

Farm Machinery and Building Number

# FARM AND DAIRY & RURAL HOME



DEVOTED TO  
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COUNTRY LIFE



Toronto, Ont., May 9, 1918

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CULTIVATING THE MODERN WAY—TWO ROWS AT A TIME AND THE WORK WELL DONE.

### Modern Hay Making Machinery

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From Running Water to Electric Light (Page 7).

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VOL. XXXVI

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We Welcome Practical Progressive Ideas.

# AND RURAL HOME

The Recognised Exponent of Devising in Canada

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

VOL. XXXVII

TORONTO, ONT., MAY 9, 1918

No. 19

## The Value of Modern Hay Making Machinery

I Would Just as Soon Give Up the Self Binder as My Hay Making Machinery—A. C. Hallman, Waterloo Co., Ont.

I USED to dread the hard labor of hay-making under the old system of cocking and pitching by hand. There was a time when we thought the only way to make real good hay was by putting it in good-sized cocks for several days. This theory has been exploded to my entire satisfaction and my own experience has proved it. I would just as soon give up the self-binder as my hay-making machinery, and we all know the value of the self-binder. I consider one just as indispensable as the other and have come to this conclusion, after using modern hay-making machinery for some 15 years.

I was always very particular in trying to make good hay; I am still particular. I am convinced, that, taking it for a number of years, I make better hay by a rapid process with machinery than by the old slow process of hand labor. And labor is one of the greatest problems with which we have to deal at this present crisis. Modern labor-saving machinery is the only hope of carrying on our farming operations.

One of the great advantages with machinery is the rapidity of the process. The weather may not be too favorable, but with the machinery we can get the hay cured and in the barn very often before we could get it in cocks under the old system. Then probably we would have to wait for nearly a week before it could be drawn in, and in many cases it would first have to be turned over and allowed to dry before bringing in.

What I consider full equipment is, first a wide-cutting mow, which leaves the grass spread better than a short-cutter bar, not doubling it as much with the divider and with it you always get a stronger gear; second, a combined side delivery rake and tedder. This will make the hay in nice windows and by reversing, it will do the tedding. This rake is indispensable for rapid hay-making with a loader. The old-fashioned steel rake is also valuable for the second raking. This should be a two-horse rake so you can change from one to the other without changing horses and thus not lose any time.

The next machine is the hay loader, which is certainly a great help and a labor-saver. One man can put on a load if necessary. The horses soon become accustomed to straddling the row. Of course if you have a boy or girl to drive the team, it is all the better. For rapid work there should be two men on the load and a driver. The special advantage of the side delivery rake is that it sets the hay up twice and turns the dry side in and the green or damp side out, thus giving the sun and air a chance to dry it out very quickly.

I consider the hay ready to be drawn in when two-thirds of it is dry. The other third is absorbed by the dry hay and it will never spoil. This is a rule which my father practised with both hay and grain. I have practised it ever since I started farming and have never had spoiled grain or hay when I followed this rule. It is always advisable to sprinkle some salt on the hay when a little damp, or at any time.

This will prevent it from moulding through sweating. Horse hay forks with or without slings or a rack lifter are necessary to make the outfit complete. I would not consider this article complete without mentioning the flat hay rack. The man who does not use it does not know what he is missing, especially with a hay loader. The sliding bottom attachment which the front end slides to the rear and is loaded first, then with a simple contrivance is brought back to its proper position and the rear loaded, is a great advantage. This is particularly convenient when one man does the loading.

Just how many men or how many dollars a man could save by owning such equipment, I am not going to say. You can gather this from what I have said in this article. Suffice it to say that even if

a man had plenty of help (unless he likes hard work better than I do), he would be foolish to attempt to make hay in the old way. I consider my hay-making machinery one of my best investments in farm machinery and could not do without it. I have handled all kinds of hay, including alfalfa, with good success.

### Hay Making Made Easy

C. G. McKilloch, Glengarry Co., Ont.

If there is one branch of farm work where, more than any other, up-to-date machinery is necessary, I think that it is hay-making. No other crop is as perishable and consequently no other crop should be handled with as little loss of time from the standing condition to the mow. It is possible that a slightly better quality of hay can be made by the old method of cocking if the quantity is small, but certainly any advantage it may have for a small quantity is more than made up by the danger of having the operations running into bad weather or the hay becoming too ripe toward the end of the season, if the crop to be handled is large.

To begin with the mower, my preference is for a seven-foot knife if the fields are reasonably smooth; six-foot if not smooth. If kept in good shape, the wide machines will cut anything that the narrow ones will. Next comes the side delivery rake. Many people object to this implement because the sulky rake is necessary for a second raking anyway. However, if you have a loader you want the side delivery rake and with it you can get along without a tedder. However, if the side delivery rake is not one with reverse action a tedder is a good thing to have also, although not an absolute necessity.

As to the loader, I suppose there is no farm machine about which as much difference of opinion has been expressed. My experience with hay loaders goes back about 25 years. At that time my uncle, much to the amazement of his neighbors, introduced the first one into our locality and I used to sit on the fence after school hours and watch it work. My practical experience with a loader goes back 13 years when I had my first taste of building for one. After the first sense of giddiness had passed away, I became an enthusiast and have remained such ever since. That same loader is still doing good work, a fact which vouches for their longevity. My experience with a loader is that one man on the load is sufficient. If you have a boy or girl to drive so much the better but it is not necessary, especially with a steady team that will not try to rush things too much. If a perky son has help enough that he would feel able to put two men on the load he would be better to use two wagons and have them load alternately, or have one man rake while the other loaded.

One of the great mistakes which is (Continued on page 30.)

### Hay Making Sixty Years Ago and Today.

WHEN asked to write something about hay-making, my memory reverted back to over 60 years ago, when I was a boy. The machine thought of was the scythe that the men swung from morning until night. It fell to the lot of the boys to shake out the swaths of fresh cut grass, where the crop was heavy. Every stump (and they were plentiful) had a forkful on top. When properly dried it had to be hand-raked and forked into windrows. It took an expert teamster to drive a wagon hauled by a yoke of oxen or span of horses between the stumps and over the knolls. Then the hardest work of all came,—the storing of it in the little barns. Hay was nearly all stored above the horses and put in from the outside through a small door about two and a half feet square. The boys worked inside near the roof in the heat and dust; work that left them with an impression never to be forgotten. If a man of that time could have been suddenly transferred to the present and see the system of hay-making practised on our well equipped farms with the easy-running mowers, tedders, rakes, loaders, slings and forks for unloading in the large convenient barns and nearly all of the work being performed by horses, it would have been almost too much for him to believe. He would probably have pinched himself to see whether or not he was dreaming.

These machines and conveniences that we have to-day and are so lightly thought of by the boys, have been a gradual evolution that turn. My father bought the first of these bright minds of an inventive nature has been brought about by thousands of bright minds of an inventive nature. My father bought the second combined reaper and mower that came into our township, 53 years ago. At that time it was the talk of the neighborhood for miles around. It was considered a good working machine, but if you put up new at an auction sale to-day, it would bring only the price of old iron.

It would be impossible, with the amount of hay that has to be handled with the present supply of labor, to save the hay crop if it was not for the highly efficient machines with which up-to-date farms are supplied.—By Henry Glendinning, Ontario Co., Ont.

## Stable Conveniences Reduce Labor

An Investment Pleasing to Hired Help

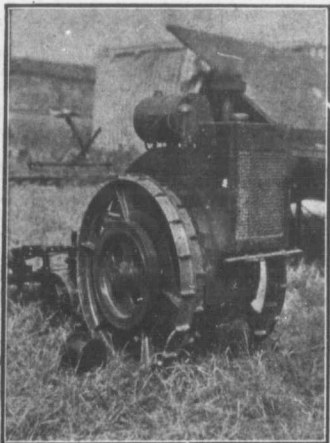
W. O. W., Elgin Co., Ont.

LABOR-SAVING conveniences are like love. They are never properly appreciated until experienced. Ours is a dairy farm and I blush to mention that, for many years we got along with inconvenient and almost unsanitary stables just to save money. As labor became scarcer and wages higher, we began to question if we were saving money. One thing was certain—the hired men who had coming and going didn't like doing chores in our stable, and it was one factor that made hired help difficult to retain. Finally, some four years ago, we went to work and spent \$1,000 in improving our stables. The interest on this \$1,000 at five rate, we have another \$50, or our improvements represent an annual cost of \$100. I am confident that we have this returned to us in increased milk flow alone. For profit we have the many hours of labor saved, the fertility that was formerly lost through the old plank and earth floors and more satisfaction with hired help.

As I have mentioned, the floors of our old stables were a combination of plank and earth. Our first act was to pull out the old flooring and stabling completely. We hesitated long over the purchase of steel equipment. In fact, the cementing of the floors was held back while we considered this investment, which seemed a best one. When, however, we called in a carpenter and got him to estimate on the cost of lumber and labor for the construction of wooden partitions, mangers and chain ties, we found that the sanitary and convenient steel equipment was almost as cheap and promised to be more durable. We sent in our order and have never regretted our decision. There is only one part of this modern equipment the value of which we question—the galvanized swinging partitions in the mangers. These may be necessary where some cows are fed a heavy meal ration when on test and other cows not at all, but we found them to be more or less of a nuisance and after one season's use did away with them. The rest of the equipment, however, has been a source of unending satisfaction.

### Water Bowls Pay 100 Per Cent.

Probably the most profitable addition to our new stables was the water system with individual water

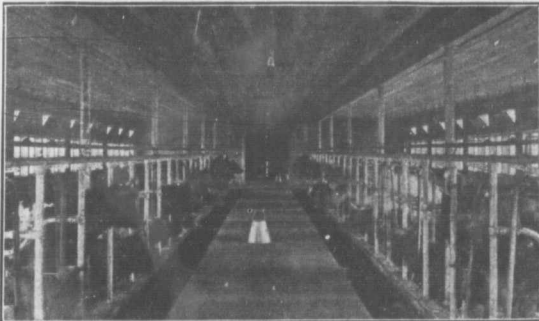


### Absolutely the Latest Thing in Implements.

This is a small garden tractor designed for the use of gardeners in working small holdings. The engine develops four and one-half horse power. It may be used for belt power as well as tractor purposes.—Photo by an Editor of Farm and Dairy.

bowls in front of all the cows. We estimate that the increased milk flow due to a constant supply of water, as compared with watering once daily, will repay principal and interest every 12 months. The entire cost of the system was only about five dollars per cow, including storage tank, float tank and all connections and that means only about 200 lbs. of winter milk per cow, or an increase of one pound per day during the winter season. We know that we got more than this. Cleaning the stables, once the daily hougher, is now a cinch and a 12-year-old boy can manipulate the litter carrier and hinks its fun. The litter carrier, also running on an overhead track, can be run right up to the silo door if necessary and the feedage handled just twice, from the silo to the carrier and from the carrier to the cows. Two loads will feed the entire herd and every time I push that carrier along I think regretfully of the years that I lugged a 1-to-3-bushel basket of ensilage down that same feed alley, almost breaking my back in the operation; for on this farm the feeding is never left to the hired help.

There are other improvements also. In the frame wall to the south side of the stable we have about one-third of its length in window glass. The end walls are of masonry construction, and here we have the windows grouped together, two of them nine feet long and three feet deep. A coat of whitewash



In the Stable of a Progressive Dairyman on the Pacific Coast.

A. E. Dunville, in the Chilliwack Valley of British Columbia, has a stable equipped with practically every convenience known, and at least one that he has invented himself—a device for handling eight-gallon milk cans. All the buildings are lighted from the own generating plant, which also furnishes the power to operate his four-unit milker.

equipped with a spray pump once or twice a year, keeps our stable light enough to work in without lanterns for a half an hour to an hour later at night than was the case in the old stable. Our latest improvement just put in two years ago, is a combination of the rubberford and King systems of ventilation designed by the firm from which we purchased our steel equipment.

Our stable is now a cheerful, convenient place, in which to work and a comfortable place for the cows. I must not forget to mention that the hired help (just one man now, and glad to have him), thoroughly appreciates the fact that chores are easier done in our stable than in any other stable in the district, and this in itself is worth a lot.

## Milking Machine Investment

Dairy Farmers Give Their Experience

I HAVE every confidence in my milker and do not regret having spent the money. Its upkeep is little. I do not recommend it for a man who has less than 10 cows of the average run. Most of my 12 head must be milked three times daily when fresh and the milker saves me time. It works well on all my cows. I have one that has had a caked bag. When fresh, she gives 75 lbs. of milk per day. It takes 40 minutes to milk her by hand. The machine does it in 10, so you see that it paid me to get the machine for this cow alone.—C. L. Jordan, Lambton Co., Ont.

We have been using the milking machine for nearly four years and have no fault to find with it. The cows take to it very kindly. I find no bad effects from using it. The cows keep up the flow of milk just as good and better than the average hand-milking. We find it easy to operate, easy to clean and very simple to install. The upkeep of the machine is small. We have spent nearly \$10 in repairs in four years, it being for mouth pieces mostly. Our stable holds 37 cows and we usually keep that stable filled with fresh and nearly fresh cows.—J. E. Waring, Oxford Co., Ont.



A Tractor Attachment "on the Job."

The attachment here seen was drawing two ten-inch plows in a very dry clay loam, when caught by the Farm and Dairy camera.

### Milks 100 Cows.

I have operated a milking machine of six units for the past four years. The original parts, valves, in fact, all the parts but the rubber parts are still in use and in good condition. The rubber portions lasted until about nine months ago. We have milked over 100 cows during that time. We use the herd bull in a tread power to operate the machine. This has cost us nothing but axle grease and, besides, keeps the bull in fine condition and temper. The machine is easy to operate, easy on the cows and the upkeep is small. Boys or girls are very efficient with it, but one should have a man to carry pails and do the heavy work.—Jho. W. Berry, New Westminster District, B. C.

We had used our three-unit milker for more than three years when, last fall, I extended my shafting to the other side of the stable and bought another unit. The milker does not milk the cows perfectly without hand stripping afterwards. As far as being easy to handle, I think it is very easy. In comparing it with a binder or manure spreader, I would rather teach new hired help to run the milker than either of these. In the time I have been using our machine, I cannot blame any udder trouble as due to a milker or cows going dry too soon. It is very easy to wash and for this reason is washed more frequently than if it was more complicated. Keeping any machine clean adds much to its efficiency. (Continued on page 50.)



"Striking Out" with a Tractor.

This illustration, from a photo by an editor of Farm and Dairy at the Toronto Tractor Meet last fall, shows the method of "striking out" with a 3-plow gang. Only the outside two plows are used.

