

FARM AND DAIRY & RURAL HOME

DEVOTED TO
BETTER FARMING
AND CANADIAN
COUNTRY LIFE

Toronto, Ont., July 4, 1918



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TORONTO MONTREAL



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Farm Management

Summer or Fall Plowing

“**W**OULD not allow any man to fall plow my sod fields,” remarked Mr. John Fixter of the Commission of Conservation, when in conversation with an editor of Farm and Dairy recently. “The only exception I would make to this rule would be in heavy clay land intended for corn the next year. The fall plowing might be permissible.” Mr. Fixter then went on to explain himself.

“When you plow a heavy sod in the fall every furrow turns over, leaving an air space under them. Next spring the land is surface worked, but the air space is still there under every furrow slice. Dry weather comes and the crops get yellow. The air space is shutting off capillary action and the supplies of water in the sub-soil are not available for feeding the crop. There is a second weakness in this fall plowing! It is not until the ground is warm that a sod starts to decay. Hence the plant food that the sod represents does not decay until the following summer, and is not available for feeding the succeeding crop.

“The ideal system of soil cultivation,” continued Mr. Fixter, “is to start sod plowing as soon as we can when the hay is off. I might start haying on one side of the field and get part of the crop off. Then, if it rained heavily, I would start plowing, skimming off as shallow a furrow as possible. As soon as two or three lands were plowed I would roll, the rolling pressing the sod and sub-soil together and hastening decay. The plowing and the rolling would then go on together and finally I would disk once or twice and then harrow. If disked in another couple of weeks, the sod will wear up nicely, then I would plow again in the fall. I believe that every man should have two separate mold boards for his plow, a short mold board for summer plow and a long one for fall plowing.”

Couch Grass a Bad Weed

Prof. S. A. Bedford, Chairman, Manitoba Weeds Commission.

NUMEROUS enquiries are coming to this office regarding the different varieties of couch grass and how best to eradicate them. In Western Canada we have two varieties of couch grass, quack or twitch grass, and both are very injurious to farm crops.

The imported variety (Agropyron repens), has wide spreading, but shallow, fleshy root-stocks. If allowed to remain for any length of time, these root-stocks form matted beds which choke out grain or fodder crops. It flowers about the end of June and ripens its seed in July. Owing to the fact that it is propagated both from seeds and from creeping root-stocks, it quickly gains possession of a field, once it is firmly established. The seeds of this weed greatly resemble those of western rye grass, and very often it is found mixed with that variety and thus spread over clean farms.

To Eradicate Couch Grass.

Although the two varieties of couch grass differ somewhat in their appearance, the same methods may be used for their eradication. During the month of June the land should be plowed in one direction, say east and west, just sufficiently deep to get below the roots of the plants; let this plowed land dry, then harrow and cultivate with a narrow-toothed cultivator until the land is level. Should many roots be brought to the surface, then burn them on the surface to die, or, better still, rake them off and burn. Then chop plow north and south, using a sharp, rolling coultter, if the sod is badly matted

After being allowed to dry out some, that the sods are then torn to pieces with a narrow-toothed cultivator, the spring-tooth harrow, etc., and the roots brought to the surface to be dried out, and possibly burned.

If the season is unusually wet on, and it is found impossible to destroy all the root-stocks in one season, it is an excellent plan to plow the land again about May 15th of the following year, and immediately sow to barley, using about three bushels of seed per acre. This heavy seeding will produce such a rank growth of barley that any of the creeping couch plants will be smothered out.

Simple Way to Test Soils

BUY a few cents' worth of hydrochloric acid, also litmus paper, at the druggist's. The test is simple, the various soils on your farm. With a spade or large auger take a soil sample to a depth of seven inches, mix it well.

Flow with a handful of this moist sample make a saucer-shaped form. Pour a little of the acid, being careful not to drop any on your hands or clothes, as it burns. If the result is quite free bubbling or effervescence, it shows that the soil contains considerable limestone, but little or no fuming indicates deficiency of lime. Make this test with soil known to be rich in lime or with a sample to which you have added lime, then with soil poor

"Putting the Corn By"

“**P**UTTING the corn by” is the common practice in the corn belt states, but one on which Canadian dairy farmers have been inclined to frown. Many of our best farmers here in Canada favor cultivating the corn right up to within a week or two of silo filling time. This year, with mammoth southern varieties generally sown, a different practice may be advisable. Special Circular No. 17 of the Dominion Experimental Farms series has the following to say on this point:

“Unless the season is very dry or the field very weedy it is usually advisable to put the corn by at a little earlier date in the case of these large varieties than where the smaller, earlier-maturing sorts are used. Stopping the cultivating somewhat early has the effect of hastening maturity and will probably result in a rather better quality of ensilage, although the weight of the crop going into the silo will be relatively reduced.”

In lime, and you will see the difference distinctly. Now make a ball of moist earth from another handful of this same sample of soil, break it in two, lay on one part a bit of the blue litmus paper, leave for a few moments, then open the ball again. If the blue paper has turned red the soil is sour or acid, and probably quite deficient in lime. If it keeps red after drying, the soil is very sour. If the blue paper does not change color, then test the soil moisture with red litmus paper. If it turns blue, the soil is alkali, and not sour.

No amount of reading or talking will teach you half as much as for you to make these tests yourself. Many farmers waste years trying to farm sour land or that poor in lime, where as by testing it in this easy way they can see at once what it needs.—L. G. Lait.

FORTUNES OF WAR.

“Pop!”
“Yes, my boy.”
“What are the fortunes of war?”
“I don't know exactly, my son. You'll have to ask some professor”—Yonkers Statesman.

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SYDNEY, NOVA SCOTIA

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We Welcome

Trade

VOL. XXX

THE present allies have and force new tion. To devote and yet at the of stock growing confronts the

It is a well-kept in keeping area of land, and to the crops but different conditions United States generally apply for the silo, but farm condition (not to the acre, and usually a better Pasture is used of feed for live most farms. One are kept they are eight weeks dur

A pasture experience the writer at the blue grass pastured during 30 days in August, and the fall rains, it grew as much as in May a pasture is stocked during May, of midsummer. The year for live stock and files.

It is more difficult to keep young stock at any other time farm. This lack of pasture, each year, because of excessive heat a feed is cut short and the worst of it is fact a certain no adverse conditions in the season in the is so important a factor as the highest yield known by the writer every year for considers silage for winter.

If no extra feedment blue grass is understocked suffer from lack of season of midsummer greatly reduced, but uniform if supplementing the pasture.

When Pasture, then suffer from lack of during midsummer accomplish this

“This article is by Gentlemen.” I have known dairymen a large herd of profitable silage without a tractability of

FARM AND DAIRY

& RURAL HOME

We Welcome Practical Progressive Ideas

Trade increases the wealth and glory of a country; but its real strength and stamina are to be looked for among the cultivators of the land—Lord Chatham.

The Recognized Exponent of Dairying in Canada

VOL. XXXVII

TORONTO, ONT., JULY 4, 1918

No. 27

The Silo for Year Round Use*

Filled With Corn, Legumes or Cereals it Supplements the Summer Pasture—By Prof. Wilber J. Fraser

THE present high price of feed and the necessity of shipping a large amount of grain to our allies have brought about a critical situation and force new problems upon the stockman for solution. To devote less grain and acreage to livestock and yet at the same time to keep the same amount of stock growing and producing is the situation that confronts the stockman to-day.

It is a well-known fact that the silo is a great help in keeping much stock on a relatively small area of land, but little consideration has been given to the crops best suited to put into the silo under different conditions in the northern part of the United States and in Canada.

Generally speaking, corn is by far the best crop for the silo, because no crop raised under ordinary farm conditions produces more digestible nutrients to the acre, unless it is alfalfa, and because it not only keeps much better than any other crop but makes a better quality of silage.

Pasture is usually the chief if not the only source of feed for livestock during the summer months on most farms. On practically all farms where cattle are kept they should be pastured for at least six to eight weeks during the year.

Pasture Yields.

A pasture experiment conducted for four years by the writer at the University of Illinois showed that blue grass pasture produced three times as much feed during May and June as it did during July and August, and that again in the autumn, because of fall rains, it produced for a few weeks nearly as much as in May and June. This means that when a pasture is stocked to anything like its capacity during May and June, the feed is cut short during the midsummer. This is the most trying time of the year for live stock, because of the excessive heat and flies.

It is more difficult to keep up the milk flow or to keep young stock growing during midsummer than at any other time of the year, even on a well-equipped farm. This lack of feed in midsummer, caused by short pasture, comes at the most critical time of the year, because cows will shrink at best during the excessive heat and fly time, and if in addition their feed is cut short, the shrinkage is sure to be large; and the worst of it is that normal production cannot be regained again when grass comes on in the fall.

To obtain the largest yield cows must experience no adverse conditions, and for this reason there is no season in the year when an abundance of feed is so important as in midsummer.

In fact, a certain dairyman in Illinois, who gets the highest yield of milk from each cow, so far as is known by the writer, has but one silo, and uses this every year for summer feeding only, because he considers silage for summer of more importance than for winter.

If no extra feed is provided with which to supplement blue grass pasture in midsummer, it must then be understocked in the spring and fall or the animals suffer from lack of feed during the most critical season of midsummer. The pasture area can be greatly reduced, therefore, and the feed supply still kept uniform if some other feed is available for supplementing the pasture when it falls.

When the Summer Silo Pays.

Pasture, then, to be efficient must be supplemented by at least a two-thirds ration for several weeks during midsummer. Attempts have been made to accomplish this by growing rolling crops, but this

experiment shows that the great shortage of pasture in midsummer is caused by dry weather, and the time this dry period occurs will vary with different years and may occur at any time from the fore part of June until the middle of September.

Since it is impossible to tell in the spring the exact time the pasture will be short, it is impossible to grow rolling crops of green feed and have them in the best condition for feeding at the time they are most needed. For this reason a summer silo that may be opened at any time the pasture falls is the most economical and satisfactory way of supplying this need.

The summer silo also obviates much extra labor required in seeding and caring for small patches of different kinds of crops and harvesting and drawing these to the cows daily. It also prevents the waste occasioned by the feeding of crops before they are

the form of silage and legumes in the form of hay whenever possible.

There are, however, exceptions to this rule. The first cutting of alfalfa comes the fore part of June in the Northern districts. It often happens that this period is a rainy one, which makes it almost if not quite impossible to cure alfalfa hay. Under these conditions it is well to put the first crop of alfalfa into the silo.

The best crops for putting into the silo in the summer for supplementing pasture are, therefore, the first cutting of alfalfa, which is usually coarse; the first crop of clover, oats, oats and Canada peas, barley, winter rye, or grass of any kind that is palatable, nutritious and gives a large yield.

Clover and alfalfa should be cut at about the same stage as for hay. If small grain is to be used it should be harvested when the kernels are in the dough stage.

The foremost idea in silo construction is not so much the most cubic feet at the least expense, but rather keeping the diameter small enough so that the silage may be fed and kept in good condition. The diameter of a silo should, therefore, be determined by the size of the herd, and the silo's capacity by its height. When built of masonry the height may be three to five times the diameter.

Summer Silo of Small Diameter.

Summer feeding of silage requires a silo of smaller diameter than winter feeding for the same-sized herd. There are two reasons for this: First, silage spoils more quickly in warm weather than in cold; second, many times the summer silo is needed to supplement the pasture when only a partial feed of silage is required. When feeding cows a full ration of corn silage in the summer, ten square feet of silage in the summer, ten square feet of silage surface for each cow is the maximum that can be fed from and the silage remain in good condition.

When crops other than corn are used for summer silage it is necessary to have a still less area exposed for each cow. When such crops are used there should not be more than five to six square feet of silage surface for each cow. For herds of the following sizes the maximum size of silo that can be used successfully for summer feeding with legumes or small grain is:

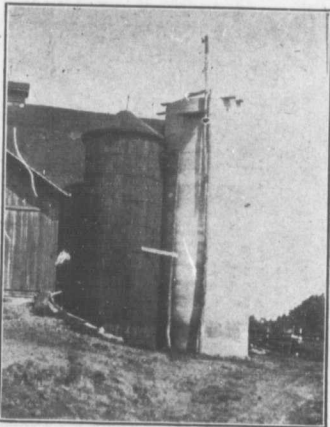
Size of Herd	Diameter of silo
14 Cows	10 feet
20 Cows	12 "
27 Cows	14 "
35 Cows	16 "
45 Cows	18 "
57 Cows	20 "

For a good size herd a large silo for winter feeding and a small silo for summer feeding is best. The large silo should be fed out first, so that if any silage is left when the stock is turned to pasture it will be in the small silo for summer feeding; otherwise much might spoil on the surface in the large silo by being fed off too slowly.

Saving the Summer Silage.

If the summer silo has been fed from and there is still silage left when the stock is turned to pasture, it may be covered over with fine straw or chaff thoroughly wet to cause it to decay quickly and seal over the surface, thus excluding the air and preventing the silage below from spoiling. If the straw or chaff is not available the top of the silage may be covered over with fine straw and at intervals of a week to prevent excessive loss from drying out and fire-fanging.

If there is but one silo this should be small enough
(Continued on page 11.)



Prepared for Year Round Feeding.

Mr. John Simmons, of Norfolk Co., Ont., has the right idea. The big cement silo on the right provides winter ensilage for a herd of 25 to 28 milch cows, and additional silage for the smaller silo to the left for the young stock. The ensilage in the smaller silo to the left ensures an ample supply of feed when pastures are short in summer.—Photo by an editor of Farm and Dairy.

sufficiently mature to furnish the most feed, or after they are overripe and unpalatable.

As previously stated, corn has the most points in its favor for silage; but where the silo is empty and the same other crop can be cut into it in June or the first of July, a saving is made by thus utilizing the same silo for both winter and summer feeding by filling it twice.

Corn is Best Silage.

Corn, alfalfa or some leguminous hay should be the main feeds for cattle and sheep. For winter silage, then, corn is best, as it keeps much better in the silo than legumes are much more palatable when fed in the form of silage than in the form of dry stover. For this reason corn should be fed in

*This article is reproduced by courtesy of "The Country Gentleman." Its writer, Prof. Fraser, is one of the best known dairymen of America. It was he who fed a large herd of cows on corn or yellow corn during the winter and produced a pound of grain, thus demonstrating the practicability of this ration.

Cows, Hogs and Corn on 1000 Acres

Another Example of Extensive Farming in Essex Co., Ont.—By F. E. Ellis

ONE thousand acres of rich clay loam land, 70 cows, 400 hogs and a working staff of 15 to 20 men. Such is the Rivera Dairy Farm in Essex Co., Ont. It is a project big enough to almost daunt the man accustomed to 100 or 150 acre farms and I must confess when I took the car at Windsor to go out to Amherstburg and see this big farm, which had been for several years under the management of a college friend, Mr. Angus McKenney, I expected to find an extensive outlay of buildings, a costly system of management and much money spent on appearances. Likewise I expected to hear rumors of a big annual deficit, which I had come to regard as a necessary part of capitalist farming. I was wrong on every count. The buildings were economically constructed to serve the purposes intended and not to impress "the natives"; in fact many a practical farmer might criticize the lack of expenditure on appearances. Certainly there was every evidence of good business management, and I have since been assured that this farm, owned on a joint stock basis, has paid good dividends almost every year, crop failures interfering with dividends in some cases as they will on all-farms in an unfavorable season.

The milk from this farm is retailed in the city of Windsor through the Rivera Dairy Company. The farm itself is under the immediate management of Mr. G. H. Jackson, a graduate of the Ontario Agricultural College. There is good connection between the farm and the dairy over the radial railway, which has a stop on the farm. The milk is cooled on the farm and shipped into the city in 80-lb. cans, and is then pasteurized and bottled for delivery at the city plant. It was in company with Mr. Jackson that I inspected the producing end of this dairy enterprise.

I have stated that the buildings are economically constructed. They are, however, fitted with every convenience for minimizing stable work and for the comfort of the cattle. The cows are housed in two long stables, which are wings off the main barn. When I visited the farm in February there were 71 cows milking, but the stables provide accommodation for over 100 milch cows and 50 or 25 more will be added in the near future. The cows stand in two rows facing out and the passageway behind them is wide enough to allow of a cart being driven through when cleaning the stables. The floors are of cement and there is sanitary steel equipment throughout, including individual water bowls. The manure is continuous with the feed alleys slightly raised; a farm of manager which is easily cleaned and therefore regularly cleaned. A small point that I noticed was the utilization of the upper pipe of the stanchion tubing as a vacuum pipe for the milking machine, the expense of duplicating piping being thereby avoided.

