. & H. M. PETTIT - Freeman, Ontario
Burlington Jct., C.T.R., half mile from farm. Phone Burlington.

Harnelbell Shorthorns

Herd headed by Gainford Supreme, one of the best sons of the Great Gainford Marquis.

FOR SALE:

Some choice young cows with calf at foot; also some open heifers and heifers in calf to Gainford Supreme.

We have also for sale some choice young bulls.

Farm one mile from Islington Station.

SAMUEL TRUESDALE, Manager, Islington, Ont.
HARRY McGEE, Proprietor, 61 Forest Hill Road, Toronto, Ontario

R.O.P. Dual-Purpose Shorthorns

Herd headed by Brant Hero =113223= with good milk backing on both sides. Foundation Cow Maud =108683= with record of 11861 lbs. milk, 513 lbs. butter fat one year. Have heifers on R.O.P. from this cow doing well. Visitors welcome at farm.

GROVER C. ANDERSON R.R. No. 1, Waterford, Ont.

A 12 MONTHS' OLD ROAN WIMPLE BULL FOR SALE

Others coming on. Also Lincoln lambs, rams and ewes, got by an imported ram, out of heavy shearing ewes.

J. T. GIBSON, Denfield, Ontario

Pure Scotch and Scotch-Topped Shorthorns

We have several choice young bulls of the best of breeding and ready for service. Two are by Rapheal (imp.), one by Right Sort (imp.), one by Sittyton Selection, and several by our present herd sire, Newton Cedric (imp.). Prices right.

R. M. MITCHELL, R.R. No. 1, Freeman, Ontario

SPRUCE GLEN FARM SHORTHORNS

Four bulls (thick mellow fellows) from 9 to 13 months—Reds and Roans. Also a few choice heifers and two grade yearling heifers from heavy milkers. Priced to sell.

JAMES McPHERSON & SONS DUNDALK, ONTARIO

Shorthorns Landed Home

My last importation of 60 head landed at my farm on June the 20th, and includes representatives of the most popular families of the breed. There are 12 yearling bulls, 7 cows with calves at foot, 24 heifers in calf, of such noted strains as Princess Royal, Golden Drop, Broadhooks, Augusta, Miss Ramsden, Whimble, etc. Make your selection early.

GEO. ISAAC. (All railroads, Bell phone) Cobourg, Ontario

Glengow Shorthorns

We have a choice offering in young bulls, fit for service. They are all of pure Scotch breeding, and are thick, mellow fellows, bred in the purple.

WM. SMITH, COLUMBUS, ONT. Myrtle, C.P.R.; Brooklin, G.T.R.; Oshawa, C.N.R.

Shorthorn Bulls and Females

Herd headed by Ruby Marquis, a son of the great Gainford Marquis (imp.) Our calves now coming are all by this sire. We are also offering a few females in calf to him. Get our prices before buying elsewhere.

PRITCHARD BROS., R. R. No. 1, Elora, Ont.

Walnut Grove Scotch Shorthorns

Established 1840. Gainford Eclipse and Trout Creek Wonder 2nd in service. We are in a position to supply bulls and females of the best Scotch breeding fit for either show or foundation stock. We invite inspection of cattle. Write your wants. **D. BROWN & SONS, Shedden, Ont.** Long Distance Phone. Twelve miles west of St. Thomas, P.M., M.C.R.

Beach Ridge Shorthorns and Yorkshires

Shorthorn herd headed by Sylvan Power circuit in 1915, and sire of the G. Champion bullock at Guelph Winter Fair, 1918. Young stock of all ages, both sex, for sale; also young cows with calf at foot or in calf to Sylvan Power. We can supply any want in Yorkshires.

R. D. HUNTER, EXETER, ONTARIO

GRAND VIEW FARM SHORTHORNS

Herd headed by Lord Rosewood =121676= and by Proud Lancer (Imp.). Have a few choice bull calves and heifers left, sired by Escanna Favorites, a son of the famous Right Sort (Imp.).

W. G. GERRIE C.P.R. Station on farm. Bell Phone. BELLWOOD, ONTARIO

ROBERT MILLER, Stouffville, Ont.

Has EIGHT of the best young bulls that he has owned eral cows and heifers, some of them with calves at foot, others in calf to Rosemary Sultan, the Grand able, and though the freight is high, it will be paid.

Spring Valley Shorthorns

Herd headed by Sea Gem Pride =96365= Present offering includes two real herd headers. One imported in dam, the other by Sea Gem's Pride and from a show cow. A number of other good bulls and a few females. Write for particulars.

Telephone and telegraph by Ayr **KYLE BROS., R. 1, Drumbo, Ont.**

DUAL-PURPOSE SHORTHORNS

Herd headed by Dominator 106274, whose two nearest dams average 12,112 pounds of milk in a year. Cows in the herd with records up to 13,891 pounds of milk. Cows in calf to Dominator priced to sell.