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The Newma companying B and the good on the outside inside layout, stantial construc ties the whole Newman has a roof. The barn with the cows and the horses cows have that an necessary drying, and when their que they are at p hand, the horse quarians that t their busy time Besides the c stable, the g granary and fe ample room of storage of all sary for the h most pleasing structure is the milk house, w east side of the processes in the milk carried o numerous little makes this pl dairy farmers, their skill in t The barn is c

The Manger Cor

# A Model Barn for the 100 Acre Dairy Farm

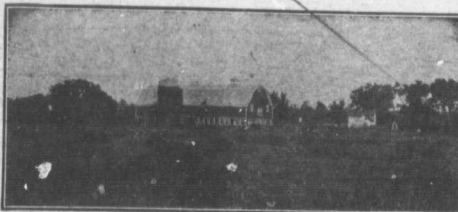
That of L. H. Newman, of Grenville Co., Ont., is Convenient, Comfortable and Commodious — and is Not an Expensive Barn as Dairy Barns Go—By S. R. N. Hodgins

As one travels about the country he becomes impressed with the variation in dairy barn construction, as well as with the number of more or less expensive dairy barns which have been built, apparently without any definite plan and in the building of which a little planning might have wrought a great improvement. In planning the dairy barn we should bear in mind Horace Greeley's pithy remark, that "if a man's foresight were as good as his hindsight, he'd be a darn-sight better off." A good barn is something that the farmer is not going to build every day. It is going to tie up a lot of his working capital, and upon the plan followed will depend largely the amount of labor that will be necessary in his dairy practice during the lifetime of the barn. So when one finally comes across a really handy barn and one which at the same time may be built for something like a small fortune, he feels as if he should pass it on to the inspection of prospective builders.

There is, of course, no barn plan that may be fitted to every 100-acre dairy farm without some minor alterations, for local conditions, as well as the type of dairy farming followed, must always be taken into the reckoning. One barn, however, which I have had the pleasure of visiting recently, appeals to me as combining more attractive dairy-barn features than many I have come across. This is the barn on Elmhurst Stock Farm, near Merrickville, owned by Mr. L. H. Newman, who is well known to Canadian farmers as secretary of the Canadian Seed Growers' Association.

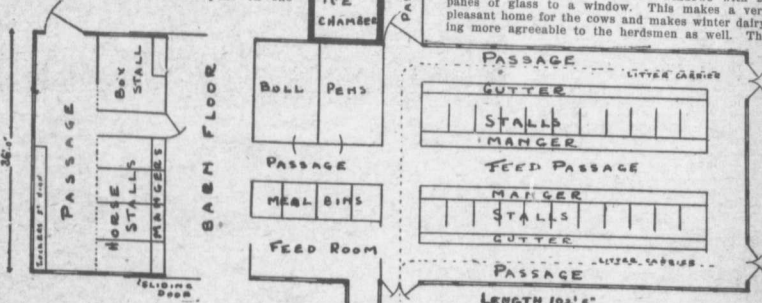
The Newman barn, as will be seen from the accompanying illustration, is attractive in appearance, and the good impression that it gives on the outside is strengthened by its inside layout, as well as by the substantial construction which characterizes the whole building. In it Mr. Newman has all his stock under one roof. The barn is set north and south, with the cows in the southern portion and the horses in the north. Thus the cows have that abundance of light and sun necessary to comfortable winter dairying, and during the time of year when their quarters would be too hot they are at pasture. On the other hand, the horses in the north end have quarters that are always cool during their busy time in the summer season. Besides the cow stable and horse stable, the barn proper includes granary and feed room, and furnishes ample room over the stables for the storage of all the roughages necessary for the herd. But perhaps the most pleasing feature of the whole structure is the combined ice house, refrigerator and milk house, which is attached as a wing on the east side of the barn. The fact of having all the processes in connection with the production of the milk carried on under one roof, as well as the numerous little labor-saving devices in the barn, makes this plan particularly attractive one to dairy farmers, whose profits bear a close relation to their skill in the use of labor.

The barn is of frame construction, as it was found



The Most Outstanding Feature is the Abundance of Light in the Stables.

that in this particular district a timber frame could be erected at less cost than the plank frame construction, which is now becoming so popular. It is 36 feet wide by 103 feet in length, with 15-foot posts, and is 25 feet from ridge to floor. The barn is divided, as will be seen from the plan, into an 18-foot stable, a 12-foot threshing alley (also used as a feeding alley for the horses and as a general room in which grain may be cleaned, machinery repaired, etc., for it is well lighted by windows in the large sliding doors), next is an 18-foot portion, divided by a passage with bull pens on one



side and the feed room on the other, the latter opening into the silo chute and connected by a stairway with the root cellar underneath, and the remaining 55 feet comprises the dairy stable proper. Underneath the feed room and extending far enough under the barn floor is an 18 x 20 foot root cellar, well drained and equipped with stone walls, while above the feed room a granary has been partitioned off from the storage room. This granary has a four-foot passage to the storage room, and the four 5 x 6 foot bins.

The barn has no basement. It is the experience of dairymen generally that a concrete or stone basement where a "bank" barn is erected, is one of the most expensive items in the construction of the barn, and there is always difficulty in keeping the walls dry. In the type of construction followed by Mr. Newman, the cow stable is light and dry. The cost of erection has been considerably lessened through the elimination of the basement, and with the 15-foot posts and hip roof construction there is ample space for all the roughages required. If more cows require housing than the present facilities will accommo-

date, the plan used will allow it to be extended to the south without great expense and the added storage room will always keep the storage end well in advance of the number of cows. The barn is well ventilated by the Rutherford system, the outlet chute is air tight and insulated, and no drip has ever been experienced. Windows have been used freely in all parts of the barn, and its well-lighted mows and floors constitute one of its greatest charms. The barn is well roofed with steel, and the walls are kept nicely painted and attractive in appearance.

### The Dairy Barn.

As this is a dairy farm, most of the attention in building the barn was given to the southern half where the cows make their home. The 36-foot width of the barn is conceded by most dairy farmers as the best width for a two-row cow stable. In this barn the cows face in. Taking all the arguments for and against, this arrangement seems to be the best on the ordinary dairy farm. There is less confusion when the cows are coming in, there is a great saving of time at feeding, and you have the light on the business end of the cow. The only drawback which Mr. Newman has found to this system is that the rear walls become spattered, even with a fairly wide passage.

The most outstanding feature of Mr. Newman's dairy barn is the abundance of light. The accompanying plan will show that there are the utmost number of windows in this end of the building which can be installed without weakening the structure. In fact there are 23 windows with 20 panes of glass to a window. This makes a very pleasant home for the cows and makes winter dairying more agreeable to the herdsmen as well. The

walls of this part of the stable are constructed with four-ply of lumber with building paper between and a dead air space in the centre. The concrete floor runs through the whole barn. The floor of the dairy barn is roughened to prevent accident. The passages are all five feet wide, with the feed passage 12 inches wider than the side passages. This places it on a level with the top of the manger. The length of the platform where the cows stand varies from 4-ft. 10-in. to 5-ft. 2-in. to accommodate the different ages of cattle. The stable has 18-inch gutters, sloping toward the side next the litter carrier, has 24-inch continuous mangers and is equipped with steel stanchions and stalls and a litter carrier. One of the points to be noted in the construction of manger, which holds the bedding and which tends to keep the cows standing level. This ridge comes just far enough back that it is behind the shoulder when the cow is lying down and so leaves her comfortable. The ceiling is 8-ft. 9-in. above the outside passage and 7-ft. 8-in. above the centre passage. It is important in dairy barn construction to get the proper height of ceiling. If a ceiling be placed too high, there is too much space to heat and the barn is never comfortable in cold weather.

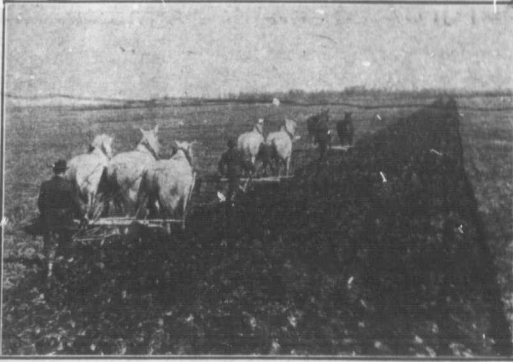
### The Commissariat.

The feeds are mixed in the feed room, which is connected by the chute with the silo. In this feed room is situated the grain grinder operated by a shaft which runs through the engine in the dairy. Along one side of the feed room are four meal bins with pipes leading from the grain bins in the granary above. Underneath the feed room is the

(Continued on page 9.)



The Manger Construction is the Simplest and Most Sanitary Possible.



One Man and Three Horses Working Against Two Men and Four Horses.

This plowing scene on The Delta, of British Columbia graphically portrays the advantage of the three-horse team and the two-furrow plow. While the three-horse team could not stand the pace continuously against two single teams the advantage in acres plowed per man and per horse would be decidedly with the larger outfit.

## The Tractor in Ontario

Observations and Deductions by "Mac"

**D**URING the past few months it has been my privilege to visit a number of farms, and in some of them I have seen the tractor in actual operation under various conditions and at other places I have merely talked with the owners of them regarding the work they are doing. While these machines are sold as tractors, the fact that they can be quite profitably used for belt purposes is a point worthy of as much consideration in the buying of a machine as its value for traction purposes. I think that if more simple engines had on this point both by the manufacturers and by the farm press it might set the matter in a clearer light in the minds of a great many people.

As tractors, what should we expect of them? In the first place they are tireless workers, and in experienced hands are as tireless workers, but in the hands of a careless operator, the owner must be prepared for lengthy delays of one sort or another. Difficulties are most commonly met when working in boggy ground. They will do satisfactory work on ground in this condition if run at a fairly high speed and also not pulling too heavy a load, but if run at a slow speed and working almost to full capacity they will dig themselves into a wet hole right up to the axles inside of a distance of a few feet. Here they must be run at a good speed and run light. If the ground is uniformly firm, however, they can be loaded for all they can draw and run as slowly as desired. Slow speed is desirable on account of the present danger of striking the plow or other attached machine against stones and obstructions. When going fast there is more danger of breakage.

Regarding belt work, the tractor's great advantage over the ordinary stationary or portable engine lies in the fact that it can be moved in its own power. It is not necessary to take out a team of horses every time the machine is to be moved a few inches.

While there are many farms upon which a tractor has absolutely no place—very stony farms, farms recently cleared and with the consequent stumps, roots, etc., farms with many poorly drained spots in the fields in which the tractor is likely to be mired, yet there are many other farms on which one would be a very valuable addition to the farm equipment. Farmers sometimes say, "We have to keep horses anyway, so why get a tractor." This is quite so, and no farmer should ever expect a tractor to displace horses on the average farm. Any farmer buying a tractor should buy it with the idea of supplementing horse power rather than displacing it; buy it with the idea of doing work that otherwise would not be done; to crop fields which otherwise would be allowed to run to unsatisfactory pasture; to get fall plowing done up in the short spaces of time which the average farmer finds to do it in; and lastly, but by no means least, with the idea of having your own power for threshing, soil filling and all other work commonly done by a stationary engine. There is no reason why it should not enable the farmer to do with fewer horses, and it may in many cases, save the expense of buying a portable engine, which would cost as much per horse power as a tractor, if not more.

I have endeavored to find out what is the best size for the average farmer to buy. The general idea seems to be that a 5-10 h.p. is too small. A man

might as well drive something that will do more work. The general idea also is that anything more than a 12-25 is too heavy and costs too much for Ontario work. Consequently I judge that something from an 8-16 to a 10-20 would be about the most practicable size for the Ontario farmer. Such size is not too heavy for the land, and yet could develop sufficient power on the belt for all ordinary farm purposes.

The price of the tractor seems high. However again I would refer back to its use for belt power. There are few farms nowadays. Large enough to have use for a tractor, that have not also use for a good-sized power.

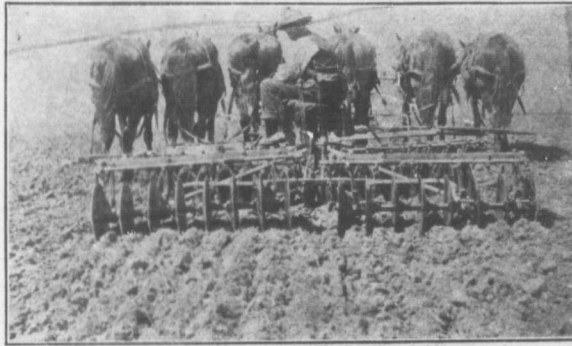
In the past the stationary engine has been purchased to fill this need. But there is no work done by the big stationary engine that the tractor will not do equally well or better. When the belt use and traction use are considered together, we may change somewhat our estimate of the first cost.

## Three Horses on 100 Acres

The Farm is Well Worked Too

J. L. Thompson, Oxford Co., Ont.

**I** ONCE heard a spirited argument between two well known farm management experts as to the number of horses that could be kept with profit on a 100-acre farm. One of these experts considered



"The Way We do it Out West"

The illustration shows a Farm and Dairy reader, Mr. W. M. Sanders, of Alberta, working down his summerfallow with a six-horse team and double disk harrow. The more economical utilization of man power through the greater utilization of horse power is probably better understood and more widely practiced on the western prairies than anywhere else in the world.

three fairly heavy horses to be quite sufficient, while the other placed his minimum at five horses, so that a three-horse and a two-horse team could be worked at the same time. My own opinion is that three good horses are sufficient, and I base my judgment on the experience of several farmers of my acquaintance who are working 100 acres with three horses and doing the work well. One of these three-horse farms is right in the heart of Oxford county, and is recognized as one of the best farms in the district. For purposes of comparison I might mention that right over the line fence is a 90-acre farm worked with four horses and the farm work was not anything like as well done. The explanation is found in the implements used on the two farms.

My hundred-acre farmer has a three-horse team on the go most of the time. Spring and fall plowing, outside of starting the crown and finishing the lands, is done with a double mold board plow cutting sixteen inches. A big disk harrow, a four-section drag

and, and occasionally five-section, and a wide working disk seeder make it possible to use three horses to the best of advantage all through the spring seeding. The hired man is the teamster. The proprietor himself sees that the man does ten good hours' work a day in the field and develops his own time to the chores and incidental work, which on most farms, either interferes with seeding or is entirely neglected. One day during the seeding when I called on him he was pruning in the orchard, while the man was finishing up the spring plowing. Right over the fence his neighbor and his neighbor's hired man were likewise finishing up the spring plowing with two single plows; an extra man employed of the job but no extra work done.