The Dairy Herd.

The dairy herd is composed for the most part of

grade Holstein cows, with a small sprinkling of Jerseys to keep up the fat content of the milk. About half of the cows are reared on the farm and the other half purchased in the dairy sections of the province. It is the intention of the managers, however, to rear a greater proportion of their cows, and to this end daily milk records are kept of the production of every cow in the barn and heifer calves from the best cows will be reared. In a commercial proposition such as this, too, no cow can be retained that is not paying profits and the only efficient method of detecting the boarders is the daily milk record. Mr. Jackson informed me that a very conservative average of daily production, from the whole herd would be 25 lbs. of milk a day per cow.

"We feed our cows twice a day," Mr. Jackson informed me. "We start milking at five a.m. and feed



A New Canadian Champion in Record of Performance Test.

Foehel Queen Wayne, owned by Peter Russell & Sons, Alx, Alberta, wins the Holstein championship of Canada in the mature class with 1,121.35 lbs. of butter from 25,060 lbs. of milk. This cow was previously known as the champion yearling producer of the prairie provinces with a record of 841.55 lbs. of butter and 29,887 lbs. of milk. Her recent performance will be hailed by Alberta breeders as still another indication of the suitability of Alberta's climate to profitable dairy production.

at about 7.30. A truck of ensilage goes ahead and another man follows with a truck of grain, feeding the grain on top of the ensilage. The men then have their breakfast. After breakfast they clean the stables and then feed hay. Right after dinner the stables are again cleaned, ensilage and grain are fed at two p.m., the cows are groomed and the afternoon milking commences at 2.30. Hay is fed about 5.30 and the stable work is then over for the day."

"We have gotten very good results from 'we feedings a day,'" replied Mr. Jackson in answer to my question. "Our great difficulty is to get a sufficient supply of efficient labor, and had I the help, I would like to feed another round of ensilage at night. If we could give say 10 lbs. more per cow, it would help out in the milk flow, but this would mean another man in the stable."

Cow's Stabled Year Round.

The cows in these stables are never allowed out of the barn the year round, unless one should happen to get stiff and be taken out for exercise. Only the young stock is pastured. The cows, however, are perfectly comfortable in the stable, even in the hottest months. The doors and windows are screened, and if the flies should get into the stable in uncomfortable numbers, they are fought out in the time-honored way, familiar to all housekeepers. Said Mr. Jackson: "We prefer to be in the stable the year round. It would take an immense amount of pasture for our herd, and we don't consider that we can get enough feed off pasture. Land under suitable crop is at least two and one-half times as efficient as its pasture in keeping cows. We have succeeded feed the year round in the form of silage, and at certain times we can cut crops green. For instance, one year our hay was not good and we went out and cut a few loads of green alfalfa. In a few days this alfalfa brought the cows right back to their milk."

Speaking of alfalfa I soon found that corn ensilage and alfalfa were the standards for this year round feeding plan. On the farm there are two stave silos 35 x 14 feet and a third silo 20 x 14 feet. Two old, double-walled silos are now in use. In growing the corn to put in these silos, the Rivera Dairy are always sure of enough. Husking corn is one of the important crops of the farm. About 50 acres is seeded to corn of an ensilage variety, usually Wisconsin No. 7, and this on the land that is closest to the silos. The corn from this 50 acres is put in the silos first and if they are not full, silage is continued from the land planted to the husking varieties, such, for instance, as Compton or Longfellow. The balance of the corn is then husked and the stalks plowed under. There is always from 50 to 75 acres of alfalfa to be cut for hay.

The Crops.

Cash crops are relied on for a large part of the farm income, the principal ones being fall wheat and corn. In fact, when first established, the enterprise was known as the Essex Seed Farms, and a reputation has already been established by the company as growers of seed corn of superior quality. As much as 10,000 bushels of corn fit for seed has been husked for one year, but in 1917, this farm along with all the others in the district, was visited by an unfavorable season and early frost, and there will be only enough seed for replanting the farm. In all, 300 acres are devoted to corn, 135 to fall wheat, 75 to oats and 25 to barley. Practically all of the oats grown on the farm are fed to the horses, and I found that as a farm crop, Mr. Jackson was not disposed to look on them with favor.

About 200 acres are tile drained. The rest of the farm has good surface drainage and at present the managers are "going slow" on the tile. Each field

(Continued on page 7.)



Getting the Silo Filled is Always a Greater Undertaking Than Threshing on a Large Dairy Farm Such as the Rivera Farm of Essex Co., Ont.

It is now of club was a trick Ayrshire Holstein bred the same to pioneer. A have been of Canada an number. The Ayrshire and easily in Ontario. Itation been fancier, it im of the dairy gations.

The object clubs are used as social clubs on a hand and on the other case of at 1 club, the case of 1 place for some the Menlo Club held successful field day club sales tempted at club, however never, in actual been more than 50 organizations. Menlo Club started to hold sales has served its field exception to a eral rule is the eral counties Breeders' Club center in Oxford counties. This has been each successful field day highly and for all recently.

"These meet new breeders a in his mind for altogether by a result can't keep both. It is on these opportunity to Ayrshire type."

In other words Breeders' Club successful sales on an ex have a few bred intelligently to the club sale type. The line by the Southern by a description on June 14th, on near Brownsville one of the fine began to arrive noticeable that the whole family we all get off to her stated.

Members who gathered at 9.20 the home of Mr. duced the "Jean the long line o to the farm of Burnside Lacky Ayrshire type. the finest milk best visited. T to Brownsville a 200 or 300.

In the forenoon paring lunch in the club member meeting, which announced that been instructed country gathering everybody and Food Controller wanted. The me

When Good Fellows Get Together

A Day With the Southern Counties Ayrshire Breeders' Club

It is now eight or ten years since the first breeders' club was organized in Canada. The Menie District Ayrshire Breeders' Club and the Belleville Holstein Breeders' Club, covering approximately the same township in Eastern Ontario, were the pioneers. At the present time, similar local clubs have been organized in almost every province of Canada and we have long since lost track of their number. These clubs, which represent the Holstein, Ayrshire and Jersey breeds, are found most numerously in Ontario and to such an extent that organization has been carried that in the case of the Holstein fancier, it may be truthfully said that the majority of the dairy counties have one or more local organizations.

The objects of these clubs are usually stated as social and educational on the one hand and commercial on the other. In the case of at least one club, the educational end was given first place for some years; the Menie Ayrshire Club held several successful field days before club sales were attempted at all. Most clubs, however, have never, in actual practice, been anything more than selling organizations. Even the Menie Club since it started to hold its annual sales has not observed its field day. An exception to the general rule is the Southern Counties Ayrshire Breeders' Club with its center in Oxford and embracing all the adjoining counties. This club not only holds two very successful sales each year, but also conducts an equally successful field day. The members raise their field day high and Mr. John McKee, the secretary, spoke for all recently when he said:

"These meetings are important. They will give new breeders an idea of the breed ideal. I believe that every breeder must have this ideal clearly in his mind for if we allow ourselves to be guided together by records in our breeding operations, the result can only be disastrous to the breed. We must keep both type and performance in mind and it is on these field days that we have an excellent opportunity to demonstrate what constitutes good Ayrshire type."

In other words the Southern Counties Ayrshire Breeders' Club realizes that back of continuously successful sales must be intelligent breeding operations on an extensive scale. It is not enough to have a few breeders here and there who are working intelligently but all members who consign stock to the club sale must have a correct type of breed type. The line of action being followed to this end by the Southern Counties Club is best illustrated by a description of the most recent field day held on June 14th, on the farm of C. C. Hawkins and Sons, near Brownsville, in Oxford County. The day was one of the finest and warmest this spring. Cars began to arrive early in the forenoon and it was noticeable that most of the club members brought the whole family along; "the only holiday on which we all get off together in the whole year," one member stated.

Other Herds Visited.

Members who came from Norwich and beyond gathered at 9.30 in the morning at Brookside Farm, the home of Mr. John McKee. The herd which produced the "Jean Armour's" was first inspected and then the long line of autos moved on to Mount Egin Burnside Lucky Messer Swell, a sire of almost ideal Ayrshire type. Morrison Bros., who own one of the finest milking herds in these counties, were next visited. The final relay brought the group to Brownsville and swelled the numbers present to 200 or 300.

In the forenoon, while the ladies were busily preparing lunch in picnic style on the big barn floor, the club members got together for a short business meeting, which, with a sudden end when it was announced that dinner was ready. Everyone had been instructed to bring baskets and at usual country gatherings, there was lots of everything for everybody and much to spare. In deference to the Food Controller it might add that there was nothing wasted. The meal was a social success. Breeders

met other breeders from adjoining counties, many of whom had never before been acquainted, and there was an air of cordial good fellowship which was good to see.

The Addresses.

After dinner the barn became an auditorium and the company listened to a couple of good practical addresses. H. M. King, B.S.A., of the Animal Husbandry Department at Guelph, discussed breeding problems. The point which he impressed most strongly was the growing belief among stockmen that herds can be improved more quickly by selection through the sire than through the dam. Mr. King instanced the experimental work with poultry which proved conclusively that 90 per cent. of the



The Autos which made Possible the Field Day of the Southern Counties' Ayrshire Breeders' Club.

improvement in egg production came through the male bird. He admitted that the advantage of the sire, in dairy cattle improvement, might not be so great as with poultry, but nevertheless it was the important end to be watched. "Do you believe this conclusion to be correct?" he asked the breeders directly and an emphatic "yes" was the response.

Another point of special interest to Ayrshire breeders was the speaker's statement that high butter fat content is an hereditary characteristic to just as great an extent as is great milk production. The statement in this exhibit, that received the most enthusiastic reception from the Ayrshire men present, however, was the speaker's expressed belief that "the Dairy Standards Act should be enforced now."

Mr. Alex. Hume, of Menie, Ont., one of the best known and most successful exhibitors of Ayrshires in Canada, chose as his subject, "The Fitting and Exporting of Ayrshire Cattle." "It is the duty of every breeder," he said, "to select his stock. You cannot stay at home and judge your cattle in your own stable. But the successful exhibitor must work a long way in advance. One must start to plan for the show over a year ahead as it is essential to have exhibition cattle in the best bloom possible. The cows should be fresh and the spring calves should not be allowed out of the stable until taken to the exhibition."

Show Ring and Production Don't Conflict.

"Type is essential in the ring," continued Mr. Hume. "This necessitates that every breeder be working towards an ideal. I know that types run to extremes as much as does production, but I want to tell you that if you breed for the type that wins in the show yard, you will breed for the type that does well in the pen. Prof. Barton, of Macdonald College, has examined carefully the records of the Ayrshire breed, both at the pen and in the show ring, and he has found that it is the same strains that win in both cases."

Mr. Hume advised that the oldest stock be kept in the stable three to four weeks before being shipped to the show ring. Blanketing during this period induces a soft hair and a mellow skin. During this period some succulent feed is essential and oil cake meal is a great assistant to putting the proper bloom on an animal.

"What grains would you recommend?" asked Mr. McKee.

"Oat chop, bran and oil cake," replied Mr. Hume. "The next pointer applies more to the Ayrshire breed than to any other. 'Many spool their cattle at the last minute in the clipping,' advised the speaker.

"The object of the clipping is to make the animal as dairy looking as possible. Proper clipping will give a neater appearance to the type that masks, sharpen the shoulders and give a fuller appearance behind the shoulders.

"We always wash our cattle twice with soap and water," said Mr. Hume. "I wash in the morning. 'We wash once before the show and once again before' (Continued on page 11.)

Saving a Worn-out Farm With Fertilizer

A New England Experience, Told by the Owner

"I PURCHASED the farm six years ago. The previous owner had been a widower for forty years, and had some of the fallings supposed to be typical of men in that condition. The buildings had gone to rick and ruin, and I firmly believe that the floors of the dwelling had not been washed during the period of his widowhood. The fence rows had grown up to brush, most of the land had received no fertility treatment for more than a generation; what barn dressing there was had been spread within shovelful of the barns themselves. Commercial fertilizer had never been used on the farm. However, it was not an 'abandoned' farm—the previous owner had died on the job.

"The farm was not rich enough to keep much stock. It could not keep stock anyhow, because the barns were more than a century old. Never too good, even in their earliest days, the condition in fact I found them when I bought the place showed a high and noble disregard of all sanitary laws.

"The neighbors as a rule were rather scornful of the farm, and unanimously of the opinion that the land could not be brought back unless it was stocked to its utmost. They have already changed their opinion on this point, although not without making some grudging concessions.

The First Success.

"My first attempt at improvement was to sow buckwheat with fertilizer on a piece of land where the grass and clover seeding had failed. The fertilizer was of a 'complete' formula and fairly high in potash. This last fact has a bearing on the subsequent history of this particular piece of land.

"Later I turned the buckwheat under and seeded to grass and clover. The grass seeding set beautifully, and the field is still giving excellent crops. "This particular field had its last potash application in the spring of 1914. The last crop that of 1917, stood up straight and strong without a sign of lodging.

"On another field I started with potatoes. The soil on this field was in very bad condition—old

root-bound in some places, and in other places so thin as to furnish scarcely any humus. I used fertilizer on the potatoes, and the crop returned me a fair profit. I then followed with rye seeded to grass and clover. This field also has been successful, and by the aid of fertilized potatoes the improvement has cost me a little less than nothing. "In still another field I turned over the old sod, limed heavily, fertilized, and re-seeded at once to grass and clover. The wild grass came through, however, and the hay on this particular piece of land is even yet of rather poor market quality. The crop, however, was very low, and the returns from this land almost as large as on the piece improved by means of the potato crop.

Green Manuring Tried.

"Finally, on the last piece, I turned under a heavy green manure crop of rape, spring vetch and oats. I fertilized this fairly liberally. Improvement on this piece of land was started in 1915, when it was impossible to get high potash fertilizers. The land was far removed from buildings, and evidently had had no manure or any other treatment for many years. I got a beautiful grass seeding, but evidently the heavy green manure did not succeed in bringing into play the natural potash of the soil. In both 1916 and 1917 the grass lodged very badly.

"Perhaps the best summing up of the results of my attempt to 'bring back' this land is expressed in the opinions of the neighbors. To-day they call it the 'capital grass farm.' Formerly they insisted that the land could not be brought back on fertilizer alone.

"As to profits, all I can say is that every piece of land which I have improved has more than paid the capital invested. At the same time, I could not have gone on to the farm without caring and making a living from it during the time I was making improvements. I am suspicious that Dr. Hopkins is right when he says that outside capital is always needed to bring up run-down lands."

black, white and red currants. This fruit garden is located close to the house, so that the berries can be picked fresh at every meal. Directly, it is not intended as a money maker, but each year we have a surplus for sale sufficient to pay for all the work expended on it and the neighbors have been glad to come right to the house for the fruit. Its chief value to us, however, is in the addition it has made to our table and to the joy of living. I almost believe that the best thing we have done since starting farming was the planting of this fruit garden and the orchard.

Cultivating the Potatoes

THE biggest agent in keeping the potato field clean is the blind cultivation that is given with the drag harrow before the potatoes have come up. It is much easier to destroy the young weeds just after they have germinated than after they have obtained a firm foothold. The harrow can be kept going until the potatoes are quite a size. It is well, however, to harrow the sprouting potatoes in the afternoon. It is found that the potato sprouts are tougher in the afternoon than in the morning and will not break off so easily when the harrow is passing over them. Potatoes need plenty of cultivation through the growing season. Try and get over them with the cultivator once a week and give them an extra cultivation after each rainstorm to break up the crust and conserve the moisture which is so essential to potatoes.—Douglas Maynard, Leamington, Ont.

Cows, Hogs and Corn on 1000 Acr s

(Continued from page 4.)

must pay profits and therefore must pay for its own tils. "Labor is too high to make tiling profitable now," said Mr. Jackson, "unless the surface drainage is insufficient."

The Swine Department.

The swine department on this farm is unlike the swine department on any other farm in Canada. It was here that the double serum treatment for the prevention of hog cholera was first experimented with in Canada under the directions of the Veterinary Director General. In order to be certain that the treated hogs do not spread cholera to other herds in the neighborhood, a part of the farm has been laid off especially and here the entire hog population of the farm is quarantined and even the marketing of the surplus is hammed about with restrictions. Up to the present also, no hogs from this farm can be sold for breeding purposes. Recently, however, legislation has been allowed whereby counties can take action to permit of the general use of the double serum treatment.