WELLDWOOD FARM, Farmer's Advocate, London, Ont.

Association



Sec. Wallacetown, Ont.

horns

Imp. Orange Lord (Bred by Geo. Anderson)

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, Toronto, Ontario

horns

both sides. Foundation Cow one year. Have heifers on

R. No. 1, Waterford, Ont

BULL FOR SALE

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choice young bulls of the best

ready for service. Two are by

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s. 1, Freeman, Ontario

ORTHORNS

s. Also a few choice heifers

OUNDALK, ONTARIO

of 60 head landed at my farm

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Cobourg, Ontario

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No. 1, Elora, Ont.

Established 1840. Gain-

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R, EXETER, ONTARIO

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BELLWOOD, ONTARIO

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beautifully bred. Also sev-

Rosemary Sultan, the Grand

The prices are very reason-

Sea Gem Pride =96365=

cludes two real herd headers.

am, the other by Sea Gem's

males. Write for particulars.

umbo, Ont.

HORNS

112 pounds of milk in a year.

if to Dominator priced to sell.

on, Ont.

Buy an Irrigated Farm IN SUNNY ALBERTA AND GET A CROP EVERY YEAR

The most important factor in the growth of large crops in Western Canada is moisture. Given plenty of moisture at the right time big crops are assured. This is what the farmer on irrigated land can have every year. In

READ WHAT F. J. MEECH DID

"This year—(1918)—owing to the war I grew a considerable acreage of wheat and my crop on this eighty acres of land was about 1,500 bushels of wheat; 250 bushels of oats; 6 tons of oat hay; 25 tons of potatoes, and from a tract about one acre set aside for garden and small produce I have sold about \$75.00 worth of vegetables in addition to having sufficient for my own use till my next crop comes.

"I have also commenced a small dairy, having five cows which are yielding at the rate of \$90 per month.

"My land is in a district where alfalfa is an established crop, and two or three cuttings can be taken off in a season."

Mr. Meech purchased eighty acres of irrigable land near Lethbridge, Alberta, from the C. P. R. towards the end of 1916.

Southern Alberta such varied crops as wheat, oats, flax, barley, rye, alfalfa, timothy, brome grass and all kinds of fodder, tomatoes, beets, potatoes, roots, vegetables, are grown profitably on irrigated land. Ideal mixed farming proposition. First class land \$50 an acre, including water rights. Easy terms, only one tenth cash and twenty years to pay. \$2,000 loan for buildings, etc. A splendid chance to become independent.

Write now for free booklet containing full information to

A. LA DUE NORWOOD
C. P. R. LAND AGENT.

Windsor Station,
Montreal Que.

Shells for Buttons

Mullusks are found in lakes, rivers and ponds. Their shells are in two parts or valves, hinged together by a strong tendon. On either side of the hinge are ridges and teeth which help to keep the shell shut when it is closed. The shell rests on end in the mud at the bottom of the water. These clams have a single large, hatchet-shaped foot by means of which they draw themselves through the mud and sand at the bottom of the stream.

The upper end of their shell projects above the mud, and when the shell is ajar two soft projections called syphons may be seen. The lower one taking in the water and the upper one discharging it. If these projections or the shell is touched the clam very soon hauls in his projections and securely fastens his shell.

Across the clam's body are two large muscles which connect with the two valves of the shell and the ends of these ligaments or muscles are fastened to the inner side of the shell, so when these muscles contract they pull together the two valves with great force. The clams live in their shells and eat only such food as they can strain from the water. Their food comes mainly from sewage.

The shell structure is interesting. Place a shell in the fire and roast it and you'll be able to see the successive layers which compose the shell, which is an outward growth of the outer skin.

These layers are concentric, and each new layer is wider, longer and outside the preceding one. The beautiful mother of pearl or nacre is the inner portion of the shell.

The dress accessory known as bottoms is a modern invention. The early peoples knew nothing of buttons, even the Greeks and Romans used bits of string and girdles for closing their garments, and it was not till the Elizabethan age in history that England came to recognize the full significance of buttons.

The city of Birmingham, the centre of that portion of England north of the Dee and Humber known as the Black Country because of its coal and iron mines and industry, suddenly became the centre of the button trade. Buttons are

Raymondale Holstein-Friesians

A herd sire of our breeding will improve your herd. We have sons of our present sire, Pontiac Korndyke of Het Loo (sire of \$12,750 Het Loo Pieterje) and also sons of our former sire, Avondale Pontiac Echo. Several of these are of serviceable age, and all are from good record dams. Quality considered, our prices are lower than anywhere else on the continent. These youngsters should not remain long. Write to-day.