This man gained in two days by his system of farming. In the first place he saved the cost and upkeep of one horse. This he estimated a few years ago at \$50, but it would be nearer \$100 now. This gain, however, is the smallest one. Because he has more time for incidental work, the dairy cattle are better looked after and the cheese factory cheque is larger. The grain is always treated for smut, the seed corn is tested for vitality and they always find time to get in a first class kitchen garden, and he has what one seldom finds on the dairy farm, a splendid assortment of small fruits well attended to. He tells me that the ownership of just three horses has never been a hindrance in either raising or harvest, and the work is gotten through just as fast as on any neighboring farm. The horses are good-sized Clydes. Small horses of 1,200 lbs. could not handle the work.

## The Silo on the Small Farm

It Doubles Stock Carrying Capacity

By Tom Alfalfa.

**"W**OULD you build a silo on a small farm? A neighbor once asked me. This neighbor has less than 25 acres of land, and not awfully good land at that. He had been growing an acre or two of strawberries, two or three acres of potatoes and the feed for three cows. Sometimes his strawberry crop was good and sometimes the late frost killed the bloom. He told me that when the crop was extra good the markets were apt to be extra low. The same was true of potatoes; a good crop was accompanied by low prices. "But the cows are always reliable," quoth he. "We can always count on the cream cheque."

So he wanted to increase his herd to six or eight good cows and he could not see any way to do it except through a silo. Could he afford the investment?

To increase his herd to six or eight good cows and he could not see any way to do it except through a silo. Could he afford the investment?

Now, I know perfectly well that Warren had other business, and he was high in c k y - m u c k s of farm management. I don't advise a silo on a farm so small as this one because their surveys show them that farmers with small farms haven't got them. They argue that farmers in the aggregate know what is best for them, and if silos paid on small farms there would be more of them erected. My neighbor built a little figuring together, and I advised him to go ahead and build a silo. He immediately got in three and one-half acres of Wisconsin No. 7, and the summer he built a silo. The first silo was built underground, all cement on the bank side of the barn, the bottom being two feet below the stable floor. On top of this he erected 16-foot staves. The silo was 16 feet in diameter and we estimated that it would hold enough to feed six or eight cows practically the year round with, of course, some pasture in summer.

That fall Mr. Neighbor filled his silo and six feet in addition with the product of his three and one-half acres of corn. Then he bought in three good cows. After two years use he told me that

(Continued on page 30.)

**T**HE first time Hartley, Halting in the done service for sever, masons and erecting a "farm" On the keys were living most modern farm-able old frame the hired help and the old horse had in the greater cow. These conveyed to be approved strolled in from warmly seconded.

But, perhaps, if Hartley of Mount dairy farm, most of his attention has been unusual back from Lake County ready for market the Burlington maturity of his location on "The of Milton. Secrecy monecy cherries.

are also grown on getting started in of the business is of distributing labor. A silo has been extended, and it will a falsified dairy best proof of Mr. the modern home made it possible for

The exterior appearance best be gathered from It has solid brick and a big veranda. The large for vegetables, furnished to aid in the is one of the most feature of the first farm. The large of Mr. Hartley find it ing the day to ans take time in on bump through the a decided advantage the muddy seasons cularly. On the floor are several bathroom and a three medious attic are additional bedrooms.

"The house is larger than the new on own family," ed Mr. Hartley. A great fruit season, however have a large number sign here. A great of these pickers brought from the to Milton each day. I number of our best date in our own home had this requirement our business in mind we built our houses."

A home such this is not built without careful planning in vance. The Hartley houses plan talked over details many months before rough sketches embodied their ideas were seen by the architect. Mrs. Hartley's brother the way-for "dropping" up in a form that was understandable to the masons and carpenters. The contract was with a local man, who has worked with his own testifies, and as

# A Farm House With All Modern Conveniences

Few City Homes Outrival That at Mountain View Farm, the Home of Mr. Peter Hartley

The first time I visited the farm of Mr. Peter Hartley, Hutton Co., Ont., the family was living in the old frame house that had already done service for several decades. Out in front, however, masons and carpenters were busily engaged in erecting a new residence on "Mountain View Farm." On the occasion of my last visit, the Hartleys were living in their new house, one of the most modern farm homes in Ontario. The comfortable old frame house in the rear was occupied by the hired help and whatever sentimental attractions the old home had ever possessed were forgotten in the greater conveniences and comforts of the new one. "These conveniences need only to be experienced to be appreciated," remarked Mr. Hartley as we strolled in from the farm. And Mrs. Hartley warmly seconded the sentiment.

But, perhaps, first I had better introduce Mr. Hartley of Mountain View Farm. Mr. Hartley is a fruit and dairy farmer. In the past he has given most of his attention to fruit growing, and in this he has been unusually successful. Although 20 miles back from Lake Ontario, he has had strawberries ready for market quite as early as the growers of the Burlington and Niagara districts. This early maturity of his fruits he attributes to his favorable location on "The Mountain," overlooking the town of Milton. Second to the berries as income makers, is a large orchard of Early Richmond and Montmorency cherries. Bush fruits, principally currants, are also grown on a commercial scale. He is just getting started in dairying and the live stock end of the business is being adopted primarily as a means of distributing labor more evenly through the year. A silo has been erected, the acreage of the farm extended, and it will not be long, I anticipate, before a first-class dairy herd will be established. The best proof of Mr. Hartley's success as a farmer is the modern home which the income of his farm has made it possible for him to build.

The exterior appearance of the new home may best be gathered from the accompanying illustration. It has solid brick walls on a concrete foundation and a big verandah runs around two sides of the house. The large cellar has different compartments for vegetables, furnace, fruit and laundry, and is designed to add in the storing of the potato crop, which is one of the money-makers of Mountain View. A feature of the first floor is the farm office, which may be reached directly from the side verandah. Should Mr. Hartley find it necessary to visit his office during the day to answer a call to the phone, or to take men in on business, it is not necessary to tramp through the house—especially during the muddy seasons particularly. On the second floor are several good bedrooms, a three-piece bathroom and in the commodious attic are several additional bedrooms.

"The house is really larger than we need for our own family," explained Mr. Hartley. "In the fruit season, however, we have a large number of pickers here. A great part of these pickers are brought from the town of Milton each day, but a number of our best pickers we have to accommodate in our own home. We had this requirement of our business in mind when we built our house."

A home such as this one is not built without much careful planning in advance. The Hartleys studied house plans and talked over details for many months before the rough sketches embodying their ideas were handed over to an architect. Mrs. Hartley's brother by the way—"dressing up" in a form that would be understandable to masons and carpenters. The contract was then let to a local man, who did his work well, as a splendid finish both inside and out testifies, and the



The Best Proof of Mr. Hartley's Success as a Farmer is the Modern Home which the Income of his Farm has made it possible for him to Build.

finished home is one of the finest in the county. It is the inside conveniences, however, that make the home distinctive, and it is of these that I wish to make particular mention. I noticed, too, that it was these conveniences that seemed to afford the most satisfaction to the whole Hartley family.

### The Electric Lighting System.

"Our lighting system is the latest addition to the list," Mr. Hartley told me. "We had the house wired for electric lights when it was built. We then hoped that Hydro-Electric would soon be coming our way, and we would hitch up with it at small expense. The years have passed, however, and there is no sign of Hydro-Electric, so several months ago we purchased a small home lighting plant. The initial expense, of course, was greater than connecting with Hydro, but the saving in running expense, now that it is installed, will probably be less. Come on down cellar and see the plant."

The generating plant I found to consist of a small kerosene engine, a dynamo and a storage battery. The engine and the dynamo come in one piece. The engine is primed with gasoline, a small can of which is always kept handy, started by the power in the storage battery and continues to run on kerosene. All that is involved in its maintenance is to keep kerosene and lubricating oil in the tanks provided. The engine is air cooled and the exhaust is piped outside the house. The storage battery consists of 16 cells which, fully charged, will run 80 lights of 25 watts for 80 hours. Occasionally the cells have to be refilled with rain water, but otherwise they require no special attention. The first cell is known as the pilot cell, and has a white sphere on the side of it falls, recharging is necessary, and the engine is started up. "We run the engine three times a week," said Mr. Hartley. "In the summer we use a trifle over a gallon of kerosene a week, and consume what more than this in the late fall and winter. Even at this, however, it

does not take one-half as much kerosene as when we used lamps."

"And what did the plant cost?" I asked. "The principal expense was for the generating plant and the storage battery. This came to several hundred dollars, and the price seemed high on me at the time, but the service it has rendered has been commensurate with the cost. The wiring of the house was done at a minimum cost, as the house was wired while being built. The total expense of material and labor in wiring was then about \$40, but it would be considerably more now. The chandeliers, of course, will cost anything you want to make them."

### The Water System.

Both hard and soft water are on tap in the kitchen. The hard water is pumped by a hydraulic ram from a strong spring on the mountain side below the buildings. The water is piped and runs continuously into a small tank in the corner of the kitchen. The overflow can be used if necessary to replenish the soft water in the cistern in the cellar, but it is not expected that it will be necessary for this purpose. Flowing continually as it does the hard water supply is always clear and cold. Most of the water used, however, comes from a pneumatic tank in the basement and it, in turn, is fed from a soft water cistern in the corner of the cellar. At first the water was pumped into the 200-gallon pressure tank with a hand force pump. Now, the system has been improved upon, and a one and one-half h.p. gasoline engine does the pumping. Incidentally it might be stated that this same engine cuts the wood, runs the spray pump in the orchard and is a generally useful chore boy around the farm. The Hartleys feel that the pneumatic tank to the overhead tank, that it gives a better pressure in both kitchen and bathroom and the danger from freezing or damage by leaking is obviated.

A modern water system in the home necessitates a good heating system. A big hot air furnace is the nearest neighbor in the cellar to the pneumatic tank.

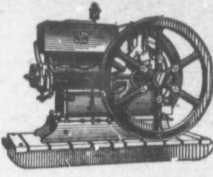
Other conveniences are planned for. Already there is an electric iron which has paid for itself several times over. Eventually there will be a fully equipped laundry with a wash tub and wringer both driven by electric power. When these conveniences are all installed, the folks at Mountain View Farm will have a home that outrivals in its equipment all but the very best that are found in the city.—F. E. E.

The man who is expecting to feed a number of hogs during the season of 1918-19 should grow barley. While oats is probably more generally fed in Canada than any other grain for hogs, it is a poor feed for fattening pigs. Its best place is in feeding growing pigs or milking cows. Barley is our fattening grain in Canada. It may be used with oats and shorts for young pigs, and as a finishing ration for hogs over 100 lbs. It is the best grain we can grow.—G. B. Rothwell, C.E.F., Ottawa.



A Glimpse of the Interior.

A view from the front hall into one of the living rooms showing the electric chandelier. The electric current is developed from a small generating plant in the cellar.—Photo by an editor of Farm and Dairy.



## The Right Engine ---

That is what 10,000 farmers over Canada are proving to themselves when they persistently use the Brantford Engines. We do not assemble Brantford Engines. We build them right here in our big, up-to-date, factory. The making of every part is supervised and tested as if the engine were for our own use. This is why the "Ideal" is giving honest service in many cases running as high as 20 years. Our new "Ideals" are built to handle a wide range of fuel—gasoline, naphtha, or coal oil—running just as smoothly on the latter, and giving maximum power at only half the cost. We unqualifiedly guarantee every Brantford Engine that leaves our factory. They are made for shafts, or mounted—from 1 1/2 to 65 h.p. Our catalogue gives full details.

## Driving the Right Equipment



Brantford tractors are far beyond the experimental stage of the many makes that now flood the market. They have been tested out for ten years under the severest and most varied of practical farm conditions. They have made good. The prospective buyer of a tractor should bear this in mind—that any machine of which so many uses are made, such as plowing,

disking, etc., hauling to market, or heavy belt work, must be so constructed and of such quality materials that it will stand up season after season and give first-class service. We stand behind our tractors with the guarantee that they will give this service.

**THE ENGINE.** In the "Ideal" and "Ideal Junior" each engine has two opposed cylinders placed horizontally; pistons are operated by a two-throw crank-shaft, in heavy bronze bearings half way between cylinders; this insures perfect balance and greatest power. Separate carburetors for both fuel and water on each cylinder, but one throttle governor regulates full supply for both. The carburetors are of oil-sporn special make to insure complete use of all kerosene fuel.

**Oiling.**—Proves feed for engine and compression grease cups for bearings.

**Ignition.**—Governed by throttle system and the best high tension trip magnet, no batteries of any kind being required.

**Cooling.**—Hopper-cooled—thus with no trouble from leaky radiators, fans, and frozen pipes, runs half day without replenishing.

**Power.**—The "Ideal" (20-15) has plenty of power to pull 5 plows or drive a 28-inch thresh with all attachments. The "Ideal Junior" (24-12) will pull 3 plows or drive a 24-inch mill. Power 2 1/2 miles.

The "Beaver" is our latest 4-cylinder light tractor, developing 12 h.p. on the bar and 24 h.p. on the belt. Get full information from us before purchasing.

## Our Other Lines

Galvanized Steel Pumping Windmills, Steel Flag Staffs, Galvanized "New Ideal" Power Windmills, Power Spraying Outlets, Batch Concrete Mixers, Galvanized Steel Wood and Pole Saws, Iron Pumps, Wood Tanks, Water Boxes, Brass Cylinders, etc.



## Goold, Shapley & Muir Ltd. Brantford, Ont.

Branches at Portage la Prairie, Regina, Calgary, Saskatoon. Catalogues covering any class can be secured by writing us.

## The Manurial Value of Clover

Even at Present Seed Prices It is a Cheap Fertilizer

THE amount of semi-decomposed vegetable matter of humus present in our cultivated soils—sandy and clay loams—bears an intimate relation to their productive capacity. Humus not only fulfils the mechanical function of rendering soils porous and more retentive of moisture, but furnishes also the essential medium for the activities of the bacteria which liberate plant food in the soil. Furthermore, humus constitutes the chief natural source of the soil's nitrogen supply.

Applications of barnyard manure may be considered the chief means employed in the maintenance of humus in the soil. Supplementary means are the growing and plowing in of a green cover-crop such as rye, buck-wheat, rape, vetches or clover. Of these, clover—where conditions are conducive to its satisfactory growth—is to be generally preferred. By means of its deep ramifying roots clover disintegrates and aerates the lower soil layers and brings up therefrom plant food supplies unattainable by other more shallow rooted crops.