"The merit of this method of preventing hog cholera has been absolutely proven by our experience here," Mr. Jackson told me. "Since using the double serum treatment we can keep our 300 or 400 hogs and feel sure that they will not be cleaned out at any time by hog cholera. Our marketing, however, has been hammed with restrictions which make it a nuisance."

"Hogging down" corn is a common practice in the corn belt of the United States. It has been tried, too, at the Rivera Farm. "We hogged down 50 acres of husking corn last fall," said Mr. Jackson, "and the plan worked well. It saved a lot of labor and we will do it again. When we happen to have a good early crop of corn, we could finish the hogs right off in the corn field. My preference, however, would be to put hogs for four weeks and finish them on cottonseed meal, starting with about one-fifteenth of cottonseed mixed with the corn, increase gradually according to the appetites of the hogs and sell immedi-

ately the finishing period is completed."

The Cost Accounting System.

Not the least interesting feature of this farm is the cost accounting system. One man of the farm staff has charge of all the farm stores, feed, fertilizer, etc. Before he delivers any of his stores to any department of the farm, he must have a signed requisition from the manager. In this way accurate track is kept of the amount of feed and other supplies used in each department. Time sheets are kept for each man and each team and these are filled in by the foreman each night. With this system Mr. Jackson can readily ascertain the cost of growing any crop on the farm, or the expenses of the dairy or hog department. "At the present time," he told me, "I know at the end of each week just how much I have to get out of the dairy herd to clear myself. I always know exactly how much feed I have on hand and what is needed. As a result of this accounting with the crops, we would rather put more land in corn and less land in oats, as we have found the corn to be more profitable under our conditions. This information alone would pay for keep-

ing up the whole cost accounting system."

This same cost accounting system enables the Rivera Dairy to give a really intelligent verdict on the price of milk. "The price of milk is not high enough to enable us to meet labor competition," declared Mr. Jackson emphatically. "It seems to me that some measures should be taken to convince city people that milk is still their cheapest food and to educate them to paying a price commensurate with the present cost of production."

Accommodation For Men.

The staff required to operate the Rivera Dairy Farm varies from 15 men in the winter to 25 to 30 men in the summer months. There are five houses provided for married men and there is a large boarding house for the single men. The boarding house is run as a separate department of the farm. Board is not included in the wages paid to the men employed, but they are given their board practically at cost in the farm boarding house. The married men, too, pay for all supplies that they get from the farm.

I had intended to visit the swine

department and see for myself the serum treated hogs. There was, however, one-quarter of a mile of mud between the dairy barn and the hog department and my car back to Windsor was due, so bidding Mr. Jackson good-bay I hurried out to the little radial station just in time to get the car. On the ride back to town I asked myself this question: Is incorporation farming such as is practiced at the Rivera Dairy Farm due to increase in Canada? Is centralization to be the rule in farming as it has been in all other industries?

If you find it difficult to get arsenate of lead this year, why not try arsenate of lime? This is about one-fifth stronger in its poisoning effect than the former. It should not, however, be used alone on foliage. Add a few pounds of lime to the barrel of water if you are not using Bordeaux.

Poison potato beetles when they are young. One pound of paris green to 40 gallons of water will be more effective with the little soft bodied larvae than will two pounds to 40 gallons when these have grown up to the hard shell stage.



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FARM CHATS

Turnip Drilling

By "Thaddeus."

THE leading article in Farm and Dairy a few weeks ago by David Grayson was much appreciated, some of the points "stuck," and I have those ideas coming to me while I work, making the work more pleasant and the hours pass more quickly. It is an instance when we get value from reading.

My mind was attune with the Grayson sentiment one day recently when I was drilling for turnips. The spirit of contentment and general satisfaction held full sway, and I was happy for a short time. There were reasons for it. Turnip drilling for a man like myself, who is only an average plowman, is apt to be more or less of a trying job, but this day things were going smoothly because of at least three things: a well-prepared soil, efficient power, and an exhilarating and satisfying atmosphere.

The reason for planting all crops this year has been somewhat in advance to what it usually is; consequently, with fine weather, shortage of labor, and a general depression of most things about the farm, there has been a tendency to hasten still more this early planting. I have observed many pieces of corn and root ground sown that were not in the best of shape and when the owner would have gained by continuing cultivation a few days longer. I tried to close my eyes to the fact that these fellows were ahead of me, and kept the team steadily working on that turnip patch. When at last the plow went into the ground to make the drills, it was indeed pleasing to have fine till roll away from the "board" without the jars of conscience as to how the seed would grow.

The team were a pair of Standard-bred who had the same mare for mother, even of temperament, flashy enough to step to a taut rein in a straightforward movement that all plowmen enjoy. The work was not heavy enough to cause them to draw on that latent power of nerve and muscle that all good horses of this class possess. The power there was of a kind that supplied every need and made me glad to be able to work with such creatures.

The day was one of the best of those we have enjoyed this year. Bright, sunny, not cool enough to be pleasant. Everything about spoke of growth and promise. The pasture was good, the cream cheques satisfying. The sheep were thrifty, the young lambs growing, and the price of wool gratifying. The hay gave evidence of an abundant crop. Spring-sown grains were making splendid growth, and had passed the most critical stage in that they now covered and shaded the ground. Rains had been frequent. Altogether everything seemed to point to a fairly prosperous year and good returns for the farmer's toil. Why should he not be happy, contented and satisfied?

The Farmers' Delegation.

Just here the scene was changed, for my thoughts ran into another channel. It was one of those days that the great delegation of farmers met in Toronto, and I had been partly through the flood with them, and knew that as a class the Ontario farmer of to-day could not lay claim to any of those above-mentioned desirable conditions when I applied the three factors that made my frame of mind in the turnip field so edifying and enjoyable, to the farmers' gathering in Toronto June 7. I found in a measure, a reasonable excuse for

it. It is a truth that Ontario farmers were not a well-prepared soil for conscripted military service. When the M.S.A. was, therefore, applied, the ground could not receive it. Again, in their uprising they, in turn, were not prepared. This was painfully evident at both the Ottawa and Toronto gatherings. There was a great lack of a unified and carefully-thought-out schedule of the requisite articles to make their soil productive.

Again, the motive power, though strong enough, was not harnessed and trained in a manner that brought forth the maximum results without suffering from side-stepping, crowding, unequal draft and other evils attendant on a mismatched, untried team. All this had the tendency to ruffle and worry those who held the plow and drove. Had it not been, I think we are all willing to concede for their quiet, cool, level-headed leading, praesiding and driving, disaster would have been inevitable.

The surrounding atmosphere in this picture was the opposite of the other. Storm clouds of townspeople's diverse opinions were present on every side. The powers that be trained their displeasure in comments upon the untilled soil, nearly causing mobs and other fatal things.

Yet we pressed on and hope to succeed. In conclusion it seems to me we, as farmers, must learn not to abandon the fighting line at Ottawa, Toronto, and other seats of government, but start a stronger cultivation drive at home, whereby we may think a great many more unitedly and more to the point. This can best be done by organized motive power in farmers' clubs and kindred organizations. Hitherto our local clubs have straggled all too much for the sole purpose of cooperative buying and selling, neglecting the much more important side that was so lacking in this last great campaign. Meetings should be held regularly and attended regularly when vital agricultural questions are discussed and settled, not altogether by imported speakers of talent and great oratory but by ourselves. Thus an education would be provided that would help to raise the general standard of the mature mind of those who farm the land to a level that would make it workable and productive. At the same time it would dispel much of the dawning and counteracting atmosphere so prevalent among other classes of people to-day, and would gradually establish a general equilibrium of thought and action that would produce a greater and grander citizenship throughout the Dominion.

The Size of Nails

By Frank P. Goeder.

IT too frequently happens that in going to the hardware store you find a choice and you find ourselves in doubt as to what size we want. Nails are usually sold by the pound and according to the "penny" for example, a 10d nail is three inches long and 15/16 inch in diameter. The following table gives information on the different common nails. Remember that brads differ from common nails only in the head and point.

Size	inches	inches	Gauge	pounds
			B & S	
2d	1/4	1/16	12	37 1/2
3d	1/2	1/16	12	56 1/2
4d	3/4	1/16	10	31 1/2
5d	1	1/16	10	27 1/2
6d	1 1/4	1/16	9	21 1/2
7d	1 1/2	1/16	9	18 1/2
8d	1 3/4	1/16	8	16 1/2
9d	2	1/16	8	14 1/2
10d	2 1/4	1/16	7	13 1/2
12d	2 3/4	1/16	6	11 1/2
16d	3 1/2	1/16	6	9 1/2
20d	4	1/16	6	8 1/2
30d	4 1/2	1/16	4	24
40d	6	1/16	3	18
50d	6 1/2	1/16	3	14
60d	6 3/4	1/16	3	11

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J. H. Grisdale, Deputy Minister

NEWS comes from Ottawa that Joseph Hiram Grisdale, B. Agr., Director of Experimental Farms system, has been appointed acting Deputy Minister of Agriculture in succession to Mr. Geo. F. O'Halloran, who becomes Chief of the Patents and Copyrights Division, which has been transferred to the Department of Trade and Commerce.

Mr. Grisdale is probably as well known to Canadian farmers as any other public man, and he is eminently fitted to fulfil the duties of his new position, should the appointment be made a permanent one. His early education was at Albert College, Belleville, Ont. From there he went to the University of Toronto, where he took part of the Arts Course with honors in political economy, philosophy and modern languages. He is also a graduate and gold medalist of the On-

courses during the year was 1,433. The president makes the following comment on these figures:

"We find that the war is affecting the attendance at the agricultural college in about the same proportion as at other educational institutions. In our regular courses of two and four years the numbers are greatly reduced. The attendance at the summer courses for teachers and the short winter courses for farmers, has been very good under the circumstances, figures for the summer school being almost double those for the year 1916."

The financial statement shows total expenditures of \$311,922.82, revenue \$5,289.86, and a net expenditure of \$296,732.96. The farm department had an expenditure of \$25,316.46 and a revenue of \$15,043.30; the poultry department, \$12,790.75 and a revenue of \$5,544.33. These are the only two departments that met more than a small proportion of their expenses with revenue.

APICULTURE

Bee Diseases

THE widespread demand for bees this year has increased the risk of the spread of bee diseases. Two of these, American Foul Brood and European Foul Brood, cause a heavy loss to the apiculture industry every year, and wherever they are found they should be treated promptly and reported to the provincial apiarist or bee inspector.

Every beekeeper should know how to recognize these diseases, and how to distinguish them from the less serious Sacbrood.

In American Foul Brood, the bee larva or maggot, in the stage just after it is capped over with wax, becomes a viscid coffee-colored mass, which can be made to rope out an inch or more and has an offensive, yellowish odor. Cells containing the rotten larva have their cappings discolored, sunken, irregularly perforated or removed altogether. The remains dry to a scale which adheres tightly to the wall of the cell. This disease must be treated by shaking the bees into a clean hive containing frames fitted with narrow strips of foundation, and burning or boiling the combs, as explained in the Experimental Farms Bulletin No. 26, (Second Series) "Bees and How to Keep Them."

European Foul Brood attacks most of the larva before they are capped over, while they lie curled up in the bottom of the cell. The larva turns yellowish or greyish and melts into a pulp which will not rope or will rope but little, and has a slightly sour odor. A few capped larvae are often affected. Sometimes a fetid odor is present. The dried scale is easily removed. Italian bees will resist this disease, and therefore, the best treatment is to introduce Italian queens of a good strain. The shaking treatment should also be carried out in many cases.

In Sacbrood the dead larva, with darkened skin lies extended in the cell. Usually the entire larva can be removed from the cell without breaking the skin. On puncturing the skin, the contents are found to be more or less watery. Colonies affected by this disease usually recover and no treatment is necessary.

To guard against foul brood, do not buy bees on combs or used bee supplies, unless you are sure they are clean. Do not feed your bees with honey from another apiary. Keep the colonies strong and avoid robbing. If European Foul Brood is in the district, Italianize, without delay.

Do not cut the sewing machine belt when it becomes too loose. Instead put a few drops of castor oil on the band, run the machine a few minutes and the belt will be tightened.



Main Street, Pictou, Ont., Constructed with "Tarvia-X" in 1918

Tarvia Roads for Towns and Villages---

THE road problem of a small town is an awkward one. Property values as a rule cannot sustain costly types of pavement, whereas the traffic

coming in from the surrounding countryside may be heavy. The best roads for towns so situated are Tarvia macadam.

Tarvia is a coal-tar preparation which binds the stone together, making a tough, slightly plastic surface which is automobile-proof, dustless, and durable. An old macadam road can be converted to Tarvia macadam at a slight cost and will therefore show a very high annual upkeep.

In fact, hundreds of miles of macadam are being converted to Tarvia macadam every year in recognition of the lowered cost of maintenance and the net saving in taxation. When Tar-

via roads are introduced, the business of the community usually increases greatly—more products going out and more money—and goods coming in.

Statistics invariably prove that where good roads replace poor roads, the people of the community save enough in hauling ex-

penses the first year or two to pay for the roads. And further, good roads will convert the most dismal, stuck-in-the-mud community into one that is up-and-doing, and throbbing with life and growth. Numerous towns all over the Dominion now use Tarvia on a large scale in order to reduce maintenance expenses as well as to get durable, dustless and mud-less roads.

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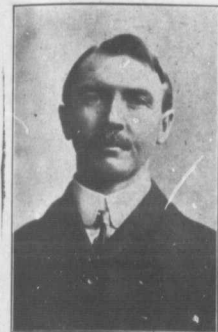


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When Writing Mention Farm and Dairy



Mr. J. H. Grisdale.

tario Agricultural College and of the Iowa State College of Agriculture. He first became known to Canadian farmers when he was appointed agriculturalist of the Central Experimental Farm in 1899, and in 1911 he succeeded the late Dr. Wm. Saunders, who had been Director of the Experimental Farms from their organization.

Since Mr. Grisdale's appointment in 1911, the work of the Dominion Experimental Farms System has been greatly extended. The tobacco service has been attached to that branch and the following new divisions added to the headquarters staff at the Central Farm: Field Husbandry, Extension and Publicity, Forage Plants, Apiculture, Illustration Station and Economic Fibre Production. In addition to a number of new sub-stations regular Experimental stations have been established at the following points: Kentville, N.S.; Fredericton, N.B.; Lennoxville, Que.; Spirit Lake, Que.; Kaskasing, Ont.; Morden, Man.; Sault, Sask.; and Livermores, Summerland and Sidney, B.C.

As the directing head of numerous farms from one end of Canada to the other, Mr. Grisdale possesses that intimate knowledge of Canadian agricultural conditions that should be possessed by one holding so important a position in relation to agriculture as Deputy Minister for the Dominion.

The O.A.C. Annual Statement

THE 43rd Annual Report of the Ontario Agricultural College and Experimental Farm for 1917 is now available for distribution. The College reports that during the year 398 students were enrolled in the various short courses and 287 in the regular course. Macdonald Institute enrolled 366 students in regular courses and 398 students in summer courses. The total attendance at all

In diameter to summer, and when the stock is feeding during the winter months, the silage is so moist that it is not so bulky as the silage made in the summer.

The question of silage making is one of the most important of the farmer's life, and it is one that should be given the most careful consideration.

For those who wish to make a larger investment in silage making, it is well to remember that the silage made in the winter months is of a much higher quality than that made in the summer.

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Regarding

GERMANY has been fixing its valuation for barley in the market, to wit: 100 cents per bushel, 100 cents per bushel, 100 cents per bushel.

As a remedy most developed for the physical and requiring this at certain centres.

As a remedy most developed for the physical and requiring this at certain centres.

It is not a question of price, but a question of getting good horses at any price in the old country just now, according to Mr. Wm. Graham.

Mr. Graham says that he travelled for three weeks through France, Belgium and Holland in search of good horses.

He found that the market for horses was not even allowed to see the animals he was looking for.

He offered five thousand guineas for one stallion and two thousand guineas for another, but neither of them could be obtained because their services are under contract at home for years.

Further indication of the sort of horse situation that exists in Great Britain is seen in the fact that even good geldings are selling at 100 to 250 guineas.—Toronto Globe.