RAYMONDALE FARM
Vaudreuil, Que.

D. RAYMOND, Owner
Queen's Hotel, Montreal.

Silver Stream Holsteins—Choice Bulls

We have six from 7 to 14 months old, sired by King Lyons Colantha, the records of his six nearest dams average 30.10 lbs. butter in 7 days, and by King Lyons Hengerveld 5 nearest dams average 31.31 and from R.O.P. tested dams. Individually as good as their breeding. If interested, write for particulars and prices or better come and see them. Jacob Mogk & Son, R.R. 1, Twistock, Ont.

Cedar Dale Farm—The Home of \$15,000 Sire—Lakeview Johanna LeStrange, the \$15,000 son of the 38.06-lb. Lakeview LeStrange, is our present herd sire. We have young bulls sired by him and females bred to him—at right prices. Also have bulls of serviceable age by our former herd sire, Prince Segis Walker Korndyke, son of King Segis Walker. A. J. TAMBLYN, Cedar Dale Holstein Farms, one mile from C.N.R. Station, ORONO, ONT.

Elderslie Farm Holstein-Friesians

Special offering—One bull fit for service, fine individual; dam gave 195.26 lbs. milk, 782.50 lbs. butter for year. He is a son of Judge Hengerveld De Kol 8th, who's a 32.92 lb. grand son of De Kol 2nd. Butter Boy. We have others younger equally as well bred. Write at once for prices or better come and see them. (Take Kingston Rd. cars from Toronto, Stop 37.) A. MUIR, Scarborough P. O., Ont.

Alluvialdale Stock Farms Offer For Sale

Two young Registered Holstein bulls fit for service. Dams official tested of Johanna strain, sire, Sir Gelsche Walker whose 7 nearest dams average 30 lbs. butter in 7 days. Write for price and pedigree. T. L. Leslie
Norval Station, Halton County, 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.
C. R. JAMES
(Take Radial Car from Toronto to Thornhill) Richmond Hill, R.R. No. 1, Ont.

6 BULLS BY KING SEGIS PONTIAC DUPLICATE
Brother to the \$50,000 bull. Three of these are ready for service and all are show calves. Write us also for females. We are pricing a number of heifers, bred to our own herd sire, Sylvius Walker Raymondale, a grandson of the great May Echo Sylvia. We now have bull calves a few months old by this sire. Let us know your wants. R. W. WALKER & SONS, Manchester Station, G.T.R. Port Perry, Ont. R.R. No. 4.

9 HOLSTEIN BULLS

Any age up to 14 months. From high record and untested dams. Sired by May Echo Prince and Gipsy Pontiac Cornucopia; both 30 lb. bulls. Price right.
JOS. PEEL, Port Perry, Ontario.

Holstein Bulls

15 ready for service, 1 younger. From dams with 32.7 lbs. butter in 7 days to those priced for the most conservative buyer. Females also.
R. M. HOLTBY
R. R. NO. 4, PORT PERRY, ONT.

PIONEER FARM HOLSTEINS

My present sales' list includes only bull calves born after Jan. 1st, 1919. These are priced right.
WALBURN RIVERS & SONS
R.R. No. 2, Ingersoll, Ontario

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Once the building season really opens up it is hard to meet the demand for a quality product like—

MILTON BRICK

We can ship NOW, from full stocks of Red and Buff Pressed, or the famous Milton "Rug" in varied shades. Let us know your needs.

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ORCHARD LEIGH HOLSTEINS

3 young bulls—5 months old—well marked—good individuals. Dam of No. 1, 29.20 lbs. butter in 7 days, 100 lbs. milk in one day. Dam of No. 2, 22.08 lbs. butter in 7 days. Sire's dam 34.98 lbs. butter in 7 days at 4 years old. Write for pedigrees or better come and see them and their dams.

JAS. G. CURRIE & SON (Oxford County) Ingersoll, Ont.

Hospital For Insane, Hamilton, Ontario

We have yearling grandson of King Segis Alcartra Spofford—a splendid individual. Also fine bulls of younger age, prices reasonable Apply to Superintendent.

Manor Farm Holstein-Friesians

If it's a herd sire you want, write me. I have sons of both my senior and junior sires, King Segis Pontiac Posch and King Korndyke Sadie Keyes. All from good record dams. Choice bull calves at present to offer—average for two nearest dams, up to 34.71 lbs. butter to seven days. Correspondence solicited. Visitors welcome.

GORDON S. GOODERHAM, Clarkson Ont.

Stations: Clarkson and Oakville. Farm on Toronto and Hamilton Highway.

29 Pounds Butter—103 Pounds Milk

This is the seven day butter record and the one day milk record of the dam of my last bull of serviceable age—an exceptional bred youngster and a choice individual. Also have a month old bull whose dam and sire's dam average 34.36 lbs. of butter in 7 days, 135.07 lbs. of butter in 30 days and 111 lbs. of milk in 1 day. If you want bulls of this breeding I can save you money.