An additional advantage which clover, in common with all members of the legume family, possesses is that of its ability to assimilate the free nitrogen of the soil atmosphere by means of minute bacterial organisms living and operating in small nodules on its roots. Thus clover gathers the greater part of its nitrogen from the air, and its phosphoric acid, potash and lime largely from soil depths beyond the reach of the roots of ordinary crops, consequently enriching the surface soil with these constituents for the benefit of succeeding crops.

**Clover Compared With Manure.**

How does clover compare with manure as a fertilizer? Barnyard manure of good average quality contains approximately 16 pounds nitrogen, 5 pounds phosphoric acid, and 10 pounds potash per ton. Therefore, 10 tons of barnyard manure would furnish about 160 pounds nitrogen, 50 pounds phosphoric acid, and 100 pounds potash.

Experiments conducted at the Central Experimental Farm, Ottawa, have shown that a vigorous crop of clover will contain, at its maximum estimate, in its foliage and roots, from 100 to 150 pounds nitrogen, 30 to 45 pounds phosphoric acid, and 85 to 115 pounds potash per acre.

A good crop of clover from one acre, if it were turned under may, therefore, be deemed equal, in fertilizing value, to an application of ten tons of barnyard manure.

In the experiments referred to, 10 pounds per acre of common red clover was seeded down with various grain crops, while other plots were seeded with grain alone. In no instance did the growth of clover depress the yield of grain with which it was seeded.

In the following year, fodder corn (Leaming), produced 8 tons, 480 pounds more after wheat than clover, after barley and oats, increases were, respectively, 43 bushels, 20 pounds; 29 bushels, 40 pounds, and 24 bushels of potatoes, per acre, as compared with the yields from adjoining plots without clover.

**Potatoes After Clover.** With potatoes the results were equally striking. After wheat, barley and oats with clover, the increases were, respectively, 43 bushels, 20 pounds; 29 bushels, 40 pounds, and 24 bushels of potatoes, per acre, as compared with the yields from adjoining plots without clover.

The full benefits from clover will, as a rule, be noticeably persistent for several years.

On soils which are deficient in lime, a satisfactory growth of clover will be encouraged by an application of, say, two tons of ground limestone per acre. As a phosphatic fertilizer, designed to benefit both the grain and the clover, 300 pounds of superphosphate or 500

pounds of basic slag, per acre, may be recommended.

Unleached wood ashes contain, on an average, from 10 to 20 per cent of potash, about 10 per cent of phosphoric acid and from 20 to 30 per cent of lime. They are, as mentioned, suitable as a fertilizer for clover, and, when procurable at a reasonable price, may be applied at the rate of from 25 to 40 bushels (1,000 to 1,600 pounds) per acre.

## Supplementing Barnyard Manure

BARNYARD manure is not a well balanced fertilizer for application to ordinary farms, crops, states Prof. H. G. Bell. As a supplement to barnyard manure, Prof. Bell advocates that 40 to 50 lbs. of acid phosphate be added to each ton of manure. Experiments have demonstrated, he said, that the yield of corn per acre will be increased by 11 bushels where the acid phosphate is used. The most convenient method of applying the acid phosphate is to fill the manure spreader and then spread 40 to 50 lbs. of the phosphate, depending upon the capacity of the spreader, on top of the manure. It will then be spread evenly over the field.

## Sweet Clover and Blot

ONE advantage of sweet clover for pasture is that cattle and sheep are not as liable to bloat on it as they are on other clovers and alfalfa. It is practically impossible to pasture cattle on green alfalfa, but on sweet clover they are comparatively safe throughout the season and in all kinds of weather. The few cases of bloat which the section reports reported have been in conditions of protracted wet weather. Some maintain that the freedom from bloat of alfalfa is due to the presence of cumarin in the plant.

The tainting of milk when cows pasture on sweet clover is confined for the most part to early in the spring—Geo. H. Glover.

## Hardy Varieties of Alfalfa

WE have decided that Grimm is the best variety of alfalfa for general seeding. We seed with this variety only, in large fields." Such is the decision of Mr. E. A. Lods of the Experimental Department at Macdonald College, in summarizing the results of the most extensive variety tests with alfalfa ever conducted in Canada. We then went to inspect the plots, on the performance of which the decision is based. The variety tests are conducted in rows, 100 links long. In these rows there were 77 different varieties of alfalfa planted in duplicate some six years ago. The fourth row in the series was a selection of Grimm alfalfa. After going through six winters, it still showed an almost perfect stand. The next three rows were planted with seed obtained from France and Italy, and in the whole three rows we counted only 10 plants. These varieties were evidently not well suited for Canadian conditions, and it is just possible that seeding with these, or similar tender varieties, explains many a Canadian farmer's failure with the crop. From the 10 plants that did survive, however, seed has been saved and a little later I visited the plots where the second generation of alfalfa plants were being raised. This was being experimented with. These plots had gone through just one winter and apparently had fared as well as the Grimm and looked well. It was not a specially hard winter," explained Mr. L. A. Waltzing, who has charge of the plots. "In a severe winter the killing would have been perhaps 50 per cent, but the crop now has not been as great as the killing

In the plots of imported seed.

To return to next three rows all Grimm, but failed from drought was from neosa, grown 40 years down "How about the seed" I asked.

"Ontario Varieties" favorably with Mr. Waltzing. There are some alfalfa being tested here, which are common.

brought from the South Dakota and other varieties seed. It will even if covered. The small difference however, is the seed. Prof. H. G. Bell advocates that 40 to 50 lbs. of acid phosphate be added to each ton of manure. Experiments have demonstrated, he said, that the yield of corn per acre will be increased by 11 bushels where the acid phosphate is used. The most convenient method of applying the acid phosphate is to fill the manure spreader and then spread 40 to 50 lbs. of the phosphate, depending upon the capacity of the spreader, on top of the manure. It will then be spread evenly over the field.

This very brilliant mental work which aid College, made the service that can do for agriculture the results of it may usually avoid insulinate to also and he can also that are suitable success is almost at our colleges, to be introduced and once varieties it is a matter of until the seed is merant quantities generally.

## Prospects for

T IAT fall will be a failure favored parties crop, and in many librod is that if This condition for the greater proportion. The reason for the first place to which it had last for season came place to the free which was experie few weeks.

It is an old say weather is bad and while we are this having been time for maple sap not been favorable

## Pasture

RECENT exper that a good the cheapest for hogs, says An Minnesota Experiment and their H feed of clover is best. Good substitute. Good rape or any other with rape and satisfactory pasture.

A mixture of oats, bushels, peas one two pounds an acre of pasture that will afford about the first crop of corn in which rape has been sown and that cultivation can supplement the oats. Such pastures will give grain feed and less the production of urine to try and feed alone, as cheap factor in pork production.



In the plots of the first generation of imported seed.

To return to the original plots. The next three rows we looked at were all Grimm, but the seed had been obtained from different places. The best row was from seed obtained in Minnesota, grown in a field that had been 40 years down.

"How about the Ontario Variegated?" I asked.

"Ontario Variegated compares quite favorably with Grimm for hairiness," Mr. Waldinger assured me.

There are several new varieties of alfalfa being tested at Macdonald College, which may some day become common. One variety, the Don, brought from Russia by Prof. Hanson, of South Dakota, will grow where other varieties of alfalfa will not succeed. It will thrive on low ground even if covered with water in winter.

The great difficulty in propagating it, however, is that it produces little seed. Prof. Hanson has used transplanting machinery for getting it out in new fields. The Ruthenia is a small growing kind, and is supposed to be a pasture variety. Some of the newer varieties, such as the North Sweden, in the second section are proving harder than the Grimm, and have the additional advantage that they come faster in the spring.

This very brief sketch of the experimental work with alfalfa at Macdonald College, may give some idea of the service that experimental work can do for agriculture. By following the results of this work, the farmer may usually avoid varieties which are unsuitable to our climatic conditions, and he can also select the varieties that are suitable and with which success is almost assured. It is through our colleges, too, that new varieties are introduced and experimented with, and once varieties are found superior, it is a matter of only a few years, until the seed is available in commercial quantities for the use of farmers generally.

Prospects for Fall Wheat

THAT fall wheat in Ontario will be a failure is now almost an assured fact. In some of the more favored parts they report a 5 per cent crop, and in many other parts the likelihood is that it will be plowed up. This condition does not speak well for the greater production campaign.

The reason for this failure is due in the first place to the short growth which it had last fall before the winter season came on, and in the second place to the freezing and thawing which was experienced during the last few weeks.

Pasture for Hogs

RECENT experience has shown that a good pasture is one of the cheapest sources of food for hogs, says Andrew Boss of the Minnesota Experiment Station. Brood sows and their litters should have green feed of some kind. Green clover is best. Oats and peas are a good substitute. Oats and dwarf Essex rape or any of the cereal-grains sown with rape and clover are also satisfactory pasture crops.

A mixture of oats one and one-half bushels, peas one bushel, and rape two pounds an acre will give a splendid pasture that will furnish feed until about the first of August. A field of corn in which three pounds of rape has been sown broadcast at the time of planting can very well supplement the oats and pea pasture. Such pastures will greatly reduce the grain feed and lessen the expense in the production of pork. It is very wise to try to make pork on grain feed alone, as cheap forage is a large factor in pork production.

A Model Barn for the 100-Acre Dairy Farm

(Continued from page 5.)

root cellar, so that all the feeds except the clover hay, go through this room.

The silo is of stave construction, 14 x 27 feet of which six feet is below ground. This basement in the silo, gives refrigerator conditions for the ensilage that may be used for summer feeding. This is the only part of the barn plan that might have been improved to some extent. It would have been a little handier in feeding the cow if the silo and feed room been erected at the south end of the barn. They would then open directly on the feed passage. It is, however, Mr. Newman's plan some day to increase the capacity of the dairy barn by moving the south wall out so he placed the silo where it would not have to be moved. As it is, however, there is not much distance between the silo and the feed passage.

**The Horse Barn.** The horse barn, in keeping with the rest of the building, is of neat construction, and has plenty of light. Little doors open from the mangers to the barn floor, allowing the latter to be used as a feeding alley. The stalls and mangers are constructed of wood and the oats is fed in the bottom of the manger, instead of having separate oat boxes which wear out halteres. A good feature in the construction of the manger in both this barn and that of the late R. B. White, adjoining is that the bulder placed along the top of each manger a piece of bar iron. This prevents horses acquiring the habit of "cribbing." Another place where experience teaches came out in a discussion with Mr. Newman as to the merit of concrete floors.

**A Model Dairy.** One of the most attractive features of Mr. Newman's buildings in the combination dairy and ice house which is built to the east side of the barn. A glance at the plan will show that the dairy is connected with the dairy barn by a passage. This passage has a concrete floor and a roof like a veranda, but is open to the weather on the south side, so that the odors from the barn are never carried through to the dairy. The construction follows throughout in this building is permanent. Floors are of concrete and are well drained. The walls are kept painted a glossy white and the whole inside presents a very attractive appearance and is laid out in such a manner that the work is quickly done. The dairy is equipped with table, sink, a sizer, a cream separator and a pump run by a gasoline engine and with cooling tanks for milk. The water which is pumped through the tank runs to a stock trough outside. The ice chamber is 10' 8" inside and between the ice chamber and the dairy is an ante room and refrigerator which has been found to have one hundred and one uses. In fact, so well is this dairy planned that it has been incorporated in bulletin No. 43 of the Dairy and Cold Storage series, Ottawa, as plan No. 4, "a farm dairy with insulated ice house and refrigerator."

This dairy is probably more expensive than many farmers would care to install. Mr. Newman's costing in the neighborhood of \$600, including labor. The best of construction was employed throughout, the ice chamber walls and those of the refrigerator being made one foot thick.

**The Cost of the Barn.** The man who starts out to build a good dairy barn will find that it runs away with an awful lot of money and if any size of a barn is erected, he will be surprised to find what a hole he has made in a \$5,000 bank account. In the following statement of the expense of his barn, it will be noted that Mr. Newman has charged everything used in its construction against his barn including all the labor. Also included in this statement is \$100 for material used from an old barn that was torn down. This statement of cost includes the erection and equipment of the barn and silo and is as follows:

Table listing costs for Labor, Quarrying and hauling stone, Mixing mortar, Excavating root cellar walls, Building root cellar and walls (mason's bill).

Table listing costs for Excavating silo base, Dugling drain from root cellar, Laying cement floors, Building overhead grain bins, Building ventilator shaft, Building cellar stairs, Not classified.

Table listing costs for Material: Cement, Lime, Sand and Gravel, Paint, Glass, Putty, Roofing (metal), Lumber for ventilator shutters, Lumber for grain bins, Lumber not classified, Nails, Silo clips, blocks, etc., Barn equipment, Lighting Rods, Rods, bolts, rat paper, latches, Pump, 3 h.p. gas engine, 56' 1 3/16" shafting, 7 pulleys, belting and pump jack.

Total Cost ..... \$4,089.66%

THE Farm Help Shortage

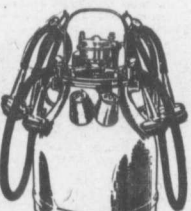
In these times of severe handicap in getting things done on the farm, wouldn't you consider as most valuable any means that cut the time and labor cost of milking in two? Get a

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## The Danger of White Grub Injury

A Pest That Promises to be Plentiful in Eastern Canada in 1918—By Arthur Gibson, Chief Assistant Entomologist

**W**HITE grubs, which are the larvae of the well known May Beetles, or June bugs, will if it is expected, cause serious injuries in the Province of Ontario, and possibly in other sections of Eastern Canada in 1918. This statement is based on our knowledge of the life-histories of their hosts. The grubs feed naturally on the roots of grasses, so when sod land is ploughed up they are deprived of their usual food and readily attack such crops as corn, potatoes, strawberries, etc., if grown on the land. The injurious species requires three years to complete their life-cycles; in other words, a period of three years elapses from the time the eggs are laid until the grubs which hatch from the same are mature, transform to the pupal state and appear as beetles. In 1917, the beetles were very abundant in certain districts in Eastern Canada, and eggs were deposited freely. The grubs hatching from these eggs did not develop much during the past year, but in 1918 they will grow more quickly and, being more voracious, will undoubtedly cause serious injury to the roots, etc., of various kinds of field crops. They will continue to feed throughout the growing season, and in the autumn of 1918 go deeper into the soil to pass the winter. In the spring of 1919 they will again come near to the surface, feed for a short period and then rest for a time preparatory to changing to the pupal state. It will be seen, therefore, that the second year in the life of the grub is the destructive one.