One of the best mixtures in treating the potato beetle is made from one pound of paris green, two pounds of the paste form of arsenate of lead and five pounds of arsenic acid.

weeks to three months of age. I was glad to learn that it was not a serious contagious disease."

The Sheep's Mouth

LAMB has its first set of milk teeth at about four weeks of age. The first coat of slightly oval-shaped small teeth on the lower jaw. At one year the two middle milk teeth are replaced by two large permanent teeth. At two years the second pair of milk teeth are replaced by permanent teeth.

Pig With Rheumatism

SOMETHING has come wrong with a sow here. She can hardly walk by her hind legs, more so in getting up. While lying down she can get up as if she is paralyzed.

Excessive corn feeding puts more of the corn belts of the United States and in sections of Canada where corn is to be used for feeding.

The most likely cause of the trouble in the case of your pig is rheumatism. Pigs often go down in the hind quarters from sleeping in damp or draughty quarters.

If you can arrange to give plenty of feed and have a good dry place for the pig, she will get all right. Rheumatism will not harm the pork if she were killed.

The disease can usually be avoided by allowing a horse to stand in a yard or pasture during the idle periods of the year or even by greatly reducing the grain ration during temporary idle periods.

There is satisfaction and comfort in having mares similar enough in type and action so that one can readily fill the place of another at any time of farm work.

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SHEEP AND SWINE

Profitable Pig Feeding

MR. J. W. MOOTE, dairy farmer of Haldimand county, and an enthusiastic hog breeder, fully appreciates the value of hogs as a sideline to the dairy business.

9 pigs weighing 1,890 lbs. at \$20.25 = \$382.72
6 pigs weighing 1,300 lbs. at \$19.50 = \$24.60
per cwt. = \$616.72

15 pigs 5 weeks old = \$65.00
25 cwt. middlings = 67.50
25 cwt. wheat screenings = 57.50
2750 lbs. of corn = 17.40
6 tons of skimmed milk = 20.90
Total profit = \$389.12

This statement, of course, accounts only for the feed consumed. Interest on investment and labor charges must be added.

Back Yard Pigs

THE Production Campaign in Brampton this year is even better than last, and I do not believe there are any houses that have not a garden. But we did not limit the production movement to gardening alone, and the advertisements were put in the paper to the committee would see that townpeople who wished to buy young pigs would be put in touch with men having some for sale.

Reference, Merchants' Bank, or any of our cream shippers. Valley Creamery of Ottawa Limited, 319 Sparks St., Ottawa.

DENMARK'S stock of swine has been reduced from 2,550,000 head at the beginning of the year to 400,000 at the present time.

Ignorance or Carelessness? NEGLECT of the pig's comfort is apt to be costly nowadays with pork running at \$13 to \$16.

"Last week it was reported to me that a farmer near Williamsburg had lost over 30 hogs in a month's time. I got in touch with the Vet. Director General's Department, and arranged with them to send one of their officials out to investigate."

"The following report from E. F. Bradt, district representative in Dundas Co., Ont., tells its own story:

"I got in touch with the Vet. Director General's Department, and arranged with them to send one of their officials out to investigate. He accompanied Mr. Hall of their Department to the farm. One of the pigs was killed and a post mortem investigation revealed that it was Short Prognathus. Mr. Hall who made the investigation, stated that it was not considered very contagious and was due more to the conditions under which the hogs were kept."

"We found that the farmer had simply placed his hogs into a yard outside without providing any sleeping quarters. He has had the same disease among his pigs for the past three years, and stated that he had lost over 100 pigs in that time. It affects them when they are from six



Handy Scales for Farm Use

Convenience and service are the chief features of the Fairbanks Farm Scales

The handle at the base of the weighing post permits of ready transportation on its own wheels to any part of the farm buildings.

Write our nearest branch for full details of this and other types of scales.

The Canadian Fairbanks-Morse Co., Limited

55 John Street, Montreal, Toronto, Hamilton, Windsor, Winnipeg, Calgary, Saskatoon, Vancouver, Victoria.

CREAM WANTED

We again solicit the patronage of both old and new shippers for the coming season.

Shipments will receive the same careful attention as in the past and highest prices will be paid promptly for good churning cream.

REFERENCE, Merchants' Bank, or any of our cream shippers.

Valley Creamery of Ottawa Limited

319 Sparks St., Ottawa

CABBAGE PLANTS

Of all leading early and late varieties for home use, small, medium, or large.

Herold's Farms, Fruitland, Ont. Niagara District.

GILSON SILO FILLERS

THE GILSON SILO FILLER is the one silo filler which can be used in any silo with an inlet power at 4 h.p.

Will Silo Filling Time find you ready?

Write for catalogue and prices. Gilson Mfg. Co. Ltd., 29 York St., Goshen, Ont.



The Silo for Year Round Use

(Continued from page 2.)

in diameter to be fed from during the summer, and if sufficient silage is left when the stock is turned to pasture to feed during the summer, the silage problem is solved. If, however, there is no silage left, or only a small amount, the silo may be refilled with legumes or small grain.

The question of refilling the silo with small grain for summer feeding, or of having a separate silo to be filled with corn for this purpose, should be decided upon the following basis: A fifty-bushel yield of corn produces practically twice as much feed value to the acre as does a fifty-bushel yield of oats when both are put into the silo so that the entire crop is consumed. On the other hand, when small grain is put into the silo and fed out during the summer so that the same silo may be refilled in the fall, a saving is made on the investment in silos, as the same structure is used twice during the season. The crop grown is fed immediately and not held practically a year, as with corn silage, resulting in saving interest on the investment in growing the crop.

For those who are able to make the larger investment, a silo small enough in diameter for summer feeding and filled with corn the year previous is to be desired. But where this is not available at the present time, putting some early maturing crops into the silo to supplement the pasture will mean a great saving in the feed bill and a large increase in the returns from the herd during the summer.

Regarding Price Fixing

GERMANY has had and is still having her troubles with price fixing in various industries. For instance, the only present legal market for barley in Germany is the Government, to which the farmer must sell at a fixed price of about four cents per pound. Short of physical compulsion, however, there is nothing to prevent the German farmer from feeding his barley, strictly on the equis to his hogs. And he does so, for the price of hogs is not fixed and by the time barley is changed into pork the price per pound received for the barley is nearly doubled. Somehow, we seem to recall that things of this kind have happened in this country.

As a remedy the German Government developed a vast organization for the physical taking over of crops and requiring that barley be delivered at certain central warehouses at the price stated. A recent speaker in the Reichstag rather aptly discussed this situation as follows:

"The first stage," he said, "was for the State to declare that it would take over all crops. The second stage was in making up a Committee of Control. The third stage was the appointment by the Committee of a vast army of officials. The fourth and final stage was the disappearance from the market of the commodity in question."

All of which we respectfully commend to those who believe that price fixing by the Government in a panacea for any and all industrial and agricultural ills.

A Cow to the Acre

H. B. FAIRBANKS has a small farm in the outskirts of Manchester, New Hampshire. He has developed this into a dairy farm, producing milk to sell in Manchester. He endeavored to make it worth handling, and it was necessary to produce milk in considerable quantity; much more than is ordinarily produced on a farm of this size. This meant a large cow population and a big increase in the farm food production in order to support them. How well Mr. Fairbanks has succeeded can be measured by

the fact that at the present time he has 16 cows, a herd bull, a few head of growing stock and farm horses on 18 acres of land. He now has the farm to the point where it will raise all the forage and hay necessary to maintain the cattle on the farm.

He does not pasture the cows at all, only allowing them out of the barn for exercise. He depends upon rye, fodder corn and second crop hay cut green for summer feed and first crop hay for winter feed. All feeding is done in the barn.

Mr. Fairbanks systematically topdresses his meadows with both manure and commercial fertilizer, as the manure alone does not make a good balanced plant food. When he can get it he uses from 300 to 500 pounds per acre of a special grass mixture. Originally, he used chemicals for topdressing, but of late years he has depended upon commercial fertilizer.

Mr. Fairbanks is a firm believer in proper tillage and plenty of fertility. He says that most farmers make the mistake of using on ten acres the manure and fertilizer which should be applied to one. His hay fields show the result of care. He annually harvests 4 to 5 tons of hay to the acre in two cuttings. He says that he has been compelled to cut over his meadows a third time some years to keep them from smothering out during the winter, and making "fog in the morning" the following spring.—E. G. McCloskey in Rural Life.

When Good Fellows Get Together

(Continued from page 5.)

fore the judging. One can hardly get an animal clean at one washing. We clip before the second washing and in our breed of cattle we never think of using any oil for rubbing into the hair. It would yellow the hair.

"On exhibition day some of the animals must be well filled out, while others should not be so fully fed. It depends on the animal. Another point, which counts at the last minute, is the handling of the animal in the ring. Keep one eye on the animal and the other on the judge. Some animals look best with their heads well up, but others are at their worst in the same attitude."

Judging Classes.

After answering a couple more questions the meeting adjourned to the barnyard, where classes of cattle, young and old, selected from the herds of Mr. Hawkins and his neighbors, were first placed by the club members and then by Mr. Hume, who gave reasons for his placings and by a criticism of the best animals in each class, endeavored to place before the gathering what constituted ideal type. From an educational standpoint, this was the most valuable part of the day's proceedings. In the latter part of the afternoon the autos began to glide away, some of them with a 50-mile run between Brownsville and the home chores.

It may be that, as time goes by, additional features will have to be introduced to maintain interest in these field days. But their value cannot be questioned. Why it is worth a lot for the breeders of a district and their families to get together in a social way and become acquainted. It engenders the spirit in which cooperative effort of any kind succeeds best.—F. E. E.

The wire walls, half bushel size, are the proper receptacles for use in picking potatoes. They are light and allow the dirt to drop through, so that very little is carried into the cellar.—Douglas Maynard, Leamington, Ont.

"Are you laughing at me?" demanded the professor sternly of his class.

"Oh, no, sir," came the reply in chorus.

"Then," asked the professor even more grimly, "what else is there in the room to laugh at?"

THE BEST INSURANCE IS LIGHTNING RODS

\$100,000 is roughly estimated as loss Ontario farmers suffered in the great electrical storm of Tuesday night, June 11th. Barns were destroyed in almost every part of Southern and Eastern Ontario. Nearly all of this great loss could be saved by the proper rodding of buildings. Such has been proven by practical experience.

Here's the Proof---

Two-thirds of all rural barn claims settled by 40 Insurance Companies in Ontario, over a period of 12 1/2 years were due to

Lightning

This year the country can afford the loss of your barn or your crop. It will be well spent money to put your buildings in the "Safe" class. You can prevent the loss and reduce the cost of your insurance by equipping them with rods made by

Write Ontario Department of Agriculture

for Bulletin No. 220. On page 3 you will see the following: "Today we know from Experience that Lightning Rods, properly installed, are almost absolute protection."

The Universal Lightning Rod Co. Hespeler - - - Ontario

Send for free literature to-day

Some Advertisers who blame advertising for poor business never think of considering their own weakness in follow up. Moral—Attend faithfully to all correspondence.

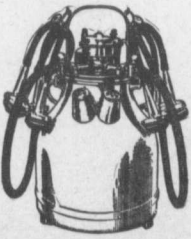
Extra Hours of Daylight

THINK what you could do with another extra working hour each morning and evening. How you could make the whole farm jump.

With hand-milking you have all hands at milking morning and evening.

With the Burrell Milkers you have one man doing the work of three men in the same time. That saving in labor means extra hours of daylight on your farm.

BURRELL (B-L-K) MILKER Good for the Herd



This saving in labor alone pays for the Burrell outfit in less than a year.

Many dairymen who found hand-milking unprofitable and intended selling the herd have used Burrell's and then increased the herd.

Send for free illustrated booklet explaining all the advantages and proving them by experiences of dairymen, big and little.

D. Derbyshire Co., Ltd. BROCKVILLE, ONT.

Farm and Dairy

AND

Rural Home

"The Farm Paper for the farmer who milks cows."
Published every Thursday by
The Rural Publishing Company, Limited
Peterboro and Toronto.



SUBSCRIPTION PRICE, \$1.00 a year. Great Britain, \$1.20 a year. For all countries, except Canada and Great Britain, add 50¢ for postage.

ADVERTISING RATES, 12 cents a line (at \$1.50 an inch insertion. One page 50 inches, one column 25 inches. Copy received up to Saturday preceding the following week's issue.

Peterboro Office—Hunter and Water Streets.
Toronto Office—37 McCaul Street.

United States Representatives:
Stockwell's Special Agency.
Chicago Office—People's Gas Building.
New York Office—Fribourg Building.

CIRCULATION STATEMENT.

The paid subscriptions to Farm and Dairy approximate 30,000. The actual circulation of each issue including copies of the paper sent to subscribers, who are but slightly in arrears, and sample copies, varies from 18,000 to 20,000 copies. No subscriptions are accepted at less than the full subscription rates.

Sworn detailed statements of circulation of the paper, showing its distribution by counties and provinces, will be mailed free on request.

OUR GUARANTEE.

We guarantee that every advertiser in this issue is reliable. We are able to do this because the advertising columns of Farm and Dairy are as carefully edited as the reading columns of this paper to protect our readers. We turn away all unscrupulous advertisers. Should any advertiser herein deal dishonestly with you as one of our paid-in-advance advertisers, we will make good the amount of your loss, provided such transaction occurs within the month following the issue, that it is reported to us within a week of its occurrence, and that we find the facts to be as stated. If it is a condition of this contract that you as advertisers you state: "I saw your advertisement in Farm and Dairy."

Requests shall be made at the expense of our subscribers, who are our friends, through the medium of these columns; but we shall not attempt to adjust trifling disputes between subscribers and honorable business men who advertise, nor pay the debts of honest bankrupts.

The Rural Publishing Company, Ltd.

PETERBORO AND TORONTO

"Read not to contradict and to confuse nor to believe and take for granted, but to weigh and consider."—Bacon.

The World's Food

THE statement of Mr. Auld, Deputy Minister of Agriculture for Saskatchewan, that a large part of the wheat crop in that province is in a precarious condition, will cause uneasiness to all who have kept in touch with the world's food situation. Recent advices from Russia are to the effect that the peasants are not cultivating their farms and the so-called Russian government is actually appealing to China for provisions to tide them over next winter. In Palestine, and, it now develops, in large sections of Africa also, the populations will be practically dependent on foods imported from America. All of southern Europe, including our two allies, Greece and Italy, are extremely short of foodstuffs, and the coming harvest will meet only a part of the need. French harvests will be much below French requirements. In addition to our obligations to our allies, we also have certain obligations to the neutral nations of Holland, the Scandinavian countries, Spain and Switzerland. Above all, we must feed Belgium.

The situation is not without its hopeful features. The grain acreage in America has been increased this year and crop reports from the United States and Eastern Canada are most reassuring. Even in Western Canada the increased acreage may counterbalance the short crops of Saskatchewan. England will this year be nearer to self-sustaining in food matters than for several generations. Shipping facilities, too, are on the increase and it may be possible to import largely of the surplus crops of Australia and India. Even at the best, however, there is going to be a terrible shortage of food and we fear that many more will be added before another twelve months have passed to the already staggering total of five million people who have died from starvation since the war began.

The farmers of Canada, with a greater per capita production than any other people in the world, hold a place of strategic importance under present conditions. It was their realization of the importance of the role which they are called upon to play in the feeding of the world that led Canadian farmers by

the thousands to protest against the most recent censorship measures of the government. A measure of relief is conferred in the announcement that nineteen-year-old boys will not be called until after harvest, but the seriousness of the food situation demands that the government give the farmers the assurances that are necessary to the greatest possible production in 1919. It cannot be denied that at present the rural attitude is one of suspicion and distrust, an attitude that can be remedied only by the government taking the people more into its confidence. Withholding information never accomplishes any good purpose in a democratic country.

Where is the Limit?

TWO distinct tendencies are distinguishable in the pure bred dairy cattle business. The highest class of registered dairy animals are selling for higher prices than ever before and values are continually advancing. Pure bred animals of ordinary good quality, on the other hand, were never, comparatively speaking, so cheap as they are to-day and there never was a time when the sale price of a herd of good grade dairy cows so nearly approximated the buying price of a herd of pure bred cattle to replace them.