D. B. TRACY HAMILTON HOUSE HOLSTEINS OF QUALITY Cobourg, Ontario.

of various kinds. Some are sewed to the garments through holes in the button, others are provided with shanks of metal, which are sewed fast to the cloth, and still others are made with a tuft of cloth or felt by means of which they are attached to the garment.

The two last are a dual button and are made with two plates of metal, having a filling of cardboard between. The plates are made separately and each have their edges turned back, and one of the plates is pressed into the other by machinery.

The face of the button is covered with cloth or metal, and the back plate is furnished with a hole or collet through which a cloth or metal shank is affixed.

The making of the shell button is, however, the most interesting as well as instructive. The shell button originated in the fertile brain of a Dane, Sanders by name, who had a small shop in Copenhagen, but getting out of work as the result of the bombardment of Copenhagen, he moved to Birmingham and began the making of buttons there in 1807. In those early days bone buttons were in common use. The hoofs of meat animals were used. The hoofs were first boiled in kettles and then cut into fragments which are given a form or shape and run through hydraulic presses to stamp the pattern on them. Another machine bored the holes and polished them, and they were able to turn out about 2,000 gross a week. A similar process is used for all hole buttons. The buttons are cut with a tubular saw, turned separately in a lathe and drilled.

Glass buttons are made of rods of glass of any desired color, by softening the end and pressing it into a mould, each half of which is fixed to one limb of a pair of pincers. If the button is to be provided with a shank that is first placed in the mould.

When pearl button making first began in America, the raw material was brought from China. Japan is the great button nation, for its improved machinery and abundant shell material adjacent give them a large advantage.

Then some 10 or 12 years ago it was discovered that fresh-water mullusks shell made good buttons. It is rather interesting to be told by geologist that at one time Toronto had a sub-tropical climate; that the water of the Don Valley

rose 60 feet above the present Lake Ontario, and depositions of clay, sand, gravel and shells were made. The bulk of these shell deposits are now found in the Mississippi waters. There are various species of shells, but the best button shell is the niggerhead or quadrula ebena. It is as its name indicates a large, thick, heavy black or brownish colored shell with a fine glistening white interior. The shell may be taken from the beds the year around, but they are best taken in winter, for then the shells are less brittle.

As soon as the shells reach the factory they are put into barrels of fresh water and soaked for several days, sometimes a week, to toughen them. After their bath they pass on to the tubular saws to be cut into blanks, during the whole process of which a fine spray of water must be played on the shell to keep down the heat of friction and to eliminate the shell dust produced, and which is so irritating to inhale. The next step is to grind the skin off the back of the button and even up and polish the front. The depression where the holes come is made by an emery wheel. The last operation is to drill the holes in the depression, and then the buttons are ready to be sorted, graded and sewed on cards and packed.

It was in 1890 that a great impetus was given to pearl button-making in the Mississippi Valley, and now it is the chief business all along the Mississippi River from Fort Madison to Sabula, Io., a distance of some 200 miles.

The using of such great numbers of shells together with the sewage pollution of the water from nearby cities and the destruction of fish in the waters, eventually produced a famine in shells, and so the Government limited dredging for mussels in certain territory. Scientists and biological men began a study of the life-history of the mussels, and this led to some curious and interesting discoveries unknown before.

It now appears that the fresh-water mussels is a parasite and makes use of certain fish as a host. The mussel whose shells are mostly used in the button factories has the ability and instinct to attach itself to the gills or fins of river herring, and it was the destruction of the herring that caused the diminution in the shell material. Then the Government established hatcheries and nurseries for the young mussels. Very young mussels or glachidia are placed in tanks of water provided, and then fish are caught in nets and placed in the tanks, and to these the young mussels fasten themselves at once by means of their spiny proboscis. Then as soon as the attachment is affected the fish are allowed to run into the streams. Thus the glachidia lives and grows on its host till it has grown its structural frame-work and developed most of its organs, when it leaves its host and sinks to the bottom of the river, attaches itself to a stone or any other fixed point and remains to develop its shell.

By this system of cultivation immense numbers of baby mussels that would never live to grow up are saved, and the button business greatly extended.

F. M. CHRISTIANSON,
Welland Co., Ont.

The annual meeting of the Elgin County Pure-bred Breeders' Association was recently held in St. Thomas, when a large number of the members were present and entered freely into the discussion of subjects brought up. Arrangements were made for holding the annual sale this fall, and the cattle promised for this sale are superior in quality to those in previous sales held by this Association. A special feature of the sale will be the giving of prizes for the best cattle entered; also a banquet on the night of the sale. The following officers were elected: President, Duncan Brown, Shedden; Vice-Pres., W. A. Galbraith, Iona Station; Sec.-Treas., J. Page, Wallacetown. On the Board of Directors are: W. G. Saunders, W. H. Ford, N. McNabb, J. C. McCallum, and E. E. Luton.