### Crops for Infested Land.

The female beetles lay their eggs in sod land, and also in land bearing such crops as timothy and small grains. Suitable land nearest to groves or woods is favored by the beetles, which feed upon the foliage of the trees, and then visit such nearby fields to lay their eggs. In districts where the beetles were abundant in 1917, it is to be expected that such land is now more or less infested with the grubs, and it would therefore be unsafe in 1918 to plant on newly broken sod land, or on land grown to the above crops in 1917, any crop which would be attractive to the grubs. Crops particularly favored by white grubs are potatoes, corn and strawberries. In addition to these, other crops which are grown in wide rows, and timothy, are liable to injury.

The safest crops to grow on land which is suspected of harboring grubs, are alfalfa, clover, or buckwheat. If it is not desirable to use infested land for alfalfa, clover, or buckwheat, the same may be again planted to timothy or small grain. Such crops as corn or potatoes should not be planted in 1918 on newly broken sod land in districts where the beetles were abundant in 1917. Corn or potatoes grown on land which grew the same crops in 1917, and which were sept cultivated and comparatively free of weeds during the flight of the beetles in May and June, 1917, will be reasonably safe from injury by white grubs in 1918.

### Cultural and Other Methods.

Under garden conditions, grubs are often turned up when the land is being dug or plowed. As many of these as is possible should be removed by hand and destroyed. Under acre conditions there are unfortunately no practical measures known to destroy the grubs when they are known to be present in the land, and destroying crops. Late summer plowing which brings many grubs to the surface, crushing numbers of them and exposing others to adverse weather conditions, is useful particularly in years when the grubs are changing to beetles.

Land known to be seriously infested and required for cropping in 1918 may be plowed in late spring, thoroughly

harrowed and planted to a late crop. Such late cultivation will attract to the fields, crows, blackbirds, and other birds, which are known to feed readily upon these grubs, particularly during their nesting period. Domestic fowls, such as chickens and turkeys, are also fond of white grubs and should be allowed the run of infested fields when these are being plowed.

Limited areas may be practically freed of white grubs by turning in hogs, either in spring after the first of May, by which time the grubs will have come near to the surface, or in late summer when the crop has been removed. These animals are very fond of white grubs, and will root them out and devour them. An intestinal worm of hogs, called the giant thorn-headed worm, is known to pass one stage of its life-history within white grubs. The worm is introduced into the hog when the latter devours of this happening, of course, if the hogs are allowed the run of fields in which no such animals had been pastured within three years, as any worm infested grub in the land during such period will have matured and disappeared.

### Potato Growing Made Easy

**S**O great was the demand for the recently issued bulletin on Potato Cultivation, written and edited by the Dominion Horticulturist, that a popular edition of 16 pages has been prepared and can be had free by addressing the Publications Branch, Department of Agriculture, Ottawa. As an aid to the potato grower, especially to the less experienced and the beginner, this bulletin, which is numbered 90, should prove invaluable. In plain, terse language, practically all that it is necessary to know is told about the preparation of the soil, the subsequent planting and cultivation of the potato, the protection from insect and diseases, and the digging and storing. A list is given of varieties recommended for different districts in every province.

### The Tractor's Power

**T**HE tractor is as responsive to good treatment as an animal or any other machine. In the case of a great many machines the response to good treatment is not so noticeable. This is true because the tractor is a power-furnishing machine while the average farm machine consumes power. If the tractor is not just right in every way, it falls short in the production of power. This is sure to be very noticeable, as it is usually pulling a full load and only a

small loss in power cuts down the amount of work done.

In the case of the power-driven machine, any disorder calls for greater power to operate it. The horses or the machine furnishing the power work harder and approximately the same results are accomplished. Hence it is much easier to overlook a slight indisposition on the part of a power consuming machine than on the part of the power producer.

If any part through which power is transmitted is loose, it may cause a reduction of power. The tractor operator should examine his machine thoroughly every week or ten days to prevent such loss. A bolt in the crank case is loose, oil is lost. The adjustment on a valve stem loosens, the valve is out of proper time and the cylinder does not give full power. The clutch is not adjusted to take hold evenly. SHIPPAGE here causes loss of power. Similar leaks may develop in the fuel system and the ignition system. Any of these cause heavy drains on the power. Usually they can be quickly repaired if attended to early. Left too long, they may result in a breakdown involving a large repair bill and loss of much valuable time.

The throb and rhythm of the tractor should be a part of the operator so that he detects the trouble in its earliest stage.—E. R. Gross.

# DUNLOP TIRES

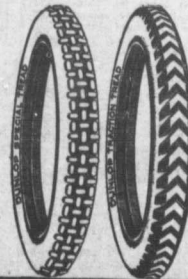
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## POULTRY



### Goose Queries

HOW many goose eggs to set under a medium sized hen? When and how can goose eggs be tested for fertility? Can the infertile eggs be used for anything? When is it safe to let goslings into the water? Could you recommend any book on goose raising?—H. G. British Columbia.

Ordinarily there are from five to seven goose eggs put under a hen; more frequently five than seven. These eggs may be tested by the aid of a lamp or light just the same as hen eggs, that is, the fertile eggs are dark in color on the upper side. I presume the infertile eggs could be used for baking purposes, although there are many people who do not like to do this. The goslings are better put on fresh grass or fresh rye, and I would not advise letting them on water or a stream until they are fairly well feathered out; at least their breasts feathered. Apply to the Reliable Poultry Journal, Quincy, Ill., for book—W. R. Graham. Professor of Poultry Husbandry, O. A. C., Guelph.

### To Get Rid of Mites

CLEAN out the house and thoroughly sweep, not forgetting the windows, walls and ceiling. When this is all swept out clean, use a garden hose or a stiff brush and hot water. See that everything in the cracks and crevices is washed out. After this is done allow the house to dry for a while, and if everything then appears to be clean, use a good disinfectant, and be sure that the solution is forced by the spray or brush right into the cracks and crevices.

If the mites are bad, use boiling hot water followed by coal oil and a liquid ketcher or lice powder. Be sure that this goes into the cracks and crevices, and when you have gone over your house thoroughly according to the above treatment, let the verminability the mites will be exterminated, but it is advisable in the course of three or four days again to inspect for the mites, and perhaps to repeat the dose once more.—E. F. N.

### Important Points in Hatching

DURING the hatching season the poultry house, and particularly the nest, should be kept clean. Clean water and a supply of whole grain should be accessible to the sitters, and a dust bath should be provided also. If more than one hatch is being taken off, clean out and disinfect the nest after each hatch and put in new sod and fresh litter. Dust the hen with insect powder before putting her in the nest and again a day or two before leaving the nest with the chickens. If it is a good plan to put into the dust bath a little dry sulphur or ground tobacco.

Be sure also that the house is free from mites. These little pests get into the cracks and corners of the building, and at night, as the hens are resting, they come out of their hiding places, get on the hen's body, and it does not take very many of them to make a hen so uneasy that she cannot sit. In some cases the mites become so troublesome that they actually worry the hens to death.—E. F. N.

### Grow Chicks on Range

TO raise chicks this spring is a problem, says A. C. Smith, a well known poultry expert of the United States. A comparison of prices of poultry and of poultry feed shows where the problem lies, and chicks must be raised under the best conditions if a profit is to be obtained. Two questions are involved: How and where to raise them? These questions are followed: How? On ample range, so that the

chickens may secure grubs an appreciable portion of their food, and, while in search of this, may acquire strong muscles, and sturdy frames upon which to amass flesh.

When? At a season when they may range from the start, which in a north temperate climate is not very often before May 15 or June 1. This is the favorable time to grow chicks, because it is the cheapest time. Chicks of the larger breeds should be hatched earlier, if they are to lay in the fall or early winter. The lighter breeds, if hatched by June 1, should lay the first of November. Whether they will or not, depends upon their care.

Feed liberally, but not wastefully. Do not attempt to grow in company with fowls or older chicks. Do not place late chicks on a range that has been used by other chicks or fowls in the same season.

### Is There an Egg Type

THE egg-laying type of hen? This theory has gained some prominence in the poultry press. One breeder said the hen should have a broad, deep round body of moderate length and not too chunky. Another fixed a type exactly reversed to the former. Another, a squarely built, blocky, well proportioned hen, wide on the back, and with legs well apart. This same writer also said that the legs and neck should be of medium length, and the finer the texture of the face the more eggs would be produced. Another said the hen should have a long body and stand well upon her legs.

In this connection, H. S. Babcock said that he did not think a "hen with short legs, chunky body and small head" had anything to do with it. He believed that a hen should be of rather light build, indicative of great activity, and of medium or perhaps rather under medium size for the breed. This egg-type theory kept going the rounds until the trap nest men made experiments, and one contention after another soon dropped. The trap nest proved, while there was no egg type, that, as a rule, the smaller members of a flock were the most steady layers. Nearly all the record breaker hens proved to be rather under-size for their standard.

The trap nest also showed that hens with large combs prove to be better layers than those with small or medium sized combs. In a flock of Leghorns, the best layers had the largest combs. In Wyandots, single comb birds—they will occasionally throw such—gave the most eggs, as a rule. The famous Silberstein Light Brahma hen, which laid 221 eggs in a trap nest, was a large-combed bird—M. K. B.

### Poultry Problems

A young turkey is like a cat: its power of recuperation is remarkable. You are never sure that it is dead. They can often be picked up in all purposes cold, inert corpses, and held in the hands of warm water, and comes a gasp and a return to life, and the bird is quite ready for breakfast the next morning.

There is little use trying to keep turkey chicks on an unlimited range. They love to walk and also to roost in the open. The turkey hen is an ideal sitter, but a bad mother unless confined, as she drags her young after her, and does not wait for those that fall out by the way so long as one is left.

Growing ducklings thrive best on a feed composed of equal parts, by measure, of corn meal, ground peas, brewer's yeast, and wheat bran, and a thick mash, either with scalding hot water or milk, the latter being the best. The mash is improved by adding short-cut green grass, clover or some other green stuff, and a few handfuls of coarse sand.

## Orchard

KEEP the Swee now in Cultivate bed well, and work.

Cutworms then before, poisoned barn, the plants, and them.

It is not we plants before the weather.

Keep the early in the. Set out a Plants can seed house easily grown be set for a year of the seed.

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The gladiol satisfactory f ing it requir nearly always flowers. Good

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## Good Versus

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seed can be found of Canada where during the growing tively cool, and a good supply of There is, however, in the quality of same variety in t

## Orchard and Garden

### Orchard and Garden Notes

**K**EEP the cultivator going. Sweet corn should be planted now if the ground is warm. Cultivate and fertilize the asparagus bed well, and it will repay you for the work.

Cutworms will soon be active. Get them before they get the garden. A poisoned bran mash, "cattered" through the plants, has a quieting effect on them.

It is not wise to set out frost-tender plants before May 25th, even though the weather is warm.

Keep the potatoes well cultivated early in the season.

Set out an asparagus bed now. Plants can be purchased from any seed house or nursery. Plants are easily grown from seed, but cannot be set for a year or two from the sowing of the seed.

A good muskmelon or watermelon patch will be highly appreciated next August and September. Now is the time to get the soil in shape to sow the seed late this month. Warm, rich soil is needed.

Did your squash keep until April this year? Perhaps you tried to store them in a cool, damp cellar. It can't be done. Squash should be stored in a warm, dry place. In the furnace room of a modern house is the best place. Keep at a temperature of about 50 in a dry atmosphere.

The gladiolus is one of the most satisfactory flowers for home growing. It requires but little work and nearly always gives a good return of flowers. Good flowers sell readily.

The English Government is suggesting putting the tomato and cucumber crop under glass and growing more lettuce and cauliflower under glass, as they are said to have a higher food value.

### Good Versus Poor Seed Potatoes

**E**XPERIMENTS were begun at the Central Experimental Farm, Ottawa, in 1907, to compare seed of the same varieties of potatoes from various sources in order to learn whether potatoes were better for seed from one part of Canada than from another. The results were very striking the first year the experiment was tried, and the results each year since have shown more and more the great importance of planting seed of strong vitality and free from disease.

The yields of potatoes had been good at Ottawa up to the year 1906 from home-grown seed, but in that year and the two succeeding ones the yields were poor, owing to unfavorable weather conditions. Since 1906, Ottawa seed has shown great inferiority to that from some other parts of Canada. Seed from Nova Scotia yielded from two to five times as much as Ottawa seed in 1906, 1907 and 1908, and Saskatchewan seed, in later years, gave differences just as great. Following are some of the results obtained.

Yields of the Green Mountain potato from various sources, in 1917, grown side by side at Ottawa: Northern Ontario seed, 400 bushels per acre; New Brunswick seed, 341 bushels per acre; Ottawa seed, 85 bushels per acre.

Average yields of eleven varieties at Ottawa: Saskatchewan seed, 368 bushels per acre; Ottawa seed, 96 bushels per acre.

Seed from other parts of Canada will give just as striking differences in results as the above.

Whenever potatoes grow vigorously, as a rule, until the tops are cut down by frost in the autumn, there will good potatoes be obtained, provided they are free from disease. Such sources of seed can be found in all the provinces of Canada where the days and nights during the growing season are relatively cool, and where there is usually a good supply of moisture in the soil. There is, however, a great difference in the quality of seed stocks of the same variety in the same districts, and

it is important to learn, if possible, what kind of crop the seed came from. It has been shown by experiments at Ottawa that the best results were obtained from immature seed, where home-grown seed was used, but immature home-grown seed has not been found as satisfactory as seed from those parts of Canada where, as a rule, the main part of the crop is immature, though of good marketable size when the plants are cut down by frost.

### Vegetables Difficult to Grow

**T**HE onion is a rather difficult vegetable to grow. It requires a long season of growth, and very often the seed is sown too late, and if the summer is cool and wet, the onions will not ripen, and will run to thick necks. The seed should be got in the ground as early as possible in the spring so that the onions will mature while the warm weather continues, thus ensuring a thorough rip-

ening and curing of the bulbs. To hasten the development of bulbs, especially in places where the season is short, young plants are set out instead of the seed being planted. Onion sets will ensure good bulbs, also where the warm season is short. Root maggots often do much harm in the onion plantation. Watering the row every four or five days with hellebore and water in the proportion of two ounces of hellebore to one gallon of water, while the insects are most troublesome will control them to a considerable extent.