Both of these tendencies were evident in the auction sales of this spring. Prices on the best animals have been soaring continually and this is true of all the dairy breeds. Holstein fanciers applied the cap sheaf when the Carnation Stock Farms paid \$106,000 for Champion Sylvia Johanna. This young bull is from the greatest milk producing strain of the breed. His dam, May Echo Sylvia, holds all world records from 152.1 lbs. milk in one day to 12,899 lbs. of milk in 100 days. All Canadian breeders will feel a thrill of satisfaction that the world's record price was given for a bull of Canadian breeding and will congratulate Mr. Hardy on his accomplishment. Although a six-figured price such as this has been realized but once, the upward tendency of prices was evidenced at the same sale by the frequency with which the \$10,000 mark was passed. Coming back to sales on this side of the line we have in mind three sales in particular at which four-figured prices were frequently reached and reached because of the rich breeding and record making of the animals offered.

Do these sales presage the day when pure bred and registered dairy animals will be divided into two classes, high priced breeding strains on the one hand and just good commercial stuff on the other? One thing, at least, is certain—the big prices in the future are going to be confined to a few well developed strains in each breed.

British Export Restrictions

THE British Government is not going to longer permit the indiscriminate sale of live stock to buyers outside of the British Isles. For the past two years pedigree animals have been sold in all classes of pedigreed animals. Foreign buyers have been bidding so high that breeders in the Old Lane have yielded to temptation and parted with stock that, for the good of the British live stock industry, should have stayed at home. The government has now decided that this is a menace that must be stopped. All British exporters of pedigreed stock are now under license and they must not send from the British Isles a greater number of live stock than the average number of their exportations for the past three years. With this ruling in force the export business from the British Isles for the balance of this year will be of small proportions, as great numbers of registered animals have already been shipped.

This action on the part of the British Government was expected by all importers on this side of the water who have kept in touch with developments in the Mother Land. The wisdom of the restrictions cannot be questioned and the significance of this action should not be lost on the Canadian breeder. It serves to show in a most substantial manner the importance of conserving breeding stock as viewed by British authorities. It is an indication of the emphasis that it is expected will be placed on live stock

development after the war. And if England needs to conserve her breeding stock, how much more will the European countries be in need of stock with which to start anew the herds and flocks now destroyed? The movement of breeding stock after the war will not be from the Old World to the new as in all past years but from the New World to the Old. The demand for dairy breeding stock promises to be particularly keen, and this is a market that every dairy cattle breeder should consider in laying his plans for the future.

Farm and City Wages

LET farmers pay the wages and they will get the men."

When this statement was made by a Toronto employer last summer, just about the time that farmers were paying \$3 to \$3.50 a day for harvest help, it caused a wave of resentment throughout the country. Farmers replied that, when the board was considered, they were paying just as much as they could reasonably be expected to pay, and that a man would be just as far ahead working for them at the prevailing farm wage as he would be working in a shop or factory for seemingly higher pay. Statistics and estimates recently compiled by the Employment Division of the Ohio Council of Defense, would indicate that the farmers were right.

The Ohio estimates show that a farm laborer, working at \$30 a month, can do fully as well as the city laborer working in the city at \$105 a month. A married man working on the farm at \$40 a month is as well off financially as a married man working in the city at \$100 a month, and at the end of the year will actually have saved more. The apparent difference between farm and city wages is reconciled by a high expense against the city income and a low expense against the farm income. The city worker pays out money at every turn while the farm worker has a free house, garden, fuel and many privileges which make for saving. The farmer-employer, however, has to provide these extras at a considerable expense to himself, and they should rightly be considered in estimating farm wages. The Ohio example might well be followed by our provincial departments of Agriculture here in Canada, and the publication of their findings might do much to remove one cause of friction between farm employer and city workers.

They Acted in Time

A YOUNG man in York Co., Ont., took out a life insurance policy for \$4,000. He was just twenty-four years of age, recently married, and when examined by a skilled physician was pronounced to be in the best of health. He seemingly had no more need of life insurance than thousands of other young married men who have not as yet taken out policies. He paid his first premium of \$99.60. Just 311 days later, or before he had paid his second premium, this young husband was killed in an automobile accident. His wife, who would otherwise have been penniless, was paid the comfortable sum of \$4,000 by the insurance company.

A man of thirty-nine years, this time in the Province of Quebec, took out a policy for \$2,000 with one of the leading insurance companies. His first premium was \$54; eighty-four days later he contracted pneumonia and died. His wife was paid \$2,000 by the company.

And so we might multiply instances of men who, by their foresight in the matter of life insurance, have provided for loved ones who otherwise would have been cast upon their own resources from the day of the bread-winner's death. We believe that such insurance is as much needed in the country as in the city. It is needed by the old man with so estate worth mentioning and by the young man on the mortgaged farm; and most farms owned by young men, we have noticed, have mortgages against them. In fact, there is only a small proportion of us so well fixed that we can afford to turn the dog on the life insurance agent. The agent who represents a reliable company, cannot be regarded as other than a public benefactor and he is always deserving of a courteous hearing at least.

Letters to the Editor

A Senator's Misstatements

EDITOR, Farm and Dairy.—I have just been reading the great reports of the Montreal meeting of the Canadian Manufacturers' Association. Your attention must have been attracted, as mine was, by a statement made by Senator Nichols that wheat growers were making 200 to 300 per cent. profit on their wheat. Senator Nichols, of course, is wrong. Profits such as this are impossible. I am not surprised, however, that Senator Nichols should speak so glibly of 200 and 300 per cent. profits. He knows something about such profits by practical experience, whereas farmers would mention such figures with bated breath and in unbelief.

Who is this Senator Nichols anyway? When I first heard of him, and I believe it is the same man, he was peddling either washing machines or sewing machines. I am not sure which, for a living. But Senator Nichols has travelled far since the days of his humbleness. He is now the controlling head of the Canadian General Electric Company, and in that capacity, a millionaire, probably several times over. He has a country estate up north of Toronto, where he employs enough men on 17 acres to work several good tobacco acres, and that on the absolutely unproductive and unnecessary work of landscape gardening; I mean, unnecessary in war time. To travel from a position of nothing at all to affluence such as this, Senator Nichols must have been very familiar with profits of 200 and 300 per cent. and even more. Such financial success as his is never possible through productive work such as farmers do.

I am not complaining of the financial status of the farmer. For the second time in the history of our industry, we are getting returns commensurate with our capital investment and the labor involved. The first occasion was during the Russian war. There are returns such as any business man would expect, and rightly, in normal times. There is no war-time profiteering on the farms. But why should we add to our burdens a higher protective tariff in order that we may add still more to the over-growth fortune of such men as Senator Nichols? Am I sure? Well, perhaps I am. It would make anyone hot under the collar to have his business so grossly misrepresented as the Senator has misrepresented the industry of farming.—C. T. Peterboro Co., Ont.

Inexperienced Help

EDITOR, Farm and Dairy.—The farmers of Canada, with very few exceptions, have to undertake the harvest work with the help of green labor. In this connection they should realize that we are at war. They should adjust the work throughout the farm to suit the new conditions, and they should begin right in their own minds.

The best recent illustration of what can be done in an emergency when only inexperienced men are available, is that of the battle of Picardy, when the fifth army, under General Gough, was overwhelmed and outnumbered. It looked inevitable that the Huns would break through and capture the city of Amiens, which would have meant the interruption of railway communication between Channel ports and Paris, cutting off the British from one of their chief bases of supplies. General Carey, however, saved the situation. He called upon all classes of men behind the lines, whether they were soldiers, cooks, camp followers, railway construction men, Chinese laborers, medical service men, transport men, or whatever they were, and organized them to fill the breach. With these men he succeeded in doing what the fifth army failed to do—he held the line! With no training in trench

warfare, and no fighting organization before that time, General Carey gathered them together, and this uneducated gathering of troops kept the Huns back for six days and nights until reinforcements arrived. General Carey did not say "I can't use this untrained class of men," but he set to work without a moment's hesitation to make the best of them, and he succeeded in saving the British army and its allies from a desperate crisis.

Similarly, if the Canadian farmer makes up his mind that these are war times and war measures are necessary, there is absolutely no doubt he can utilize, to a tremendous advantage, the man-power and woman-power of the towns, where people are only too willing to go to his assistance, if they are organized to do so. He must not expect them to be experienced and to know as much about the details of farm work as he does. It has taken him a life-time to acquire his information. Townspeople have spent their lives at different work, but with his knowledge of farming and his intimate acquaintance with his farm and all its needs, he should have the ability to organize inexperienced help and show each helper his or her particular job and how best to accomplish it. A few hours patient teaching in any one particular line will very soon enable a greenhorn to "Carry on," as they say in the army. By patience and consideration the farmers of Canada can, without question, effect any organization from green but willing help from town, that will not only surprise themselves, but will also be of tremendous benefit to the Empire by the increased results of their harvest.

—Canada Food Board.

The Farmer's Luxuries

EDITOR, Farm and Dairy.—It would be interesting to calculate what salary one assumes the city man would need, to possess the privileges (he would call it luxuries) of the ordinary farmer. Anyone can see that a salary of \$2,500 would not warrant the city man in keeping a team of horses to do his driving whenever he, or any of his family, felt like it, a driving sleigh, now costing \$60, a buggy, harness, single and double, single and double sleds, to say nothing of hauling he might have to do, as fuel, etc., like the farmer in winter, and to be able to feed those horses through six months of winter in the stable; to keep a cow, or two of them, to furnish him (the city man) with milk and butter and cheese for his family; to keep a few sheep and a pig or two to furnish him periodically with fresh meat; to keep a flock of hens for fresh eggs and poultry products, and to have yard-room and the necessary buildings to comfortably house all these animals, tools, etc.; to have a garden, and maybe a small orchard, and above all, to be able to feed all these animals, particularly a year like this winter, with hay \$20 a ton and oats nearly the dollar mark, middlings, bran and oil meal, which the farmer finds necessary to purchase, at the present figures.

The city man could not possess these luxurious privileges on a salary of \$2,000 a year. He would at least need \$5,000. Well, most farmers possess all those privileges which, in the city, would be called luxuries. And most of these things are, in winter, luxuries to the farmer also. Should the farmer then grow because of his conditions? Surely the farmer is the king amongst men; for in no vocation on earth could one keep and possess so many privileges and comforts as the farmer. It is not strange that the farmer cannot show very much of a profit at the end of the year, seeing that he lives so expensively—as expensively as a city man enjoying an annual income of \$2,000. Farmers complain of being "ground down," and that all their products go to pay out for this and for that. True, and how could it be otherwise.

(Continued on page 19.)



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The Upward Look

In Stillness of Soul

"IN returning and rest shall ye be saved; in quietness and confidence shall be your strength."

—Isa. xxx. 15. "Be silent to the Lord, and wait patiently for Him."—Pa. lxxvii. 7 (margin).

"Truly my soul is silent unto God."—Pa. 1 (margin).

There is a view of the Christian life that regards it as a sort of partnership in which God and man have each to do their part. It admits that it is but little that man can do, and that little defiled with sin; still he must do his utmost,—then only can he expect God to do His part. To those who think thus, it is extremely difficult to understand what Scripture means when it speaks of our being still and doing nothing, of our resting and waiting to see the salvation of God. It appears to them a perfect contradiction, when we speak of this quietness and ceasing from all effort as the secret of the highest activity of man and all his powers. And yet this is just what Scripture does teach. The explanation of the apparent mystery is to be found in this, that when God and man are spoken of as working together, there is nothing of the idea of a partnership between two partners who each contribute their share to a work. The relation is a very different one. The true idea is that of cooperation founded on subordination. As Jesus was entirely dependent on the Father for all His words and all His works, so the believer can do nothing of himself. What he can do of himself is altogether sinful. He must therefore cease entirely from his own doing, and wait for the working of God in him. As he ceases from self-effort, faith assures him that God does what He has undertaken, and works in him. And what God does is to renew, to sanctify, and awaken all his energies to their highest power. So that just in proportion as he yields himself a truly passive instrument in the hand of God, will he be wielded of God as the active instrument of His almighty power. The soul in which the wondrous combination of perfect passivity with the highest activity is most completely realized, has the deepest experience of what the Christian life is.

Among the lessons to be learnt of those who are studying the blessed art of abiding in Christ, there is none more needful and more profitable than this one of stillness of soul. In it alone can we cultivate that teachableness of spirit, to which the Lord will reveal His secrets,—that meekness to which He shows His ways. It is the spirit exhibited so beautifully in all the three Marys. In her whose only answer to the most wonderful revelation ever made to human being was, "Behold the handmaid of the Lord: be it unto me according to Thy word," and of whose mysteries multiplied around her, it is written: "Mary kept all these things and pondered them in her heart." And in her who "sat at Jesus' feet, and heard His words," and who, when in the anointing Him for His burial, how she had entered more deeply into the mystery of His death than even the beloved disciple. And in her, too, who sought her Lord in the houses of the Pharisee, with tears that spoke more than words. It is a soul silent unto God that is the best preparation for knowing Jesus, and for holding fast the blessings He bestows. It is in when the soul is hushed in silent awe and we lie before the Holy Presence that reveals itself within, that the still small voice of the blessed Spirit will be heard.

One would think that no message could be more beautiful or welcome

than this, that we may rest and be quiet, and that our God will work for us and in us. And yet how far this is from being the case! And how slow many are to learn that quietness is blessedness, that quietness is strength, that quietness is the source of the highest activity,—the secret of all true abiding in Christ! Let us try to learn it, and to watch against whatever interferes with it. The dangers that threaten the soul's rest are not a few.

There is the dissipation of soul which comes from entering needlessly and too deeply into the interests of this world. Every one of us has his divine calling; and within the circle pointed out by God, interest in our work and its surroundings is a duty. But even here the Christian needs to exercise watchfulness and sobriety. And still more do we need a holy perseverance in regard to things not absolutely imposed upon us by God. If abiding in Christ really be our first aim, let us beware of all needless excitement. Let us watch even in lawful and necessary things against the wondrous power these have to keep the soul so occupied, that there remains but little power or zest for fellowship with God. Then there is the restlessness and worry that come of care and anxiety about earthly things; these eat away the life of trust, and keep the soul like a troubled sea. There the gentle whisper of the Holy Comforter cannot be heard.

No less hurtful is the spirit of fear and distrust in spiritual things; with its apprehensions and its efforts, it never comes really to hear what God has to say. Above all, there is the unrest that comes of seeking in our own way and in our own strength the spiritual blessing which comes alone from above. The heart occupied with its own plans and efforts for doing God's will, and securing the blessing of abiding in Jesus, must fail continually. God's work is hindered by our interference. He can do His work perfectly only when the soul ceases from its work. He will do His work mightily in the soul that honors Him by expecting Him to work both to will and to do.

And, last of all, even when the soul seeks truly to enter the way of faith, there is the impatience of the flesh, which hinders the judgment of the life and progress of the soul as after the Divine but the human standard.

In dealing with all this, and so much more, blessed is the man who learns the lesson of stillness, and the fully accepts God's word: "In quietness and confidence shall be your strength." Each time he listens to the word of the Father or asks the Father to listen to his words, he dares to say, "I will have my Bible reading or prayer without first pausing and waiting, until the soul be hushed in the presence of the Eternal Majesty. Under a sense of the Divine nearness, the soul, feeling how self is always ready to assert itself, and intrude even into the holiest of all with its thoughts and efforts, yields itself in a quiet act of self-surrender to the teaching and working of the Divine Spirit. It is still and waits in holy silence, until all is calm and ready to receive the revelation of the Divine will and presence. Its reading and prayer then aided, becomes a waiting on God with ear and heart opened and purged to receive fully only what He says.

"Abide in Christ!" Let no one think that he can do this if he has not daily his quiet time with his seasons of meditation and waiting on God. In these a habit of soul must be cultivated, in which the believer goes out into the world, and its distractions, the peace of God that passeth all understanding, keeping the heart and mind. It is in such a calm and restful soul that the life of faith can strike deep root, that the Holy Spirit can give His blessed teaching, that the Holy Father can accomplish His

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WHAT ARE THEY?

THE 14 Cludes above can be made to spell out the names of the four chief things that are going to win the war. Our little loyal Canadian boys and girls can help provide at least one of these things. Every boy and girl should know all of them. Can you tell what words the four magic circles represent?