The cloth-bound Review and Album of the 1918 International Live Stock Exposition will be ready for distribution within the next week or ten days. Anyone wishing to secure a copy of this volume should write B. H. Heide, Chicago, Ill. The price of the book is 50 cents. It is well worth the money to anyone interested in the great International Show.

Northern Timer Elevator for Ford Cars



Examine for yourself this illustration. Note its simplicity and sturdy construction.

is a valuable but inexpensive accessory that will save you time, trouble and money.

Northern Timer Elevator attachment is a boon to all Ford owners because it is the solution to 90% ignition troubles traceable to the Timer, and because it can be installed in less than 30 minutes—no holes to drill or any alterations to make.

EASILY ACCESSIBLE —Away from Mud and Oil

A trifle more than 2 feet above the road between the engine and the radiator in an awkward get-at-able position is the Timer, —a device upon which the entire motive power system depends, one that is so easy to get out of order and so difficult to fix in its present oil-soaked and muddy location.

The Northern Elevator brings the Timer well up to a more convenient and easily accessible position—away from exposure to dampness, mud, grit and oil.

Price Only \$7.50

Sold throughout Canada by auto accessory dealers, garages and hardware stores. If your dealer is unable to supply you, write our nearest house giving his name and address, and we will see you are promptly served.

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MITCHELL ONTARIO

Questions and Answers.

Miscellaneous.

Feeding Pumpkins.

Is there any way of forcing a pumpkin?
A. W.

Ans.—We have heard of a lamp-wick being inserted into the feeding stem and the other end placed in a tin of milk. The milk is drawn into the plant through the lamp-wick, and it is said that under this system remarkably large pumpkins have been secured.

Cutting Wood.

A hires B to cut cordwood at \$1.50 a cord. A week later A makes a bargain to give B the winter's cutting for 25 cents a cord less. On February 26 A notified B to stop cutting, thus throwing him out of work. What action can B take against A?
C. G. W.

Ans.—Unless B was engaged to cut a certain number of cords at a stated sum, he would stand a poor chance of success in taking action against A.

Twitch Grass.

What is the name of the enclosed plant?
R. C. A.

Ans.—The plant received at this office was a sample of twitch grass. It is a perennial weed which is rather hard to eradicate and one which is very troublesome. Thorough cultivation during a period of dry weather and raking off the roots and burning them is one means of getting rid of this plant. Care should be taken not to drag the roots from an infested field to a clean one, as the roots are very tenacious and will grow in all kinds of soil.

Caked Udder—Sore Shoulders.

A cow has a caked udder. We have bathed it with warm water and rubbed it with camphorated oil. One of the teats has given about a cupful of milk. Will she come all right? A neighbor advised giving a dose of saltpetre; would it be good for her?

2. What is a good remedy to put on a horse's shoulder that has been rubbed with the collar?

3. A cow which freshened about a week ago gives very little milk and pants a good deal. Is this due to the heat or is there any disease?
T. M.

Ans.—1. Bathing the udder with warm water and using camphorated oil is a very good remedy. Some use vinegar and goose grease. Rubbing with gasoline has also been found beneficial. In the issue of July 3 is given one man's experience in treating caked udder. In regard to the saltpetre, we would not advise administering this, except on a veterinarian's prescription.

2.—The white lotion is recommended for sore shoulders. It is made by mixing 1 ounce of acetate of lead, 6 drams of sulphate of zinc and a pint of water. This material is applied by hand and is a soothing, nonirritant remedy.

3. Without more detailed symptoms we cannot definitely diagnose the case. It is possible that the cow being in a rather weakened condition, due to parturition, is suffering from the heat. She may also have an attack of indigestion. In this case it would be advisable to call in a veterinarian to examine the cow and prescribe treatment.

Gossip.

\$6,000 for a Berkshire Boar.

The sale of Berkshires at Hood Farm, Lowell, Mass., was a decided success so far as attendance and prices were concerned, but then this herd is of outstanding quality. Herd headers of renown have been used at Hood Farm and the prices received for some of the individuals indicate the quality of the stock which has been developed. Mention of a few of the prices will give some idea of what the public think of the herd. Baron's Successor, a five-year-old male and the prize-winner at the International, was purchased by a syndicate for \$6,000. Longfellow Double's daughter, a three-year-old sow of exceptional lines and quality, brought \$500. A two-year-old sow brought \$425, while \$395 and \$300 were prices received for other sows. Successor's Jewel's Baron, a two-year-old male, brought \$475, and \$260 apiece was secured for a litter of six farrowed on September 2, 1918. From \$200 to \$300 was quite common for the breeding stock which went through the sale.