Except in the warmest parts of Canada melons require considerable care to ensure the ripening of many of them. The warm season is too short. To overcome this, melons should be started in hotbeds, and kept under glass until there are warm nights in June, or even July. Melons require heat below and heat above, hence the necessity of keeping the

soil warm by having a good bed of manure. They will not succeed in cold soil, even if the air above ground is warm. Melons require a plentiful supply of moisture in the soil to give the best results. Much watering, however, should be delayed until the ground is sufficiently warmed up so that heavy watering will not cool it too much.

Brussels sprouts do not develop well in hot, dry weather, and unless the autumn is a long one without severe frost, they are not satisfactory. It is important, therefore, to plant varieties that will be most likely to develop where the season is short, and the dwarf ones have been found the most satisfactory.

A gentle pat and a kindly word will often work wonders with the cantankerous cow that has the reputation of putting her feet in the pail at milking time.



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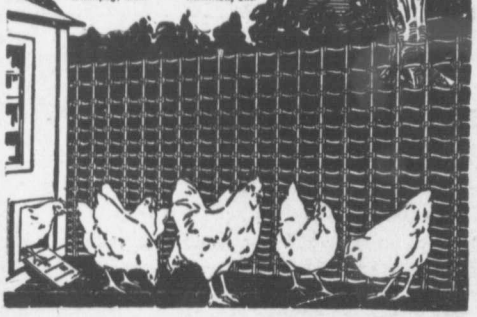
hold the wires securely together, yet this fence can be readily adjusted and perfectly stretched over uneven ground. It's easily erected and on account of heavy, stiff stays used, few posts are required.

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## THE FARM HORSE

### Exercise the Mares

FROM seven to ten per cent. of the mares impregnated each year. On some farms, which seem to have become infested with the germ of contagious abortion, not a single mare that is safe in foal will come to normal foaling. But in the majority of cases where abortion occurs the causes are: Kicks, struts, slips, squeezing through narrow doors or partly closed gates, excessive riding, driving or pulling and improper or mouldy food. Many thousands of dollars are lost annually by careless and injudicious handling and management of brood mares.

Mares that are heavy in foal should not be subjected to sudden changes of any kind, in work, feed, stabling conditions or handling. Uniform moderate work and proper feed regularly supplied, with a little care in handling will maintain an in-foal mare in proper physical condition to develop a healthy strong foal.

The mare will be healthier and the foal stronger at birth if she is used at slow, light work nearly every day. Also parturition will be easier. If it is not possible to work a mare, she should in the summer be turned in an open pasture, where she can get exercise, freshen her feed.

Her feed should supply the demand for the maintenance of her own body and also for the development of the foetus. The ration, therefore, should contain a little more protein and such than that demanded by a working gelding. The proportions of these should be increased slightly toward the last of the pregnant period. If the mare is idle in winter, most of the feed may be roughage, but a heavier ration must be fed when work is done. The quantity of feed is determined by the present condition of the animal, whether thin or fat, sick or well, by the appetite, by the amount of work done, by individuality, condition of the droppings, and whether the animal is easy or hard to keep.

### The Medium Sized Horse

EDITOR, Farm and Dairy.—I notice that your paper, like all the other agricultural journals, has been booting the breeding of the heavy draft horse on the farm. Recently one of the leading agricultural papers in the United States, in its market review, commented as follows: "The outlet is fairly good to the east, and particularly to New England, for farm chunks weighing from 1,200 to 1,400 lbs. There is a limited demand for commercial horses for city trade, and almost no enquiry for big heavy drafters."

Is this a general condition? If it is, then the majority of our professional advisers have been on the wrong track. We know that the automobile has already taken the place of horse of the roadster and carriage classes to such an extent that there is no profit in breeding them. The motor truck, a later arrival in the field than the automobile, now seems to be displacing the 2,000-lb. horse. I have been much struck during my infrequent visits to Toronto in the past few years to notice the tremendous increase in the number of heavy motor trucks on the streets. If anything, I believe that the heavy truck is coming along faster in eliminating the horse in eliminating the light horse. On the farm, the tractor is being adapted to the heavier work, and what the tendency toward larger farms and heavier machinery, I expect that in a few years the tractor will almost monopolize this field also.

These conditions leave only one place for the horse. He will be neither a driver nor a heavy worker.

The horse will be used for light trucking around the farm, and to a certain extent on city thoroughfares. Heavy drafters will not be kept up for this purpose. What we want now is a general purpose medium weight horse. I almost believe that there is now room for the revival of a horse of the old Morgan type. What do farmers think of this idea?—C. W. H., Huron Co., Ont.

Note.—The keenest demand in the Canadian horse market is still for the medium heavy to heavy drafter. This is the type wanted by contractors, lumbermen and by city cartage companies. The demand for horses of this class, as for horses of all other classes, fell off during the pre-war depression and during the first years of the war, and prices were reduced accordingly. In the last few months, however, the demand has quickened appreciably and the tone of the horse market is healthy and vigorous with the emphasis on the heavy drafter. The columns of this issue and others are open to a discussion of the views expressed by "C. W. H."—The Editors.

### The Cost of Horse Power

HORSE power costs at least 50 per cent. less per hour than man power. For this reason more and heavier horses must be used to replace the shortage of man power. Nevertheless, many farmers in Eastern Canada have retained few horses, than usual owing to high cost of feeds. This is false economy in any year, and especially under present conditions. A large amount of data on cost of keeping horses has been collected on the Experimental Farms, and from other sources in Eastern Canada, and the following statement may be considered as fairly representative for Eastern Canada, with such variations as are thereabout noted. This statement is for a horse weighing 1,500 pounds, working an average of 300 days per year. If the horse were idle during the winter months then the grain bill might be reduced 15 to 20 per cent. and a savings of \$15 to \$60. Feeds are charged at about present market prices, but may be figured by the farmer to suit the local cost prices.

Cost of Maintaining 1,600-LB. Horse on Work for a Year.

1. Cost of Feed	\$160.20
Oats, 6,050 lbs., at 90¢ per bu.	\$54.45
Bran, 1,200 lbs., at 84¢ per ton.	10.08
Hay, 3,440 lbs., at 82¢ per ton	28.24
2. Labor, including feeding, preparing feeds, milking, harness, horse and stable	28.96
3. Interest on value of horse—4 per cent. on \$200	12.50
4. Depreciation on value of horse per annum, at 5 per cent.	12.50
5. Interest and insurance on building (costing \$100 per horse), at 5 per cent. per annum	6.00
6. Interest on harness and other equipment, at 5 per cent.	7.50
7. Shoeing for average farm work	1.00
8. Veterinary, drugs, etc., etc. per horse	1.00
<b>Total cost of maintenance on regular work</b>	<b>\$251.69</b>

Whatever the reductions may be in cheap wiring of old motors there is no doubt that it will actually cost \$15 or more to maintain the horse during the six months starting May 1, 1918.

### Cost of Horse Power per Hour.

The actual number of hours per year worked by the average draught horse on the farm in Eastern Canada varies from 1,500 to 2,400 hours. Present prices would show an actual cost in feed alone of 7½ to 10-13 cents per hour of labor. The total maintenance cost per horse at \$216 per horse present prices would show an actual cost of 23¢ to 32¢ per horse working out an actual cost of 15-13 to 10-13 cents per hour of labor. In other words, the greater the number of hours worked per horse the cheaper the cost of labor per hour in spite of the great feed and labor bills.

Chapering Horse Power on the Farm. Briefly, the means of obtaining

chaper horse power  
1. Feeder hors  
2. Feeder hors  
work performed.  
3. Fitting for t  
of the year.  
4. Working th  
brood mares and  
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15 per cent. of 4  
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this regard.

### Highways and Saskatoon

I N the early days of old cross country for the ranch and police, but as settlements they had to be surveyed road allowances.

There were horse powered to connect ways under the department of Public Works. The Saskatchewan Highways Branch of the Department into Highways with municipalities for day development of man high municipalities preferment should do. The Saskatchewan Highways has improvement of high the sum of \$12,765,600. A proportion of this ed by the rural municipalities for the improvement. It has road drag competition past four years, in \$1,000 has been given which from 50 to 65 ties contended in a 500 miles were dra petitions, and as a demonstration the general use and the greatest value is of earth roads.

### Rural Telephone

The long distance ten of the Bell Co. katchewan was be katchewan Governmen a vigorous policy o ones approved. 17,842 wire miles lines owned by the p served by 3,820 mil system was acquire ment also owns an changes in rates by prize 17,501 subscribers' service to ever, centres largely ten. To encourage vancement the Saskat ment for some year phone posts free to but this inducement I ed. The Rural Phone ries the necessary: phone construction, feature issues, which sought as an investmen 1,250 rural phone 75,000 miles of rur 100,000 subscribers, connected with or hav distance service, and been accomplished of expected that by the 25,000 subscribers will place in Saskatchewan

cheaper horse power on the farm are:

1. Heavier horses of better type and quality.
2. Feeding carefully in proportion to work performed.
3. Fitting for the extra heavy work of the year.
4. Working the farm with good brood mares and raising both spring and fall foals.

If this latter plan is carefully followed the mare may easily produce 50 per cent. or more of her feed cost, and still perform 1500 hours or more of actual heavy labor, thus reducing by 15 per cent. to 40 per cent. the cost per hour of labor. The type and quality of the mare, and above all, the excellence of the stallion used, would determine the success or failure in this regard.

### Highways and Telephones in Saskatchewan

In the early days of the west the old cross country trails did service for the rancher and the mounted police, but as settlement progressed they had to be supplemented and replaced by public highways on the surveyed road allowances.

There were only two rural municipalities in 1905, but in 1917 there were local improvement districts empowered to construct public highways under the direction of the Department of Public Works. But the organized settlement of the country necessitated the development of the Highways Branch of the Public Works Department into a Department of Highways with a policy of aid to municipalities for permanent highway development and the construction of main highways where the municipalities preferred that the government should do the work.

The Saskatchewan Department of Highways has expended for the improvement of highways and bridges the sum of \$12,766,927.05 since 1906. A proportion of this sum was expended by the rural municipalities themselves for the purpose of road improvement. It has also conducted road drag competitions during the past four years, in which time about 114,000 has been given in prizes for driving from 50 to 65 rural municipalities contended in each year. About 800 miles were dragged in these competitions, and as a result of this demonstration the road drag is now in general use and recognised to be of the greatest value in the maintenance of earth roads.

#### Rural Telephones.

The long distance telephone system of the Bell Company in Saskatchewan was bought by the Saskatchewan Government in 1909, and a vigorous policy of extensions was since approved. To-day there are 17,862 wire miles of long distance lines owned by the province, as compared with 3,820 miles when the Bell system was acquired. The government also owns and operates exchanges in 138 urban centres, comprising 17,501 subscribers. The government's service to its farmers, however, centres largely in the rural system. To encourage rural phone development the Saskatchewan Government for some years supplied telephone posts free to rural companies, but this inducement is no longer needed. The Rural Phone Act provides for raising the necessary funds for telephone construction by means of a licence fee, which are largely sought as an investment. There are 1858 rural phone companies with 72,548 wire miles of poles and 25,141 rural subscribers. All of these are connected with or have access to long distance service, and all of this has been accomplished since 1909. It is expected that by the end of 1917 there will be 37,000 subscribers for rural phones in Saskatchewan.

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Such an edge as it offers you—always ready without honing or stropping! How easy it is to adjust it, with a turn of the screw handle, for a light or close shave, or a tough or tender skin! How neatly it works round that awkward corner of the jaw! And how good it feels as it slips through the stiffest beard you can put it up against!

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Please Mention Farm and Dairy When Writing Advertisers

### Equipment Necessary for 100 Acres

S. A. Northcott, Ontario Co., Ontario

**W**HAT equipment is necessary for the 100-acre farm in the way of the machinery? War conditions make it necessary to have the right kind of implements for every purpose and it is my purpose to name the implements that I consider for use on 100 acres. Let us consider cultivating implements first.

Of premier importance is a double furrow plow, suitable for plowing both soil and stubble, for use with either three or four horses; a single plow for striking out, finishing, running water furrows, etc., but not for general plowing. I find that a two-furrow plow of the right kind will do better work than a single plow, and do it in half the time. Then we need harrows that will cover 15 to 18 feet at a sweep and a roller, disk harrow, and cultivator for three or four horses. A double disk does the best work but a single disk will do all right if regulated properly and the land gone over twice. For a seed drill I prefer the hoe drill.

For cultivating corn, nothing will pay better than a three-row cultivator with low wheels, which run half way between the rows, and which cultivate the full width between both rows. Levers will arrange the width and depth of cultivator, and the cultivator feet should be both ahead and behind the centre of the wheel. Some makers are all behind the centre. A one-row, walking scuffler comes handy for garden truck, or for the first scuffling of turnips and mangels.

My list of necessary hay-making machinery includes a rake, loader, a six-foot cut mower and a 10-foot horse rake. Of course there is a hay fork outfit in the barn. A side delivery rake will partly take the place of a tedder, and lays up the hay ready for the loader. For grain, the farmer needs a seven-foot binder in good order with sheaf carrier and slings to unload in the barn.

#### Low Wagon Preferred.

All wagons used on the farm will run easier with wide tires—about four inches. These tires do not sink so deep or soft ground as do narrow ones, and with a wide tire and low wheels, it is easier to get a load on and there is no difference in the unloading as the horses do it anyway. I use low, and nearly flat, racks for grain and hay.

Probably there is no more waste in the handling of any crop than in the case of corn. I believe it will pay any farmer to have a binder and ensilage cutter of his own, unless he is sure of the use of an outfit. Corn, if it is not cut and put in the silo at the proper stage, may deteriorate in value in one year sufficient to equal the whole cost of an outfit.

If many acres of potatoes are grown a planter and digger of some make will be profitable, but for a smaller area an ordinary potato plow serves the purpose nicely. For hauling turnips and mangels a platform in wagon box sloping to the centre and one side, lets the dirt out, and the whole load will roll out in about one minute by letting down the gate.

Under my system of farming I have no use for a manure spreader, as it would make work instead of save it. I use a litter carrier, which dumps the manure on stacks in winter and on trucks in the summer, and it is drawn direct to the field. The most of it when time is least missed, and when a manure spreader would not work at all.

Power of some kind should be available on every farm, either electric, steam or gasoline. Perhaps all three may be used profitably, depending on circumstances. One can afford to pump water or saw wood by hand or draw grain very far to a mill to be ground. Nor can he afford to let his corn lie in the field for the head of power to rot in the silo.

In addition to all machinery that I

have mentioned, it would not do to forget a complete set of tools, such as a machinist would use outside of a machine shop. When a farmer has the tools he can, if he is at all mechanical, repair most breaks in less time than it would take to go to a shop.