How to solve it.—Each circle represents a letter of the word called for. The number of dots in the circle represents the position of that letter in the alphabet. For instance, "A" would be represented by a circle with one dot because it is the first letter of the alphabet, "B" would be represented by a circle with two dots because it is the second letter, "C" would be represented by three dots, "D" by four dots and so on. You must correct only the dots in each circle, figure out the letter represented by its position in the alphabet and when you have them all figured out put them into proper rotation to spell the name wanted. It's not an easy puzzle but if you can solve it correctly you may win this lovely shaveland pony or one of the grand Cash prizes above!

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10th " 2.00 " 9th " 2.00 "

Get your pencil and paper right now. Try to figure out the words and when you think you have them, write them out as neatly as you can and send them to us. We will reply right away telling you if your solutions are correct and sending you the complete illustrated list of grand prizes that you can win. Use one side of the paper only, putting your name and address in the upper right hand corner. If you want to write anything besides your answer to the puzzle use a separate sheet of paper. Be neat and careful because in case of ties the prizes will be given to the boys and girls whose answers are neatest and—written. Proper spelling and punctuation will also count.

What Others Have Earned And Can Do Here are the names of only a few of the boys and girls to whom we have recently awarded big prizes.
Shetland Pony and Gift, Helen Bernh. Rosenstock, Shelburne, Ont.
\$100.00 Cash, Lyle Brown, Hamilton, Ont.
\$25.00 " Helen Douglas, Jamaica, Ont.
\$15.00 " Florence Hebble, Ancaster, Ont.
We will send you the names of many others too.

Send Your Answers This Very Evening!

Only boys and girls under 16 years of age may send answers and send them in by mail. The Contest will close on the evening of the 15th of July. The grand prize will be awarded immediately. Send your answers today.
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glorious work. May each one of us learn every day to say, "Truly my soul is silent unto God." And every feeling of the difficulty of attaining this only lead us simply to look and trust to Him whose presence means even the storm a calm. Cultivate the quietness as a means to the abiding in Christ; expect the ever deepening quietness and calm of heaven in the soul as the fruit of abiding in Him.

Training the Children

No. 3.

Train Children to be Happy
Mrs. M. C. Jackson.

LET the children take hold and help about the house a little. At four and a half years old they can wash dishes, and they love to do so. An old cloth apron will keep them dry. They can also help make beds, brush up crumbs and do many other things. But we must not nag the children at their tasks, remembering that interest in useful work may be most successfully developed by keeping it in the realm of the play spirit.

We have churches and schools to help in our work with our children, but it comes back every time to the parents and the home to develop in the children the simple practices which lead to right and happy living.

We must be patient in answering questions, and if we do not always know the answer, let us try to find out with the children. Fun is as natural as breathing to most children. Try to laugh with them at their simple jokes.

Let us take a little time at the end of the day, if we can, to tell a short story. The quiet will do us all good. Perhaps we may have seen a bird, squirrel or a child do some amusing thing as we glanced out of the window while at work. The wind may have been playing the pretty leaves, or the sun changing the pretty colors among the clouds. Stories are not all to be found in books. It is a big accomplishment to learn to do things in the child's way—things they like to do but which we have often denied them because we felt we didn't have time to be bothered.

If the little ones see that mother and father are trying to find something to love in all their trying tasks, before we know it the home will all ways be full of sunshine. If we have a fretful child to deal with, find out first if he is being properly nourished; then try telling him stories which will take his mind off himself.

Many children are often disagreeable because they haven't enough of the right things to do, such as games and songs, that provide activity and stimulate the mind and occupations that answer the child's need to be doing and making something.

A most important point for the mother to realize is the necessity of sticking to the lessons she needs to teach every single day and that the right habits are permanently formed in her child.

No one can tell us exactly the things it is best to do with children. But if we begin to watch and think when we can and exchange experiences with other mothers many suggestions will be found to meet our needs. Take a glimpse backward into your own childhood, and many ideas will occur to you in that way. And through it all we will find that the children are helping to bring us up, too. Courage and joy prolong life, and we can well afford to stand and wait, feeling sure that our motives have been right and we can find something to love even in the hard things of life our little ones will see and know and will "rise up to call us blessed."

Milk in the Diet

FEW of us realize the full value of milk as a cheap food. The average person thinks of milk only as a beverage and uses the more than a cupful a day. Milk, as used, supplies body building material and energy for carrying on the body functions. It is justly called the almost perfect food. There are many ways of using milk in cookery. Milk may be used in sauces, soups, puddings, blanc-mange, junket, etc. In addition we have a great many recipes in which we use milk, as in sour milk pie, sour milk charlotte, in making cottage cheese and in gingerbread, griddle cakes, etc. Junket is one of the simplest desserts to make, and is delicious in warm weather when served with strawberries or fruit juice. It is made as follows:

1 quart of milk; ½ cup sugar; 1 teaspoon vanilla; 1 junket tablet dissolved in 1 tablespoon cold water. Heat the milk in a double boiler until it is lukewarm. Add the sugar and stir until it is dissolved. Stir in the vanilla and junket and pour it into a serving dish or glass cups. Let it stand in a warm place until it begins to thicken; then set in a cool place, and leave until it is firm.

A large quantity of sour milk can be made into cottage cheese which may be used in salads, and in place of the ordinary mild cheese in cookery. To make cottage cheese proceed as follows: 1 quart thick sour milk; 2 teaspoons butter; ¼ teaspoon salt; cream enough to make cheese moist.

Heat the milk in a double boiler; as soon as the curd separates from the whey, strain the milk through cheesecloth. Suspend the cheese cloth bag so that it may drip for an hour. Place the curd in a bowl and wash with a spoonful of water. Season with the butter, salt and cream. Serve lightly heaped up or in small balls.

Substitute Experiences Requested

HERE is a letter from one of our readers in Peterboro, Canada, and we hope several will send along suggestions which will be helpful, not only to this particular contributor, but to many other housewives who no doubt are interested along the same line. The letter follows:

"I would like to know what some of the women who read Farm and Dairy think of the substitutes for wheat flour and what success they are having with them. I am anxious to use as many substitutes as I can, as I realize the necessity of doing so, but somehow I do not have very good luck with a spoonful of wheat flour in my baking. For instance, the last time we had company for tea, so I decided to try some muffins or tea biscuits made from a new recipe. I suppose it wasn't very wise thing to try a new recipe when visitors were on hand, but I did it anyway. It was a combination of white flour and corn meal, and while the biscuits didn't taste good, they were as flat as pancakes. Can anyone tell me how to make things which contain corn meal rise lightly?

"There is considerable talk nowadays about making potato bread. But if we begin to watch and think this kind of bread send me your recipe, as I am anxious to try it out."

In connection with the use of substitutes the United States Food Administration suggests that better results will be secured by mixing two substitutes than if one is used alone. For instance, rolled oats (ground) and corn flour make a good combination, also barley flour and rice flour, buckwheat flour and rice flour, white flour and sweet potato flour, soy-bean flour and corn meal. Of course some of these flours cannot be secured on this side of the line, but the only way in which we are likely to have them



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available is to continue asking for them.

All measurements of substitution should be accurate. The batter may look too thin or too thick, but if measurements have been followed exactly the result after baking should be good. Substitute mixtures should be baked longer and more slowly than ordinary flour. Drop biscuits are said to be better than rolled biscuits when substitutes are used.

Will some of Our Women Folk send us their experiences with substitutes and recipes which will be helpful to our readers? And don't forget about a potato breaker if you have tried one out successfully.

Difficulty in Filing Orders

THE Women's Farm Department reports still more girls being placed on mixed and dairy farms in districts where one or more were placed in the early spring. One farmer wrote to the Women's Farm Department as follows:

"Yesterday Mr. — called to see how he could procure two girls for farm work from now until after harvest." He adds: "Do you think it possible for a number of girls to manage a threshing outfit in the same way that men do in the west, and thresh by the bush? The girls who are here now can handle machinery and almost everything the ordinary man can do."

"This letter came from a district that two months ago was afraid to try girl help on farms at all.

Two months has seen a great change in the attitude of the farmers in many districts of Ontario to the farmettee. The Women's Farm Department now has difficulty in finding enough experienced girls to fill the orders that come in.

A number of women experienced in outdoor work are still available during July and August only. A few women have applied for work in butter factories, but as yet no orders have come in for that-kind of work.

Several girls are now doing successful work in a cheese box factory, while one drives a truck and delivers the boxes. A number of girls are now handling milk routes successfully.

Fruit growers, truck farmers, mixed and dairy farmers, cheese factory managers, may still apply to Miss Martin, Director of Women's Farm Department, 43 King St. West, Toronto, and secure help.

Testing for Adulterations

IT is quite a problem to-day to purchase material that will give good service either in cotton, silk, linen or wool. Here are some tests which are worthy of trying out when one gets a sample before deciding to make a purchase.

To test cotton rub the material between the thumb and finger to detect the presence of sizing or starch, or if the cotton is quite fine and loosely woven the particles of starch can be seen if held up to a strong light.

If we make the purchase of a new silk dress or suit, we should find it wears well, we may consider ourselves fortunate, as it is such a difficult matter to secure good silk. Here is a way to test its quality: Place a small sample in a plate and touch a match to it. If the sample after being burned retains a decided heave, the loading or adulteration is heavy, but if the fabric burns down to ashes there is little danger of the silk cracking or splitting after being made up.

We are told that linen will soon be off the market altogether and that we will have to be content with cotton tablecloths. However, a way to test pure linen is to apply olive oil to a sample. The linen fibre will show transparent. If cotton is present it remains opaque.

And how about testing wool? Un-

twist the fibres and burn, noticing the result. If wool, it will burn slowly and curl up into a black, crisp clump, leaving a disagreeable odor. If the fibre is cotton it will burn quickly and brightly, leaving a light ash behind. This, we are told, is not always a conclusive proof, but a further test may be made by boiling a sample of the goods in a four per cent. solution of sodium hydrate. The animal fibre will disappear, leaving the cotton background. Probably there are not very many of us who would go to this trouble, although there may be times when we are particularly anxious to secure material "all wool and no synthetic" and are willing to go to considerable trouble in order to do so.

HOME CLUB

Help for Our Farm Women

WHAT do Home Club members think of the idea of securing girls from the city to assist the farm women in the home throughout the busy summer months? We received a letter from an interested reader of this department a few days ago and a part of her letter reads as follows:

"I really don't know what we are to do in regard to greater production. It has been an effort in other years, and now with a greater shortage of help what will it be? The women have been helping bravely, but is it not unfair to ask them to help with farm work when one considers the necessary work around the farm home? With cooking, sweeping, washing, poultry and milking, to say nothing of the kitchen garden, how long will the women be able to stand more work? I know that I dread the coming summer. Am just getting over an attack of lumbago brought on by work in the sugar bush, but as yet no girl out of school. I can get a young girl out of school for one dollar a day and her board. Imagine! I have a friend who is a stenographer and she is getting nine dollars a week. Out of that she pays six dollars and a half for board, leaving her \$2.50, to say nothing of the expense that she was under in getting her training. But when girls come to the farm they expect six dollars a week clear. Sometimes I feel sorry for the farmers."

We would like our Home Club members to discuss this question of help for the farm women and to give their own experience or make suggestions which they consider would be helpful to those who are "up against it!" in their efforts to accomplish their own duties around the home, and help the men folk to some extent as well.

Assistance for "Aunt Greta"

"AUNT Greta" asked for advice re floors. I cannot speak from a personal experience, but I have a sister-in-law who has a nice "oomy" home and she is gradually acquiring all hardwood floors. She says eventually she will have them all over the house. They are so sanitary and labor saving, and though they are really as cheap in the long run when you consider how often linoleum or rugs have to be replaced, while hardwood, if properly looked after, is "a thing of beauty and a joy forever."

—Just Me.

The ideal time to churn on the farm is early in the morning. The butter works better and prints better before the day becomes hot.

"How do you get rid of your stale bread?" asked one woman of another. "I simply hide it from my children," said the second housewife. "What happens then?" "They find it and eat up every morsel."

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Send name and address for new "War-time Cookery" This book contains recipes chosen by the judges as the best and most practical recipes submitted in our recent cash prize competition. It is intended to assist in the conservation of food and to effect savings in home cooking and baking.

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THREE CENTS A WORD, CASH WITH ORDER
BUTTERMAKERS' WRAPPERS—Name and address printed—Best French-milk in Ontario—Keen (480 sheets) 25¢ 2 boxes \$1.25; other provinces extra, postage 5 cents—Cash with order—Large quantities special rates. Farmers' Printery, Beaverton, Ontario.

Farm and Dairy is in an excellent position to champion the cause of the farmer in Canada, because it is owned and controlled exclusively by farmers.

PARIS GREEN

Don't be too late. Buy now.
Send us your order.

BINDER TWINE

We have a quantity of 550 twine, best grade, for shipment at once, at low price.

FLY POISON

Order some now. The fly season is close at hand.

WAGONS and HARNESS

Write to us for prices. Shingles in car lots. Buy Cooperatively.

Help yourself and your own organization.

United Farmers' Co-Operative Co., LIMITED

No. 2 Francis St., Toronto.

We are here to buy for the 20,000 members of the United Farmers of Ontario.

The Makers' Corner

Butter and Cheese Makers are invited to send contributions to this department, to ask questions on any matter relating to their business, and to suggest subjects for discussion.

Milk Prices in Ontario

Their price paid for milk at all dairy factories in Ontario is now fairly uniform. The Gordian Condensary at Tillsonburg has announced a price of \$1.55 a cwt. for June milk on a basis of three per cent fat with three cents for each additional one-tenth of one per cent of fat, or with three cents deducted if fat test runs lower than three per cent. Commenting on the situation, J. A. Ruddle, Dominion Dairy Commissioner and member of the Dairy Produce Commission, writes Farm and Dairy as follows:

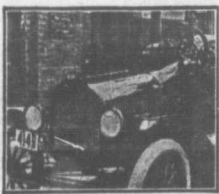
"I have just returned from a trip through Western Ontario and I find that the cheese factory patrons are well satisfied with the present situation, as the condensaries are paying practically the same as the cheese factories are paying.

"The Canadian Milk Products Company are paying \$2.02 for 3.5 milk for the month of June. Cheese at 23 cents on the same basis of 3.5 milk plus 15 cents per hundred pounds for why bricks \$3.08.

"I met a large number of farmers in a motor trip of over 300 miles last week and I found them well satisfied with the price except that the patrons of the condensaries are complaining that the attitude of the cheese factory patrons has resulted in a lower price for the milk sent to the condensaries. That is not quite correct, as I think the parity of the prices would have been arrived at in any case.

"The condensaries at Ingersoll and other places are paying about \$2 for 3.5 milk or \$1.91 for 3.2 milk, which is about the average percentage of fat at the present time. The prices will probably pay from \$1.70 to \$1.75 and even higher during the month of June. Add to that the value of why and there is little difference."

FORD STREAMLINE HOOD



Covers Brass Radiator

Only \$14.75 complete with cap

Why buy a new car? Write for Circular

The Burrows Mfg. Co., 611 King W., Toronto

CREAM WANTED

For better service and higher market prices, ship your cream to us. Cans supplied free. Watch this space for prices. Our price next week 46c per lb. fat. A card brings particulars.

MUTUAL DAIRY AND CREAMERY CO.

743 King St., W. Toronto

LUMP JAW

For better service and higher market prices, ship your cream to us. Cans supplied free. Watch this space for prices. Our price next week 46c per lb. fat. A card brings particulars.

Stopping an advertisement to save money is like stopping a clock to save time. Advertising is an insurance policy against forgetfulness — it compels people to think of you

The Cost of Handling Cheese

THE salesmen at the June 14th meeting of the Picton Cheese Board expressed themselves very freely as to the price being paid them for cheese by Montreal exporters. In reply, Mr. A. Jones, of the firm of Jones, Grant, Latham, Limited, Montreal, submits the following data in proof of his contention that all cheese purchased in advance of 22 $\frac{1}{2}$ cts. means a loss to the exporters:

Memo. of 150 Cherry Valley cheese shipped from Picton and paid for on the 4th June, 1918, follows:

150 lbs net weight 12.50	
Bought at 23-9-16 cents, f.o.b. Picton	\$2,906.43
Exchange on draft at 23.90	2.89
Paid our buyer 1-8 cents commission, for which he guaranteed quality and weights Montreal	16.97
Box freight 15,000 lbs. at 23 cents per 100	23.90
Cartage from boat to warehouse 150 boxes at 3 cents per box	4.50
Warehouse and storage charges, 150 boxes at 3 cents per box	4.50
Cooperage, fire insurance and office expenses on 150 boxes at 2 cents per box	7.50
Cartage outwards, warehouse to boat, 150 boxes at 2 cents per box	4.50
Wharfage and port warden charges, 1 cent per box	1.50
War risk insurance whilst on board, 5 cents per box	1.50
Three weeks and 3 days interest on \$2,950 at 5 per cent	10.25
Total	\$2,988.45
By 155 lb. lbs. cheddar commission at 25 cents per lb.	2,958.88
Actual loss on transaction	29.57

These losses were paid for at Picton on June 4, 1918. Received in Mon-

trial, June 7; tendered to commission, June 8; inspected by Commission, June 9; shipped on instructions from Commission, June 17, on S.S. Skellan, and will not be paid for by them until boat is out to sea, when—we do not know—as we are informed that boats are being sent only on instructions from Admiralty. When cheese goes into cold-storage the cost will be about six cents per box higher.