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Big Type Chester Whites—Our fourth importation has just arrived, including an 800-lb. sow with litter at side, sired by the 1,000-lb. Champion of the National O. I. C. show. Ten litters March and April pigs for sale. John G. Annesser, Tilbury, Ont.

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Our School Department.

What is an Insect?

The other day a lady who keeps honey bees said that a certain beetle kills bees by stinging them. The beetle, she said, would hide under a leaf, and when the bee came near Mr. Beetle would pounce on the poor bee and sting it. This lady did not know much about insects, for beetles do not sting.

Insects are very interesting. There are countless thousands of different kinds. Some are beautiful, some ugly, some large, some small, some sting, others bite. All have different habits, some being useful and some being pests.

Insects are easy to study. The scientists worked hard to find out all they could about insects and they soon found out how to divide the insects into different families, tribes and species. Scientists are always talking about species, but it is just a big word they use and its meaning is simple. All kinds of grasshoppers, for instance, belong to the order called Orthoptera, but the different kinds of grasshoppers are known as species. This is just the same as saying that all horses belong to the horse family, but of course there are different breeds, or families of horses, like the Percheron and Clydesdale and Shetland, and the scientist would call these breeds orders. Your favorite horse at home, you see, belongs to the horse family, and to the Percheron, Clydesdale or Shetland order. But of course, your favorite horse is not just a Percheron, or Clydesdale, or Shetland, because there are many families among Percherons, Clydesdales and Shetlands, just as there are many families among people, some good and others bad. So you don't just say that your horse is a Percheron, Clydesdale or Shetland, but but you say he is a well-bred horse belonging to a certain family. (Your father will tell you about that.) Well, this family would be called the species by scientists.

A man who studies insects is called an entomologist. The study of insects is called entomology. It is rather a nice-sounding name when you get used to it and you should remember it.

The entomologists are very clever and they do a great deal of good. Insects, you know, do a terrible lot of damage and the entomologists find out all they can about them and so are able to kill them with sprays and other poisons. You see there are many thousands of different kinds of insects and every one lives a different way. Insects breathe through the skin, and if you put certain kinds of sprays on these they die because they cannot breathe. But others mostly water bugs, breathe through gills.

Insects have peculiar blood. It is not red but is colorless like water, and sometimes yellow. Our blood is pumped through our arteries and veins by our hearts, but insects have no real heart and no veins. The blood fills up a chamber in the insect's body (which entomologists call the "dorsal vessel") then the insect contracts his muscles (just like we do when we breathe) and the blood in the dorsal vessel is squeezed out and flows to all parts of the body.

You feel mostly with your hands, don't you? But an insect has no hands so he feels with the large hairs that grow on him, or with his horns, which entomologists call antennae and with his long lips, which entomologists call palpi, or with his tail parts, which entomologists call the cerci.

Insects travel quickly as a rule and so they must have eyes. An insect's eyes are quite easy to see, but they are different from our eyes. If you look at them carefully you will see that they are very large, and they are not round but kidney-shaped or oval like a potato. They do not move like ours and have no lids and appear to be quite hard. They are really made up of a large number of little eyes. These little eyes are called ocelli, and the whole eye is called a compound eye, because it is made of many little simple eyes. If you look at a bee's eye, or a housefly's eye through a magnifying glass, you will see that it looks like network. The eye of an insect, because it is big and because it is made up of many little eyes (or ocelli) can see in several directions at once

but an insect's eyesight is not nearly so good as ours.

Insects eat just like a boy or girl. You have seen a honey-bee eat the pollen from a flower and you know how a potato bug eats holes in a potato leaf. You also know how a flea bites. Well, an insect has a taste, and it usually tastes things with its tongue, but sometimes insects taste with the lips, and still others taste with special little things called "taste buds."

Can an insect smell? Sometime when you have some sticky candy or syrup, see if bees or flies will follow you! Insects smell and they do it in a funny way too. Some smell through their horns, which entomologists call antennae. The antennae are really feelers and you can easily see them as they are the longest things that stick out in front of an insect's head. A butterfly has very long ones, sometimes an inch long. Then insects also smell through their mouths, but that is not so different from the way we smell.