### The Individual Threshing Outfit

**W**HAT about threshing help and threshing outfits? In these times of labor shortage it is imperative that the most economical use be made of the man power available, and possibly in no branch of farm operation, is the help problem more keenly felt than in the matter of threshing. The question naturally arises: Shall we continue to depend more on the big outfits available or should farmers own their individual machines?

Speaking from considerable experience with the individual machine, I think very favorably regarding it as a time-saver. Its greatest advantage over the larger outfits, rests in the difficulty now experienced in getting a large enough gang to satisfactorily operate the large outfit. Then delays are common, owing to breakages, etc., and the larger the crowd the greater is the loss if for any cause they are idle for a few hours.

Another great advantage of the individual machine is that a farmer can get his work done when he is ready. Where is the farmer who has not waited for weeks for the thresher while his grain stood in the field during fair weather and foul, with the result that it has an inferior quality of both straw and grain? When he decides to put his grain in the barn and thresh later on the chances are that winter comes on and the snow gets too deep to handle.

With the small outfit of his own can get it set up at his large barn during the harvest time, and with his own help and without extra fuss, and without a gang of men for the women to feed, blow the straw into the barn. If the weather is at all catchy, he can rush the grain into the barn without threshing, and thresh as he has room for the straw, and as he requires the grain during the winter.

This is what is done on many farms where these outfits are used. In this way the straw is of a quality that has considerable value. It is always fresh and does not need to be piled out of doors. This winter threshing can be done with little help and on stormy days during the winter.

It is a splendid means of enabling a farmer to distribute his labor evenly during the 12 months.

Should one farmer not have a large enough concern, i.e., his capital, etc., to be able to satisfactorily handle one of these outfits, they can be operated with equal success cooperatively by two or three farmers; there being not the same difficulty in transporting them through the snow during winter as with the larger machines. And for harvest threshing a large enough gang can always be secured without going "outside" for help.

The various machine companies have become aware of this demand, and are now turning out some excellent machines of this type. It has been my privilege to work with one of these. It was driven with a seven horse power gasoline engine, and I can vouch for the satisfaction of the work done. If custom work would be done a 10 horse power might be advisable, but for private use less power does alright. Most any farmer has a small engine about the place, and if he has it would be a good investment for two or three farmers to cooperate in the purchase of the complete outfit.

I have a saw to grind. I have worked with both types of threshing



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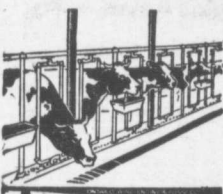
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**STEEL BRIGGS SEED CO. LIMITED**  
CANADA'S GREATEST SEED HOUSE  
TORONTO

machines, and each. I would like the scrapping outfits or any factory, for we have their place districts where supplemented daily or coop chine.

There are where the acre is so large, at a centage of time farm to farm makes them up to me. Here a or machine did "Mac."

## Notes, Que

It I HAVE a colt, who has her tail until she has it cut off but they do not mind. Kindly advise me. — J. M. Lanark

Get a solution ate, 30 grains Heat some of groos F. once of the skin of the

## Brit

**W**OULD you treatments to heels, break Nipissing District

The best treat pastely blistering this cannot be g moist by applyi standing in a f For a few hours position when packing the solec lay or a form o especially suitabl and which can many harness. Mrs. Any metho regularly to the pasture. A run results or damp

## Digging

**M**y neighbor's ad each farm ad leaving the line fence. He wants to do my line fence as gone, about 200 feet on the canal and he had what they call. Now, he is engineer. I offered ditch on my side, either half on his or mine to sign any, convey it to the acre can I take c, Ont.

Our neighbor under the Ditch Act. Be on hand inspects the prop by the ditch abou pter now. If y with the award m you may appeal t

## The Rig

**A**OWNS two rig between them 22 feet front; that width of front feet of the right of way good. 25 the number of feet that the extra four feet off the top. I want to put on the new right of god and sufficient is offered to pay had which A. C. Ontario Co., Ont.

We could not in this matter document and inv in the Registry O. It could not com house, as this is take of conveyanc



machines, and know the limitation of each. I would certainly not advise the scrapping of the present large outfits or any slackening in their manufacture, for we need them all. They have their place. Yet there are many districts where they can profitably be supplemented by the smaller individual or cooperatively owned machines.

There are also many districts where the acreage of grain per farm is not large, and the consequent percentage of time spent in moving from farm to farm with the large outfits makes them an unprofitable machine to use. Here also is where the smaller machine fills a long-felt want—"Mac."

**Notes, Queries and Answers**

**Itchy Tail**

I HAVE a colt one and one-half years old, who has commenced scratching her tail until she has all the hair worn off. I have given her some powders, but they do not seem to do any good. Kindly tell me the cause and treatment.—J. M. Lanark Co., Ont.

Get a solution of corrosive sublimate, 30 grains to a pint of water. Heat some of this to about 110 degrees F. once daily, and rub well into the skin of the tail.

**Brittle Hoofs**

WOULD you kindly advise what treatment to use when horses' hoofs break up badly?—J. B. Nussling District, Ont.

The best treatment is rest and repeatedly blistering the cornet. When this cannot be given, keep the hoofs moist by applying water, either by standing in a tub containing water for a few hours daily, or applying moistens when in the stable, or by packing the soles of the feet with wet clay or a form of rock or clay that is especially suitable for the purpose, and which can be purchased from many harness makers or hardware men. Any method of supplying water regularly to the hoofs will give good results. A run of a few months on pasture or damp ground does well.

**Digging a Ditch**

MY farm is a little higher than my neighbor's adjoining. A portion of each farm slopes toward the other, leaving the line fence in the lowest point. He wants me to dig a ditch all along my line fence as far as his work land goes, about 300 rods. He has gone to the council and gotten out papers and had what they called a friendly meeting. Now, he is going to bring on the engineer. I offered to dig half of the ditch on my side if he would dig the other half on his side, but he would not agree to dig any, except a few rods to carry it to the water. What proceedings can I take?—W. J. B. Stormont Co., Ont.

Your neighbor has been proceeding under the Ditches and Water Courses Act. Be on hand when the engineer inspects the property to determine how the ditch shall be made and state your views. If you are not satisfied with the award made by the engineer you may appeal to the County Judge.

**The Right of Way**

A OWNS two houses with right of way between them. He sells one house to B, giving him a deed calling for 22 feet frontage. It is found now that that width of frontage takes in a few feet of the right of way. To make the right of way good, A makes over to B the number of feet required. We now find that the extra feet take in some four feet off the corner of A's house. Can B compel A to remove said house and sufficient right of way and A has offered to pay B full value for said land which A's house occupies.—A. K. Prosser Co., Ont.

We could not advise you definitely in this matter without seeing the document and investigating the title in the Registry Office.

B could not compel A to move his house, as this is evidently only a mistake of conveying and should be

rectified by a deed of correction. We would recommend you to see a good solicitor.

**Formalin Treatment for Wheat**

WILL you kindly advise me how formaldehyde is used for washing wheat? How much water is used for a bushel of wheat, etc.—J. A. P., Renfrew Co., Ont.

A solution is made by pouring a pint of formalin into 40 to 50 gallons of water and thoroughly stirring. The formalin must be full strength, 40 per cent. solution of formaldehyde, and only that guaranteed to be this strength should be used. If the grain is to be treated it should be put in a pile and the solution sprinkled on the wheat with a sprinkling can, the wheat being shovelled over until it is thoroughly wet. It should then be piled up and covered with wet sacks or canvas for, say, five to 10 hours, or longer will do no harm, when it should be dried sufficiently to sow, or completely dried and stored in a clean place. If the grain is not to be sown at once, it is probably best to dry as rapidly as possible by spreading in a thin layer and stirring occasionally with a rake. Avoid inoculating with smut from smutty sacks or bins after treatment. A gallon of the solution will treat a little over a bushel of grain.

**'Are you in need of a wagon?'**

We have just completed arrangements to handle a line of wagons made by one of the most reliable manufacturers in the country. The wood stock used in gear, wagon boxes and parts is of A1 quality. The wheels have bent oak rims 2 1/2" deep; the tongue is made of oak, and the sides and end boards of cotton wood or poplar. The box bottom is from Norway or Yellow Pine, reinforced where bottom rests over front and rear bolsters.

Write us for full particulars and prices on these. If you need a wagon we have it at the best price you can secure.

**What about harness?**

We have an excellent line of high grade harness. The quality is the very best to be had at the price under present conditions. Drop us a line for full particulars on this excellent line of harness.

Deal with the farmers own organization. We stand between you and high prices.

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Our book "What the Farmer can do with Concrete" is a great help to farmers. Many a farmer has told us that the advice contained in it has helped him stop the leaks in his farm profit and has put hundreds of dollars into his pocket.

Concrete is a big factor in successful farming. Consider your own farm—the leaks it is suffering from, and how concrete stops these leaks.

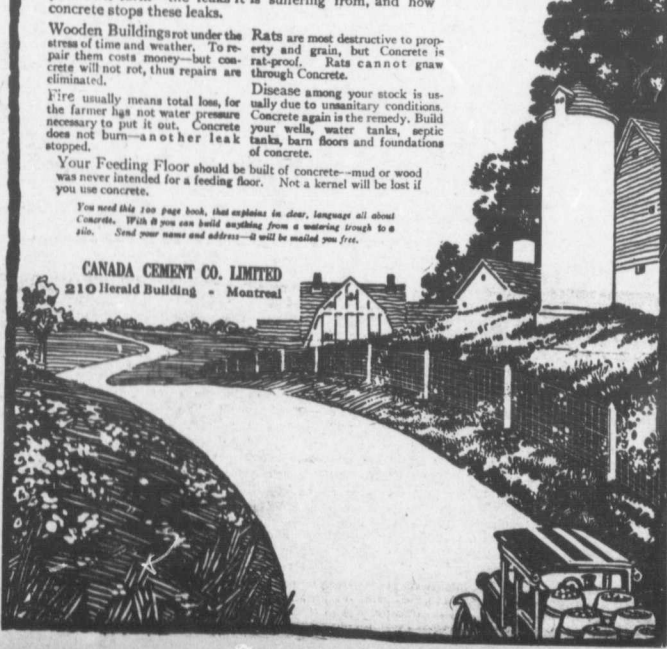
Wooden Buildings rot under the stress of time and weather. To repair them costs money—but concrete will not rot, thus repairs are eliminated.

Fire usually means total loss, for the farmer has not water pressure necessary to put it out. Concrete does not burn—a nother leak stopped.

Your Feeding Floor should be built of concrete—mud or wood was never intended for a feeding floor. Not a kernel will be lost if you use concrete.

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Letters to the Editor.

Remember the Sabbath

**E**DITOR, Farm and Dairy.—I notice by a recent press report that the Commons Committee on Agriculture at Ottawa, have been considering the farm labor problem. As this committee is under the presidency of Mr. Henders, the well known grain grower, I expect that its conclusions will be really worth while. I was not surprised that some of the members of the committee were in favor of employing interned aliens and the closing up of non-essential industries. I must express my regret, however, that the committee did not take stronger grounds—against Sunday labor. They highly praised the work of the Lord's Day Alliance, but expressed the opinion that at the present time Sunday labor might be absolutely essential in order to save the grain crop and they thought that the Lord's Day Alliance should not insist on too strict an enforcement of the Lord's Day Act.

Our government may amend or abrogate altogether its own laws, but it can neither abrogate nor amend Divine laws, nor can they enable us to escape the penalties which inevitably accompany their violation. "Remember the Sabbath day to keep it Holy" applies just as much to war time conditions as to peace conditions and when a professing Christian begins to tamper with the moral law, divinely given, they too must to some extent sacrifice their right to appeal to their Divine Master for assistance in time of need. From the papers I learn that some of our city churches are holding special week day services of prayer and intercession, pleading for victory for our cause. This is as it should be, and I believe that these prayers will work mightily for the ultimate success of our cause. It is equally true that acts of disobedience to the Divine law are also weighed up against us.

I believe that this war will be won, and won quickly, when, as a people, we humbly ourselves before God. I believe that victory will be postponed just so long as we place all of our reliance in the arm of strength and substitute our own opinions for Divine commands, as in this case of Sunday labor. We have many old men in our community who are prepared to testify that while there were many, many seasons when weather conditions were such as to tempt them to Sunday labor, yet they never lost anything by obeying the God-given command, "Remember the Sabbath day to keep it Holy." Nationally we should follow the same rule of guidance.—F. J. B. Haldimand Co., Ont.

The One Thing Needed

**E**DITOR, Farm and Dairy: As the great world crisis grows more and more intense, the cry of Britain and her Allies in Europe for food also grows more and more intense, and Canada is one of the countries to which they look for the increased food supply that is absolutely necessary in order to win the war. In their apparent desire that Canada should to some extent meet this demand, the Canadian Government and the Canadian press are making frantic appeals to the farmers to sow and plant more, and still more. Yet, for some reason, which has not been given, the Government will not do one thing that must be done if there is to be any material increase in food production in this country. That is, revise our fiscal policy. Under that policy, for thirty years or more, food production is the only industry that has been taxed, and more than that, every industry except that of food production has been

bonused in some way. The transportation industry has been bonused to the extent of more than a thousand million dollars, mostly in cash, bonds and guarantees. The manufacturing industry has been bonused by protective tariffs, bounties, free raw material, and drawbacks to the extent of untold millions. The publishing and printing industry has been bonused by exemption from customs duty and even war tax on printing presses and typesetting machines.

Under these various forms of stimulus these industries have flourished amazingly and have become the foundation of our rapidly increasing millionaire class of plutocrats. On the other hand the industry of food production being denied any aid in the way of bonus, and being the only industry taxed under that policy, it has to carry not only its own load of taxation, but that of the favored industries, whose demands increase as they grow in wealth and power.

Not only is the food production industry required to pay the taxes which the favored industries escape, but it is the only industry called on to pay anything towards the enormous subsidies and refunds given the transportation and other industries.

Under these extremely adverse circumstances food production has not profitably increased, and all the exhortations of the Government and of the press are just as much wasted energy.

The first great step to insure any adequate increase in food production is to remove, either by exemption or drawbacks, every vestige of the fiscal taxation now imposed on farm machinery, implements, seed, building and fencing material and all other necessities to that industry.

Surely it is not too much to ask that the vital industry of food production be accorded the same encouragement and privileges that are given to other industries. Under the present conditions this should be done. Under war conditions, when victory or defeat depend on increased food production, it MUST be done.

If the Government allows the favored industries to continue to control its fiscal policy, and fails in this vital national duty, it will have betrayed the sacred trust that was given it by the electors, at home and in the trenches, last December.—H. J. Pettypiece, Forest, Ont.