Hot Weather Suggestions on the Care of Milk

By Prof. H. H. Dean.

IT is one of the anomalies of life that the sources of our greatest pleasure and greatest means of good may also be sources of life's greatest pains and most harm. Milk is a case in point. Milk is the best source of life's most needed nourishment and sufficient food. It may also be a cause of the destruction of life, because it may become the home or feeding ground of those death-dealing organisms which are now recognized as the cause of practically all deaths, except those due to accident or old age.

Fortunately we have discovered comparatively simple methods of combating the effects of what are called pathogenic (disease-producing) bacteria. These may be stated in a few short rules as follows:

1. Milk which is consumed in a raw condition must be drawn only from cows which are healthy. Milk given from cows which are sick, which is not "good-looking" and especially milk from cows with a cough, must be pasteurized.
2. As soon as the milk is drawn from the cow it should be cooled to 50 degrees F. or lower and be kept at that temperature until consumed. This makes an unfavorable condition for the germs to grow in.
3. All pails, strainers, dippers, milk bottles, milk cans, etc., which come in contact with the milk, must be thoroughly washed and preferably steamed, or be rinsed after washing in a chloride solution, which is not hazardous to be one of the best germicides.
4. Milk should not be exposed to the air any longer than absolutely necessary, as this feeds the milk with a lot of germs. This means the keeping of milk in a closed vessel and not in an open dish.
5. "Left-over" milk from meals should not be put into the general supply, as this causes the whole lot to spoil.
6. "Left-over" milk from the sick room should not be pasteurized or destroyed, as it may spread disease.
7. Milk at all times and in all places should be kept CLEAN and COOL.

Canadian Cheese in London

THE following summary report has been received by the Dairy and Cheese Section of the Commissioner, A. E. Griffith, the cargo inspector employed by the Department of Agriculture in London:

Except for about half a dozen shipments at the beginning of the season, the bulk of cheese arriving at this port has been "hooped" with 2 bands of this flat iron of about three-quarters of an inch in width passing at right angles vertically round each box. The hands pass under the outer rim of the lid, and short nails with a wide head secure these bands to the boxes. This method has succeeded in the expensive and somewhat heavy square box in which cheese was packed for the War Office authorities in former years, and for the purpose for which it is intended. It would be difficult to imagine a method which would enable the round boxes to be landed here in better or more sound condition. Occasionally the outer edges of the lids which have been sprayed by general speaking the effect of this band-

ing has been to do away with breakage in the boxes, and shipment after shipment has been landed here with hardly any breakage, if any was damaged.

For commercial purposes this banding would probably make too permanent a package, and would not tend to do away with the unsatisfactory nature of the cheese, but for the purpose for which it is now being used it would be hard to improve upon.

Heated Cheese More Numerous.

The comparatively small quantities of cheese imported by ordinary civilian use, which were received here to the order of the British Board of Trade, were not sorted to the various marks by the Port of London Authority in former years, but were stacked in piles of white or colored cheese, irrespective of shipper's marks, and buyers were compelled to take delivery thus as now, unless in the mails, as shipments of heated cheese were more frequent than in previous years, and some of those during August and September were in a very bad condition. As the cheese was stored under grain, and as there was delay in obtaining machines for discharging the grain, the result was that when the inspectors came out after many weeks in the ship's hold, it was in a deplorable heated condition.

The extra exposure during summer of these shipments docked at the mouth of the Thames, which had to be discharged overside into barges, also had the effect of adding to the quantity of heated cheese; and the fact also that there were few ships arriving in the port and few discharging chambers helped to lower the percentage of cheese arriving in cool condition.

A new kind of fibre box was tried in the month of June, but was not used more than a hundred, but it was not very favorably commended upon, there being a want of sufficient ventilation which prevented the box carrying the total weight of four or five cheese when piled in stacks. Also, the boxes did not seem to me to be proof against moisture, and so far as some of the ones which the contents had been badly heated, with the result that the whole package lost shape.

Creamery Picnics This Year

THE time for creamery picnics will soon be at hand and we know of no means whereby the cooperation of the Dairy and Cheese Section can be promoted to the same degree as by these pleasant neighborhood gatherings. Many cooperative creameries have made them annual affairs, and many more will do so once they have tried it. A creamery picnic does not mean much expense, and the more home talent employed on the program, the better in our opinion. We do not fail to see that it is necessary to have much of a speaking program, as the lunch basket and a few games should be the main attraction. We suggest that the speaker on some dairy subject, and he should be an entertaining one. The rest of the program should be made up of singing the other music, and a speech on a patriotic subject.

At first glance, this year would seem a poor picnic year on account of the seriousness of the times, but we believe that it is well worth an elaborate affair, but is kept within the bounds of home-like objects, and if it is made the occasion of expressions of loyalty and patriotism, there is a place for the picnic even in these times.

Diversion is needed, and surely the creamery picnic furnishes a healthy and harmless kind, but do not forget that you may get a speaker who can promote the loyalty of the people and help them always be better Americans, you have failed to do to best advantage any opportunity which offers itself. Write to G. G. PARRY SUDD, Galt House, Toronto.

The Far (Continued)

with so much capital—luxuri- the 50

To be free farmer, he has to the ways of to produce as much more of it now does. Fy very much like purchasing almost the hoof and the butcher; and chickens and shoddy purchases and initiation which is not

Absolutely, t why the farmer's or rather each cograte each pro form. At the little need for much food progru ingredients for plenty of milk, fresh butter in sweet cream in at least cottages of milk for both things which a able to the city has the cow who he has the carcass of lamb's its pristine free beef animal, fru have fresh milk what pork is be which may be h in the year—J. Co., P.E.I.

Notes, Queries

Skinn

I HAVE a calf s affected w some one. I he mother, the we the same Westworn Co. O.

Wash thoroughly cent solution of antiseptics. Replac if necessary, and in a warm p washing until the

Rin

I HAVE 30 head of lings, and 10 of coid. There s some them. It ound their you had it on their know a crew—

The sym- which is very er, or be di, or be in- fected to no and is very car virus (which is to healthy animals with sweet oil, them, and then daily until cured. Jollies. These di, by thoroughly s, and thorough s five per cent. acid, or by giving lime wash and carbolic.

Paralysis

I HAVE a cow she was sick, i she had a large on examining g the calf, I saw which she could n to all five ribs; she abobbers a green he and also p- opportunity, nore is she in bing time was C. G. PARRY SUDD.

Cal's is due to

The Farmer's Luxuries

(Continued from page 12.)

with so much non-profit-producing capital—luxuries—about them?

Be Self-supporting.

To be free and independent the farmer, we think, must resort back to the ways of his fathers, and strive to produce and grow on the farms much more of his necessities than he now does. Farmers are becoming very much like their town brethren in purchasing almost everything they eat and wear. Beef animals are sold on the hoof, and meat is purchased from the butcher; ditto hogs and lambs and chickens. The wool is sold and shoddy purchased. The hide is sold and imitation of leather purchased, when it is not rubber.

Absolutely, there is little reason why the farmer buys so many things, or rather exchanges his product for expensive products in manufactured form. At the present time there is little need for the farmer purchasing much food products, any more than sugar, kerosene oil and the necessary ingredients for pastry—baking. With plenty of milk, the farmer may have sweet butter in plenty for his table, fresh cream for his tea, and cheese, at least cottage cheese, with plenty of milk for both drinking and baking, things which are absolutely impossible to the city-dweller, even though he has the wherewith. If he keeps sheep he can always have a small carcass of lamb or mutton to use in its pristine freshness. If he kills a beef animal first of winter he may have it fresh (frozen) all winter, and what pork is better than a young pig which may be butchered at any time in the year?—A. Macdonald, Prince Co., P.E.I.

Notes, Queries and Answers

Skin Trouble

I HAVE a calf about six weeks old that is affected with a rash. The hair falls out and it seems itchy as the calf keeps licking it. This keeps it red. The mother is now beginning to show the same symptoms.—F. D. S., Westworth Co., Ont.

Wash thoroughly with a hot four per cent. solution of one of the coal tar antiseptics. Repeat treatment in ten days if necessary. Keep well covered and in a warm place each time after washing until thoroughly dry.

Ringworm

I HAVE 30 head of calves coming yearlings, and 10 head coming two years old. There is a sort of skin disease among them. It is a sort of a scurf around their eyes and nose and some had it on their neck. Would like to know a cure.—H. J. Frontenac Co., Ont.

The symptoms indicate ringworm, which is very contagious. Isolate the diseased, or better still, remove the non-infected to non-infected premises, and be very careful to not carry the virus (which is a vegetable parasite) to healthy animals. Moisten the sores with sweet oil, remove and destroy them, and then dress the parts twice daily until cured with tincture of iodine. Then disinfect the premises by thoroughly sweeping and dusting, and thoroughly scrubbing with a hot five per cent. solution of crude carbolic acid, or by giving a thorough coat of hot lime wash with five per cent. carbolic.

Paralysis of Cheeks

I HAVE a cow that has been failing since last August. At first I thought she was sick, but later I noticed that she had a large lump on her jaw and upon examining it found it was food that had gathered behind her back teeth which she could not get out. Her teeth seem to be all right and she eats well, but slobbers a great deal when chewing her food and also when drinking. Her jaw file up frequently. She is not milking, nor is she in calf. What is the trouble and how should it be treated?—C. G. Parry, Bond District, Ont.

This is due to partial paralysis of

the muscles of the cheeks. As the condition has become chronic, the results of treatment are doubtful. Rub the external surface of the cheeks with a liniment made of two ounces oil of turpentine, half ounce tincture of iodine, half ounce liquor ammonia ferriar and alcohol to make a pint. Rub well twice daily. If it bilaters cease rubbing and apply sweet oil daily for a few days, then rub again with the liniment, etc. Also give her two drams of nux vomica three times daily. It will be wise to fit her for the butcher if you can.

Mortgage and the War

NOTICE in your issue of January 3rd a legal advice dealing with mortgages and their foreclosure. Was not an amendment made to this Act a year or so ago which changed it—E. G. Victoria Co., Ont.

An amendment was made in 1916 to the Mortgagees' and Purchasers' Relief Act, but it does not change the law as stated in our previous answer.

The amendment referred to permits a Mortgagee to foreclose without leave of the Court any Mortgage made or entered into after the 4th day of August, 1914, or any extension or renewal made or entered into after the 4th day of August, 1914, of a Mortgage made or entered into prior to that date where such extension or renewal is not less than three years, and the rate of interest provided for in the original Mortgage is not increased by such extension or renewal.

In cooling the milk keep the covers off the cans until the animal heat is drawn off.

When the milk pails and milk cans have been washed and scalded, invert them in pure air and where the sun will strike them.

CANADIAN NATIONAL

Fabulous Prices are being paid for PRIZE WINNING STOCK

EXHIBITION

Toronto Aug. 26--Sept. 7

Alert Breeders will establish a reputation by exhibiting here

The Largest Prize List ever offered for horses, cattle, sheep, swine and poultry. New and better classifications in all departments

A Win at Toronto places you in the Front Rank of Breeders and Brings Many Buyers

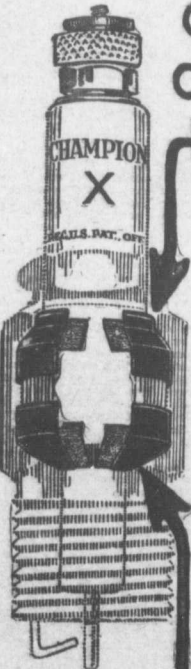
WRITE NOW FOR PRIZE LIST TO

John G. Kent, General Manager, 36 King Street East

EXHIBITION NUMBER Aug. 29

Plan right now to get your announcements in this big Special issue. It reaches the dairy homes just before "Farmers' Week" of Sept. 2-7. Make your reservations NOW.

Advertising Dept., FARM & DAIRY Peterboro, Ont.



Showing the patented Gaskets in the Champion "X" for Ford Cars Price, \$0.75

Champion Asbestos Lined Copper Gaskets Mean Dependability

They are an exclusive patented feature of all Champions that insure dependable service under any condition of driving. They take



Champion

Dependable Spark Plugs

out of the ordinary class and make them super-service plugs. They prevent any part of the porcelain from coming in contact with the hard steel shell.

The asbestos lining in the soft copper gasket rings form a cushion on each shoulder of the porcelain that absorbs the continuous, invisible blows of gas explosions in the motor cylinder and at the same time takes up the expansion caused by excessive heat.

There is a Champion for every make of engine, and the name "CHAMPION" on the porcelain guarantees "Absolute satisfaction to the user or free repairs or replacement will be made."

Ask any dealer for the Champion that will maintain maximum efficiency in your car.

Champion Spark Plug Co. of Canada, Limited, Windsor, Ont.

Stop at the next Auto Supply Store and get a Champion "Minors" Spark Plug Cleaner. Cleans a set of plugs in a few minutes without even getting your hands dirty. Sell for \$1.00.

Farmer Fined \$500 for Criticizing Government

Widespread Interest in Cross Case—U.F.O. Will Appeal

CHARGED with an infraction of order "D" of the order-in-council of April 17, Mr. J. F. Cross, a Brantford farmer, was on Tuesday, June 25, fined \$500 and costs by Magistrate Livingstone of Brantford. Order "D" states that "no one shall print, publish or publicly express any statement, report or opinion which may tend to weaken in any way, or detract from the united effort of the people of Canada in the prosecution of the war." The words alleged to have been spoken by Mr. Cross in a private conversation with John Holding, a neighbor, were to the effect that we could be no worse off under Prussian rule than under the present Government.

The case has created widespread interest among the farmers of Ontario, not only because the sentence is felt to be unjustly severe, but also on account of the remarks made by Magistrate Livingstone, one of his utterances being, "I have already remarked that a lot of these farmers should have been in jail."

At the trial evidence was given by the members of the Houlding family, John A., Mrs. George Houlding, Stewart Houlding and Reeve Rupert Greenwood. All told a conversation with the defendant in which he had criticized the Government for breaking the promise that farmers' sons would be exempt after they had received education. He also stated that he was the order-in-council affecting farmers' sons—the same which brought about the meeting of the farmers of this section here and the deputation to Ottawa—which brought out Cross' remarks.

Cross, when called upon to give evidence, stated that he referred to the Government pledge as a scrap of paper, and he does not think that in saying this he was going beyond the bounds of rightful criticism.

Cross told of having two farms, one ten miles from the other, with a total acreage of 120 acres. He had an adopted son yet at home, while his other son had recently been drafted. His parents, he said, were English and he had been born in Canada.

M. W. McEwen, for the defence, contended that Cross had merely exercised the rights of free speech, the same as other citizens all over the country.

The magistrate: "I have already remarked that of those farmers should have been put in jail."

Mr. McEwen continued that the attitude of the farmers was generally known, and there was no reason why Mr. Cross should be singled out for treatment when no others were molested.

"All I have to say is that some people have been lax in this connection," the magistrate replied.

Mr. McEwen contended that if any Government in this country was to pass a law prohibiting criticism of it as a Government, then it was Prussianism indeed. The defendant had merely exercised his right of common Canadian citizenship.

No Seditious Utterance.

In conversation with officials of the United Farmers of Ontario last week, Mr. Cross strenuously denied having used seditious language. "We were having an ordinary discussion about the Government's breach of faith with the farmers," he said, "and that's all there is to it." Mr. Cross' only son is in the army.

"The magistrate at Brantford is biased against the farmers as a class," declared Mr. Cross. "He remarked that a lot of these farmers should be put in jail, and that, so far as he could, he was going to put this down, meaning the agitation of the farmers."