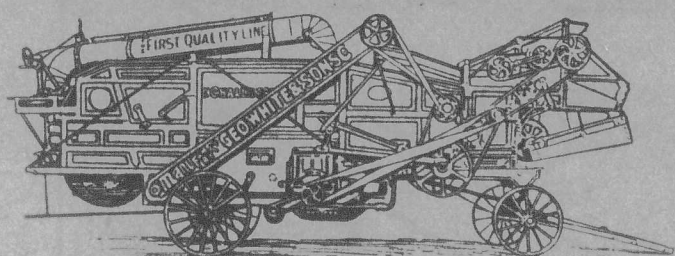
We have ears to hear and so have insects, but our ears are always in the same place. Insects may have little ears on their horns (antennae) or they may have them on the body, just as though we had ears on our chests. The grasshoppers and crickets, however, are funny fellows for they have ears on their hind legs—on the thick part. Have you ever heard a cricket or a long-horned grasshopper chirp in the grass? Well, they make that sound by rubbing their top wings against each other. If you watch them carefully you can see them do it. The ordinary grasshopper makes his little song by rubbing his leg against his wing. The leg is like a file.

Entomologists know some wonderful things about insects. They worked for many years and found a way to tell insects from one another. Then they gave them names, and now, if you like you can take an insect and examine his legs, his wings, his eyes, his body and his antennae, and after you have examined him carefully you can classify him and name him by using a key that the entomologists made. It is just the same as looking for a 'phone number in the 'phone book, only not so easy, of course, but more interesting. An insect has one pair of horns (antennae), a body made up of a head, a thorax, and an abdomen (that is just the same as a head, a chest and a stomach, only they are nearly separated), and three pairs of legs. So you see a spider is not an insect. Can you tell why?

Troublesome Insects.

This life would be more pleasant in summer to both man and beast were it not for the many forms of insects which too frequently annoy and torment us. Let us cite flies and mosquitos. These little creatures have been the cause of much disease in civilian and army life. Mosquitos prevented the building of the Panama Canal until recent years, when it was discovered that the mosquito could be routed by draining swampy areas and the liberal use of oil on the surface of all standing water. Mosquitos breed and reproduce in stagnant water, rain barrels, or old tin cans are even utilized by these obnoxious creatures. Children could make their homes more pleasant if they understood how these insects reproduced and became so common. You will learn a lot about mosquitos by reading the article on page 1103, in the issue of June 5. Put into practice what you learn there and do not allow mosquitos to become common in your vicinity.

The house fly lays its eggs in horse manure, a single female laying from 120 to 160 eggs. The larvae or young become full grown in from five to seven days. Another five to seven days is spent in the resting stage, and then the adult appears. Garbage and offal in the vicinity of the home or dwelling make splendid breeding ground for flies. The cleaner the grounds are around the dwelling the fewer will be these troublesome insects which cause so much annoyance.



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Then there's the cost of the repairs.

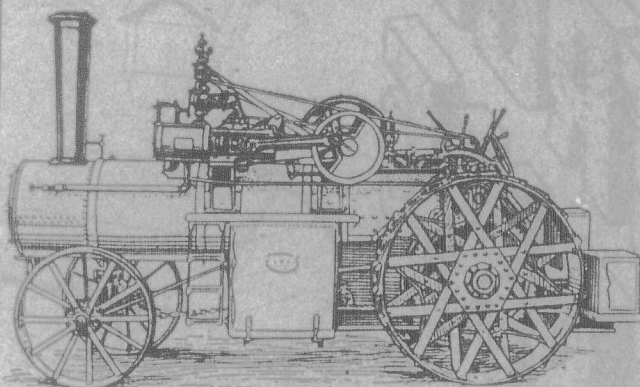
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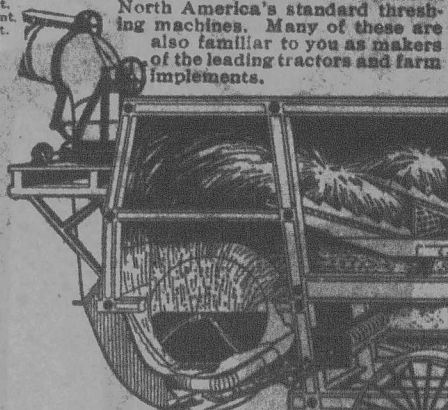
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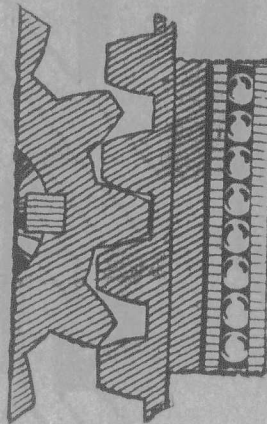
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View looking into hopper showing grain trap near stacker fan; also auger running from beneath trap for returning the saved grain to separator.



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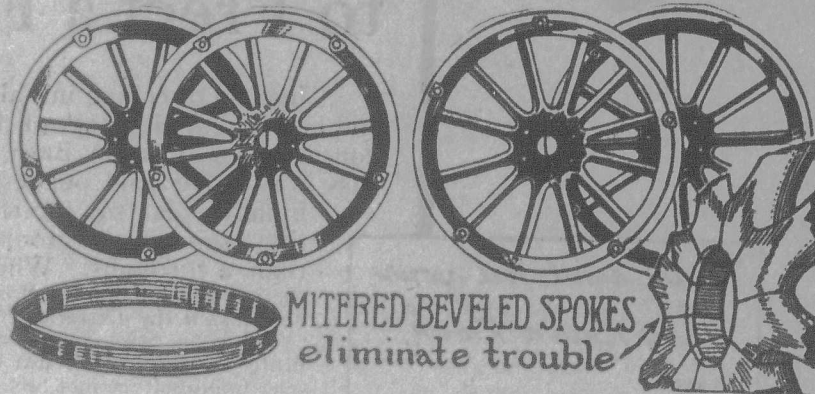
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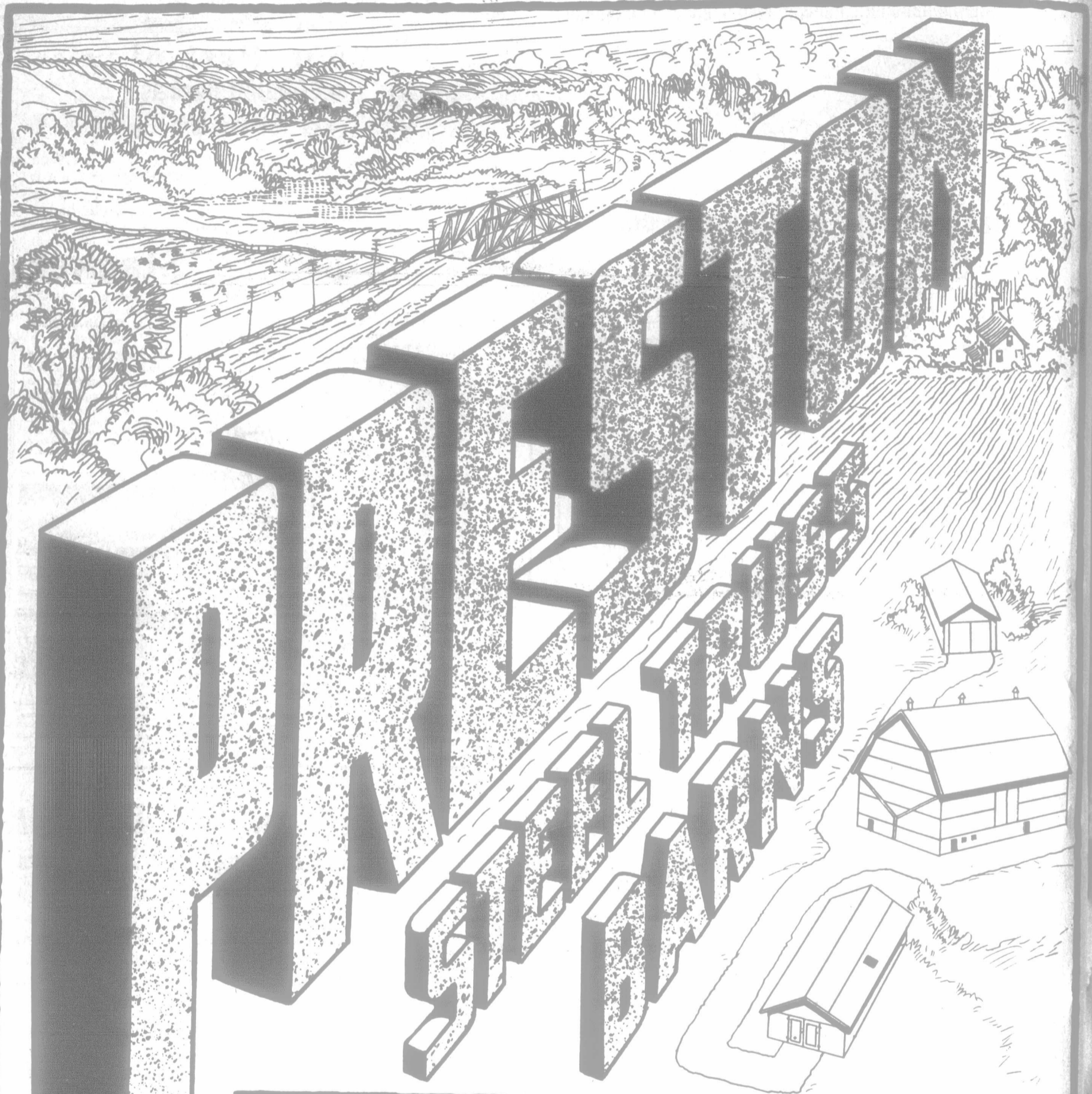
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