Mr. Cross declares that his only

thought in all his conversations was that the Government had been faulty in granting exemptions to farmers' sons and in taking them away.

Commenting editorially on the case, and on the remark of the Magistrate to the effect that "I have already remarked that a lot of these farmers should be put in jail," the Toronto Globe says:

"It would appear that the penalty imposed upon Mr. Cross was unnecessarily severe and calculated to do injury rather than benefit to the cause which patriotic Canadians are seeking to advance. The case should undoubtedly be reviewed and the sentence modified or suspended."

"The case of Mr. Cross is, unfortunately, not an isolated one. It is a mistake to fall or refuse to recognize that throughout many of the agricultural districts in Ontario there is much exasperation and bitterness over the recent strengthening amendments to the Military Service Act. Much of this feeling, it must regretfully be admitted, is inspired and encouraged by selfish outside influences not directly interested in the work of agricultural production. But it cannot be pacified by prosecution. There is danger of serious consequences."

U. F. O. Appeal Case.

Feeling that not only has a grave injustice been done to a loyal Canadian citizen, but a reflection has been cast on the patriotism of the farmers of the province, the United Farmers of Ontario have, behind Mr. Cross and have instructed Gordon Waldron, their lawyer, to enter an appeal at once.

Convention Echoes

Mr. J. N. Kernaghan, the chairman of the committee that was appointed at the last annual convention of the U.F.O. to take steps to establish an official organ, has written the farmers' committee in Ottowa, a man had offered to put up all the money the farmers might require to establish such a paper. He had refused to consider the offer because the man was not a farmer.

The advantages of the system of legislation known as the "Referendum" and the "Recall" were explained by H. H. Cowan, of Farm and Dairy, in reply to a request for information on this point. Mr. Cowan pointed out that if we had this legislation in Canada farmers instead of being at the mercy of the Government would have the Government where it would have to pay heed to their wishes. The "Referendum," he said, is legislation which makes it possible for the people, if they are not satisfied with a measure already passed by the Government, to circulate a petition. If this petition is signed by eight per cent. of the people the Government must submit the measure to a vote of the people before it could become a law.

At present the Government is able to ignore the desire of the farmers because it has been elected for a period of four years, and cannot be touched in the meantime. The "Recall" is legislation which makes it possible for farmers, when their member in the House of Commons or in the Legislature, ceases to represent their views, to sign a petition. If 25 per cent. of the electors sign the petition the member must resign and submit himself for re-election. The farmers' organizations in Canada, including the U.F.O., have had a plank in their platform for some time past urging the Government to enact such legislation. So far the Government has refused to grant it. If we had had such legislation on our statute books the probability is that the Government could never have passed the recent order-in-council, and

had it done so it would have been possible to make the Government submit it to a vote of the people before putting it into effect.

Quite a number of members of the Women's Institute were present. One of the women delegates suggested that the men should go home and urge their wives to join the Women's Institute in order that both organizations might work together in the interests of the farmer. As several delegates urged that something should be done to help the women to take greater interest in the work of the U.F.O. much interest was taken in an announcement by Mr. J. J. Morrison that a meeting was to be held in Toronto on June 17, which would be addressed by Mrs. McNaughton, a past President of the Saskatchewan Grain Growers' Association, for the purpose of organizing a farmers' women's association in connection with the U.F.O. similar to the Women's Section of the Saskatchewan Grain Growers' Association. A report of this meeting appeared in the June 26th issue of Farm and Dairy.

Brant Farmers' Cooperative Society

A YEAR or more ago there was quite a flurry in U.F.O. circles over the action of certain Brant county members in promoting a cooperative trading society of their own with headquarters in Brantford. The movement was interpreted in some quarters as a challenge to county provincial cooperation, and the new society was considered a competitor of the Central rather than as an associate and feeder. Since then, however, the Brant society has directed thousands of dollars worth of business to the central organization, and has justified the claim of its promoters that it was not intended to rival the Central. When in Brantford a few days ago, in company with Mr. W. C. Good, an editor of Farm and Dairy paid a visit to the society's warehouses and came out with Mr. G. M. Balleachey, its manager.

The office and warehouses are conveniently situated in the business section of the city, and the work we behind have the additional advantage of abutting on a railway siding. Carloads of feed, fertilizer, fencing, etc., can be unloaded direct from the car to the warehouses; and when sheds are joining, also under lease by the cooperative society, can also be filled direct from the car with a minimum of labor. For the character of the business done the plant is as convenient as it is very well clothed.

A few staple groceries are kept in stock, but the main lines are flour and feed, dairy machinery, fertilizers, roofing, oils and greases, lumber, apples and, as Mr. Balleachey said, "coal if we can get it." The society is also becoming a clearing centre for its members. This spring, for instance, large quantities of seed grain were purchased from the members and sold again to other members who were short of their supplies of seed.

The society is modelled after the plan of the British cooperative societies, Mr. Geo. Keen, of Brantford, acting in the drafting of contracts for location and by-laws. All goods are sold at the regular retail price, and the retail merchants of Brantford have, therefore, not been antagonized by the new venture that practically is paid to the stockholders and the balance is then divided back among the shareholders in proportion to the business that they have done through the society. The interest is also paid one-half of the members' rebate to non-members who have purchased from the society. At the time of our visit the shareholders numbered 200, and had a net worth of about \$200,000, subscribed, of which \$5,500 was paid up capital. The success of the Brant Farmers' Cooperative Society, which seems to be modelled on methods which are being pushed with interest by Ontario co-operators,

Need for Increased Capital

L. H. Blatchford, Mgr. U. F. Co-operative Co.

BECAUSE we have so far succeeded in doing a big business on small capital it does not follow that we are continuing to do so. We are growing. Our business is reaching out in various lines. We need the need for a better financial standing here. It is embarrassing, to say the least, to have an opportunity to save a good amount of money for our members, and because of our low capital we are unable to put the deal through. You know that the first thing that any business concern will look up before entering into a contract of any size, and it is only good business. What has our rating been to the last year?

If we are going to do business satisfactorily, we must have the standing that will speak for itself. Where is the capital to come from? Out of the profits? The margin has been too small. There is only one way the money can come. We will each have to do our bit. Do not rest on your oars, when your club has taken a twenty-five dollars share, and think that you have provided central with enough capital to finance your share of the business. Why it wouldn't pay a ton of feed. Isn't enough for each club to take a share, we want each man to take at least one share and more if you can. No one man or club can do it alone. It is just like our barn raisings, too big a job for one and too big for all the neighbors, unless they all help.

We are not telling you it is your duty to take stock, but your opportunity and privilege to become a shareholder in a great company that exists solely for your benefit. It has been, and still is, a benefit to the farmers. Its usefulness in the future depends largely on your support.

Did you know that the Central farming is the basic industry, yet, the farmers' organization is about the only one in Ontario that lacks capital? As you no doubt are aware, our original stock had a value of \$100,000; our original capitalization was \$100,000. It has taken us three years to have this stock taken up. Let us do it here, we need an effort when we meet here in 1918 we shall not only have \$250,000 fully subscribed, but that we will be applying for a further increase in capitalization.

Let us work together in developing our future. We each have a work to do. The directorate, the central office, and the local club must each be aggressive and progressive.

Success is not reached at a single bound. But we build the ladder on which we rise.

From the lowly earth to the vaulted canopy of heaven.

And we scale the summit round by round.

Silo Facts

EVERY farmer who is a user of the silo is a booster for the silo. In the silo you can store corn in a form in which practically every particle can be eaten.

Silage gives the effect of pasturage in winter; it is both palatable and succulent.

Silage aids digestion in the dry-feeding season.

Animals fed silage are not more subject to tuberculosis, do not lose their teeth more quickly, and are not shorter-lived than animals fed other kinds of winter feed.

The use of the silo often makes it possible to save corn that would otherwise be lost for frost.

A good silo should be round, light, tight, smooth, have walls that are smooth inside, and be strong and durable.

A silo should be placed where it will give the greatest convenience in feeding, and should be exposed to extremely cold winds.

Field

By Well-Gro.

W HILL in the Grand, two fine

boxed hills and I asked him how they were four months of six months of eight months of ten months old, and I will only the skin run till they are well all the meal and clover est. In this was back, but just as grow.

Mr. Grant sells ways separate or He admitted that money to raise a silo he couldn't call about the plan all about the plan the additional cost the advantage of

DURING the one acre one generous success of time. One of a small threshing ing it in place of the grain for the farmers fall the engine, turn in the granary of the barn, the bar part of the plow. In this way to get into as much the oats, and saving

per through a very light draft, another farmer who barn shoring, his straw out to be straw to be straw to use it off all the better cost with the effected all up to a order to his straw and as that as two men the blower box. his straw and also

AFTER all the garding the farmer, it is most a farm raised in whatever cupation is best to turn. During a recent tario, just about a straw was being put interesting to those classes of live stock men, and the differ- tending on different tary general consi- when going through with bare, stony h of sheep is larger of stock in distri- not so good, the so the one carried a line, is most com- tress is close to e- usually specified in lar line of produc-

MARKET REVIEW AND FORECAST

TORONTO, July 1.—The unseasonably cold spell retarded the somewhat...

mand is good and everything is picked up promptly. Quotations...

The receipts of butter for the week ending July 1st were 20,668 packages...

Manitoba has sold its first car of cheese for this season. The local brokers declared this cheese...

WHEAT.

There has been no wheat moving to Ontario points during the past week because of the excessive demand...

The past week has shown a much better tone on both Western and Ontario points on this market...

Manitoba Wheat—In store, Fort William nominal (including No. 3 Northern)...

Ontario Corn—No. 3 yellow, kind nominal. Ontario Wheat—No. 2, \$2.32, basis in store...

MILL FEEDS.

Quotations on this market are: Carborough, Montreal freight, bags included, bran, \$37.00...

HAY AND STRAW.

The market for baled hay has been without any new feature of note, business being very quiet...

POTATOES AND BEANS.

A very good demand for potatoes has been met in advance in quotations...

HIDES AND WOOL.

Beef hides, green, 12c; part cured, 10c; cured, 16c; deacons or part cured, 15c...

EGGS AND POULTRY.

Large consignments of eggs have been made in from Winnipeg, Calgary and Brandon, as a result, interest in Ontario has been the extent to which Montreal buyers operate in this province...

LAKE VIEW HOLSTEINS

Every male or female offered by us are either sons or daughters of these wonderful cows. No other herd in Canada has such a record...

HOLSTEINS

One 2-year-old bull; 1 bull 18 months, out of a 2 3/4-lb. 3-year-old dam; 1 bull 13 months; others younger.

CLOVER BAR STOCK FARM OFFERS

A few choice young bulls for sale, from heavy producing dams, sired by a son of Prancy 3rd. Write now for description, photo and price.

Herdsmen Wanted

I am open to engage an experienced herdsmen to handle my well-known Holstein herd. I want a man experienced in R.O.M. work...

SUNNYSIDE STOCK FARM HOLSTEINS

ECHO SIGNS FAYNE, our herd sire, is by a brother of the world's 50-lb. cow, Segit Fayne Johanna. He is a grands bull in every way...

CHOICE YORKSHIRE HOGS AT RIGHT PRICES

Boars and sows, all ages, from best prize-winning strains—a few good bred sows, also younger stock. S. C. White Leghorn eggs for hatching...

CHESTER WHITES

FOR SALE—Choice young pigs, ready to ship. Write for prices. F. W. Gullett & Sons R. R. No. 2, Welland, Ontario

A Bacon Producer Without an Equal

In this crisis of world food shortage—with its meatless and baconless days—it is important that stock be fed products that will produce most rapid gains at a reasonable cost...

CALDWELL'S HOG FEED

Dry Hog Feed is made from shorts, corn chop, oil cake, pap chop and 10% tankage. It contains 18% Protein, 2 1/2% Fat and 10% Fibre.



The Caldwell Feed & Cereal Co., Ltd. DUNDAS, ONTARIO. Makers of all kinds of Stock and Poultry Feeds.



Vertical text on the left margin containing names and addresses of various individuals and businesses.

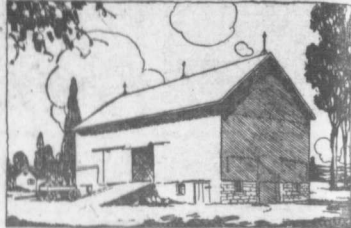
Fire Loss from Lightning

\$400,000 a year could be saved if Ontario's barns were all rodded

AS a comprehensive conclusion from Ontario Department of Agriculture investigations we have found that, if all the buildings in rural Ontario were rodded more than 95% of the annual damage to buildings by lightning would be prevented.

The method by which this conclusion was arrived at was as follows: In 1912, eighteen insurance companies in Ontario kept special records for us: from their reports we learned that out of every 7,000 unrodded buildings insured by them, 37 were struck by lightning, while in every 7,000 rodded ones only two were struck by lightning. The rods prevented damage in 35 cases out of an expectancy of 37, showing an efficiency of 94.7%. Since that we have determined the efficiency for the years 1913, 1914 and 1915. The results for the four years are as follows:

Year	Efficiency of Rods
1912	94.7
1913	92.9
1914	99.8
1915	99.9
Average for four years	97.2



1. Barn protected against lightning.

To apply these figures: The report of the Superintendent of insurance shows that in 1912 the insurance paid on losses caused by lightning was \$262,282. No doubt the actual loss exceeded the insurance by perhaps one-third or one-half. If so, the actual loss was \$350,000 or over. Ninety-four per cent. of this equals \$331,450, which represents the saving that would have been effected that year if all the buildings had been rodded.

\$400,000 Annual Fire Losses

In 1913 the insurance paid on lightning losses to buildings was \$305,104, which means a total loss of \$400,000 or more. Ninety-two per cent. of this shows a saving of \$368,000 if the buildings had been rodded.

Similar computations might be made for the other years, if the lightning losses were at hand. Investigations along similar lines in Iowa have shown an efficiency of 98.7% for rods in that State, based on the report of 55 mutual companies each year for eight years.

In Michigan the efficiency of lightning rods has been shown to be from 96% to 99%. In this State many companies keep their rodded and unrodded risks in two separate classes, and assess each for its own losses. The reports of eight of these companies for the years 1913, 1914 and 1915 show that

In unrodded class the average assessment per \$1,000 risk	\$3 15
In rodded class, the average assessment per \$1,000 risk	2 28

The only possible cause for the difference is the rods on the buildings.

Rods Even Better Than Insurance

These few facts, which are all matters of record in published reports, establish beyond question the conclusion first given, that if all buildings in rural Ontario were rodded, 95% of the annual lightning damage to buildings would be eliminated.

For the individual, lightning rods are a better investment than insurance. When they save a building, the farmer's only loss is the interest on the price of his rods. Under insurance, in case of fire, he loses at least one-third the value of his buildings, together with his premiums.

Kind of Rods

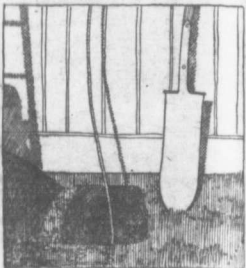
Copper rods are the most durable and, therefore, the best, although any metal will do the work, as long as in proper condition. But iron rusts off at the ground, and aluminum also corrodes under certain conditions. A rod composed of two metals, one wrapped around the other, is especially objectionable.

How to Rod

All rods should be grounded 8 ft. deep. From the ground the cable should run up the corner of the building, over the eave, up the edge of the roof to the peak, along the peak, down to the opposite eave and into the ground at the corner diagonally opposite the first.



4. Hay fork track connected to main cable.



3. Making a grounding. The same cable as hanging down silo, sunk 8 feet in ground by drill. The square hole is only a foot deep, just enough to pour in a pail of water to soften the ground for the drill.

On more complicated buildings more groundings should be made, and all parts of the system connected together. All metallic parts of the structure should be connected to the rods. Silos should be rodded.

Fuller directions for rodding, also a treatment of the entire subject of lightning rods, will be found in Bulletin 220. It will be sent free on application. If there is any special information you would like to have on the subject of lightning rods, or if you have any questions you would like answered, kindly send us full particulars and we will send you a prompt reply. Address the office of the Commissioner of Agriculture, Parliament Buildings, Toronto.

Ontario Department of Agriculture

Parliament Buildings, Toronto

HON. GEO. S. HENRY,
Minister of Agriculture

DR. G. C. CREELMAN,
Commissioner of Agriculture



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