Conference Fears for Dairy Industry

**A** CONFERENCE representing producers, manufacturers and distributors of milk and milk products throughout the United States, in Chicago recently, announced that the dairy business of the country is in a grave danger through restricted consumption of dairy products and the accumulation of a vast supply of such products in storage. Numerous resolutions were passed suggesting remedies for the situation. These resolutions state:

That the Food Administration make public announcement that for the present there is no longer need for the curtailment of the use of milk and milk products; that the production and storage of butter and cheese be stimulated by encouraging the investment of capital in the coming butter and cheese crop; that the boys of the army and navy in service be supplied with butter; that no be placed in the farm ratios; that the forming of cooperative associations of farmers for making collective sales of farm products and effecting economies in production and marketing be encouraged; that a bureau of dairying in the United States Department of Agriculture be established.

The members of the conference pledged the Food Administration that during the war those engaged in any department of the dairy industry would demand only the cost of their operations plus a reasonable profit to be approved by the Food Administration or the Government.



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**SKIMS CLOSER:** The improved bowl design, together with the patented milk distributor, gives greater skimming efficiency.

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Order your De Laval now and let it begin saving cream for you right away. Remember that a De Laval may be bought for cash or on credit. Please write to us now for our literature. If you don't know him, write to the nearest De Laval office or dealer.

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# OUR FARM HOMES



SILENCE is sometimes more eloquent than a sermon.

## The Heart of the Desert

(Continued from last week.)

### CHAPTER XXI.

#### The Trail.

THE canon was sandy and rough. Rhoda could see the monastery set among olive-trees. Where the canon opened, to the desert she knew that the white men's camp lay, though she could not see it.

She had no fear of losing her way, with the canon walls bounding her in. She still was solving softly to herself as she started along the foot of the wall. She tramped steadily for a time, then she stopped abruptly. "She would not go to the sacrifice was too much!" She looked back to the canon top. Kut-le had disappeared. Already he must be only a memory to her!

Then of a sudden Rhoda felt a sense of shame that her strength of purpose should be so much less than the Indian's. At least, she could carry in her heart forever the example of his fortitude. It would be like his warm hand guiding and lifting her through the hard days and years to come. Strangely comforted and strengthened by this thought, Rhoda started on through the familiar wilderness of the desert.

This, she thought, was her last moment alone in the desert, for without Kut-le she would never return to it. She watched the gray-green cactus against the painted rock heaps. She watched the brown, tortured crest of the canon against the violet sky. She watched the melting haze above the monastery, the buzzards sliding through the motionless air, the far-multi-colored ranges, as if she would clutch forever on her memory the world that Kut-le loved. And she knew that, let her body wander where it must, her spirit would forever belong to the desert.

Rhoda passed the monastery, where she thought she saw men among the olive-trees. But she did not stop. She gradually worked out into an easy trail that led toward the open desert. The little camp at the canon's mouth was preparing to move when Jack Newman jumped excitedly to his feet. Coming toward them through the sand was a boyish figure that moved with a beautiful stride, tireless and swift. As the newcomer drew nearer they saw that she was erect and lithe, slender but full-chested and that her face—

"Rhoda!" shouted John DeWitt. In a moment, Jack was grasping one of her hands and John DeWitt, the other, while Billy Porter and Carlos shook each other's hands excitedly. "Gee whiz!" cried Jack. "John said you were in superb condition, but I didn't realize that it meant this! Why Rhoda, if it wasn't for your hair and eyes and the dimple in your chin, I wouldn't know you!" "Are you all right?" asked DeWitt anxiously. "Where in the world did you come from? Where have you been?" "Where you hurt much in the fight?" cried Rhoda. "Oh!" looking about at the eager listeners, "that was the most

awful thing I ever saw, that fight! And Billy Porter, you are all right, I see. How shall I ever repay you all for what you have done for me!" "Gosh!" exclaimed Porter, "I'm repaid just by looking at you! If that pison Plute hasn't made monkeys of us all, I'd like to know who has! How did you get away from him?" "He let me go," answered Rhoda simply. "The men gasped. "What was the matter with him!"

"So we found!" said DeWitt grimly. But Rhoda was watching Jack.

## Wanted--A Home

WHO would not welcome such a fortunate little fellow into their home as the baby boy shown in this illustration, and known as "M.J.," Mr. Tovell of the Guelph Children's Aid Society, writes us that, "this is a fine boy, born Aug. 3, 1917, has perfect health and good temper." Mr. Tovell is also anxious to find a home for two brothers of four and five years, a boy six years old and a boy one year old. He would like to secure a home with a Roman Catholic family for twins (a boy and girl) about three months old. Mr. Tovell tells us that these children are all healthy and good. Homes west of Peterboro are preferred.



Rev. E. C. Hall of the Oshawa Children's Aid Society also writes us that he would like to place a healthy little girl about three months old with some family, "who really wants such a little asset to their possessions."

Our Folks have responded splendidly in the past whenever we have put them in touch with children through our columns, and we have no doubt they will do the same at this time. Full particulars may be secured by writing Mr. Ames Tovell, Children's Aid Society, Guelph, and Rev. E. C. Hall, Children's Aid Society, Oshawa.

ejaculated Porter. "Was he sick or dying?" "No," said Rhoda mechanically. "I guess he saw that it was useless."

"And he dropped you in the desert without water or food or horse?" cried DeWitt. "Oh, that Apache cur!" "No!" "No!" exclaimed Rhoda. "He dropped me not far from here. We saw the camp and he sent me to it."

The men looked at each other incredulously. Jack Newman's face was puzzled. He knew Kut-le and it was hard to believe that he would give up what he already had won. DeWitt spoke excitedly. "Then he's still within our reach! Hurry up, friends!"

Rhoda turned swiftly to the gaze-faceted man. Then she spoke very distinctly, with that in her deep gray eyes that stirred each listener with a vague sense of loss and yearning. "I don't want Kut-le harmed! I shan't tell you anything that will help you locate him. He did me no harm. On the contrary, he made me a well woman, physically and mentally. If I can forgive his offrontrery in stealing

me, surely you all will grant me this favor to top all that you have done for me."

Porter's under lip protruded with the old obstinate look.

"That fellow's got to be made an example of, Miss Rhoda," he said. "No white that's a man can stand for what he's done. He's bound to be hunted down, you know. If we don't, others will!"

"John, after all our talk, you must understand! You know what good Kut-le has done me and how big it was of him to let me go. Make them promise to let him alone!"

But there was no answering look of understanding in DeWitt's worn face.

"Rhoda, you haven't any idea what you're asking! It isn't a question of forgiveness! You don't get the point of view that you ought! Why, the whole country is worked up over this thing! The newspapers are full of it. Just as Porter says, the Apache's got to be made an example of. We will hunt him down, if it takes a year!"

So far Jack Newman had said nothing. Rhoda looked at him as if he were her last hope.

"Oh, Jack!" she cried. "He was your friend, your dearest friend! And he sent me back! Why, you never would have got me if he hadn't volung, tartly let me go! He is wonderful on the trail!"

"So we found!" said DeWitt grimly. But Rhoda was watching Jack.

the tan. As it had come when DeWitt had rescued her, the old sense of the appalling nature of her capture was returning to her again. With a shivering clarity she was getting the new viewpoint. The old Rhoda would have protested, but she was too exhausted desperately and blindly. The new Rhoda had lived through hours of hopeless battle with circumstances she had learned the desert's lesson of patience.

"I have thought," she said slowly "so much of the joy of my return to you! God only knows how the picture of it has kept me alive from day to day. All you've ever seemed swallowed up in your thirst for revenge. Al right, my friends. Only, whenever you do, I go too!"

"I think you had better ride on to the ranch with Carlos," said DeWitt, "while we take up Kut-le's trail. This will be no trip for a woman."

"We'll not be foolish!" exclaimed Jack. "You can't tell what stunt Apache is up to!"

"That's right!" said Porter. "It'll be no fun on her, but she's better come with us."

"Don't trouble to discuss the matter," said Rhoda coolly. "I'm coming with you. Katherine probably sent some clothing for me, did it she?"

"Why yes!" exclaimed Jack. "That was one of the first things she thought of. She sent her own riding things for you. She spoke of the little silk dress you had on and said you didn't have anything appropriate in your trunk for the rough trip you might have to make after we found you."

Jack was talking rapidly, as if to relieve the tension of the situation. He undid a pack that he had kept tied to his saddle during all the long weeks of pursuit.

"We can rig up a dressing-room of blankets in no time," he went on, putting a bundle into Rhoda's hands.

Rhoda stood holding the bundle in silence while all hands set to rigging up her dressing-room. She was suddenly cool-headed and resourceful. Her mind was forced away from her own sorrow to the solution of another woman's problem in the crisis. She smiled she unrolled the bundle and sat nestled tenderly at the evidence of Katherine's thoughtfulness. There were underswear, handkerchiefs, toilet articles and Katherine's own manly corduroy divided skirt and Norfolk jacket with a little blouse and Aertex

Rhoda took off her buckskins and Rhoda blue shirt slowly, with by that would quiver. This was the last, the very last of Kut-le! She dressed herself in Katherine's clothes, then folded up the buckskins and gave them. She would keep them, always! When she came out from the tent she stepped awkwardly, for the skirts bore marks here and Jack, smiling near by, smiled at her. At another time Rhoda would have joined in his amusement, but now she asked soberly:

"Which horse is for me?"

"Which horse is for me?" "I really wouldn't know, you! I thought I were could want you anything but etheral, but—Jack! Isn't she wonderful!" Jack grinned. Rhoda, tanned and over-facced, and straight of back, her shoulder, was not to be compared with the invalid Rhoda.

"Gee!" he said. "Wait till Katherine sees her!"

Rhoda shrugged her shoulders. "My pleasure in all that is swallowed up by this savage obsession of yours."

John DeWitt led out Rhoda's pony. "You don't understand, dear," he said. "You can't doubt my heavenly joy at having you safe. But the outrage of it all—'That Apache devil!'"

"I do understand," said Rhoda wearily. "Don't try to explain again. I know just how you all feel. Only, I will not have Kut-le killed."

"Rhoda," said DeWitt hoarsely, "I shall kill him as I would a yellow dog!"

(Continued next week.)

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# The Upward Look

## As the Branch in the Vine

"I AM the Vine, ye are the branches."—John xv. 5.

It was in connection with the Parable of the Vine that our Lord first used the expression, "Abide in me." That parable, so simple and yet so rich in its teaching, gives us the best and most complete illustration of the meaning of our Lord's command, and the union to which He invites us.

The parable teaches us the nature of that union. The connection between the vine and the branch is a living one. No external, temporary union will suffice; no work of man can effect it; the branch, whether an original or an engrafted one, is such only by the Creator's own work, in virtue of which the life, the sap, the fitness, and the fruitfulness of the vine communicate themselves to the branch. And just as it is with the believer too. His union with his Lord is no work of human wisdom or human will, but an act of God, by which the closest and most complete life-union is effected between the Son of God and the sinner. "God hath sent forth the Spirit of His Son into your hearts." The same Spirit, which dwelt and still dwells in the Son, becomes the life of the believer; in the unity of that one Spirit, and the fellowship of the same life which is in Christ, he is one with Him. As between the vine and branch, it is a life-union that makes them one.

The parable teaches us the completeness of the union. So close is the union between the vine and the branch, that each is nothing without the other, that each is wholly and only for the other.

Without the vine the branch can do nothing. To the vine it owes its right of place in the vineyard, its life and its fruitfulness. And so the Lord says, "Without me ye can do nothing." The believer can each day be pleasing to God only in that which he does through the power of Christ dwelling in him. "The daily inflowing of the life-sap of the Holy Spirit is his only power to bring forth fruit. He lives alone in Him and is for each moment dependent on Him alone.

Without the branch the vine can also do nothing. A vine without branches can bear no fruit. No less indispensable than the vine to the branch, is the branch to the vine. Such is the wonderful condescension of the grace of Jesus, that just as His people are dependent on Him, He has made Himself dependent on them. Without His disciples He cannot dispense His blessing to the world; He cannot offer sinners the grapes of the heavenly Canaan, "Marvel not! It is His own appointment; and this is the high honor to which He has called His redeemed ones, that as indispensable as He is to them in heaven, that from Him their fruit may be born," so indispensable are they to Him on earth, that through them His fruit may be found. Believers, meditate on this, until your soul bows to worship in presence of the mystery of the perfect union between Christ and the believer.

There is more; as neither vine nor branch is anything without the other, so is neither anything except for the other.

All the vine possesses belongs to the branches. The vine does not gather from the soil its fatness and its sweetness for itself,—all it has is at the disposal of the branches. As it is the parent, so it is the servant of the branches. And Jesus, to whom we owe our life, how completely does He give Himself for us and to us; "The glory Thou gavest me, I have

given them; "He that believeth in me, the works that I do shall he do also; and greater works shall he do." All His fulness and all His riches are for thee, O believer; for the vine does not live for itself, keeps nothing for itself, but exists only for the branches. All that Jesus is in heaven, He is for us; He has no interest there separate from ours; as our representative He stands before the Father.

And all the branch possesses belongs to the vine. The branch does not exist for itself, but to bear fruit that can proclaim the excellence of the vine; it has no reason of existence except to be of service to the vine. Glorious image of the calling of the believer, and the entireness of his consecration to the service of his Lord. As Jesus gives Himself so wholly over to him, he feels himself urged to be wholly his Lord's. Every power of his being, every moment of his life, every bright and ardent feeling, belong to Jesus, that from Him and for Him he may bring forth fruit. As he realizes what the vine is to the branch, and what the branch is meant to be to the vine, he feels that he has but one thing to think of and to live for, and that is, the will, the glory, the work, the kingdom of his blessed Lord,—the bringing forth of fruit to the glory of His name.

The parable teaches us the object of the union. The branches are for fruit and fruit alone. "Every branch that doeth not fruit He will cut away." The branch needs leaves for the maintenance of its own life, and the perfection of its fruit; the fruit itself it bears to give away to those around. As the believer enters into his calling as a branch, he sees that he has to forget himself, and to live entirely for his fellowmen. To love them, to seek for them, and to save them, Jesus came; for this every branch on the Vine has to live as much as the Vine itself. It is for fruit, much fruit; that the Father has made us one with Jesus.

It is when we try thus to understand the meaning of the parable, that the blessed command spoken in connection with it will come home to us in its true power. "The thought of what the Vine is to the branch, and Jesus to the believer, will give new force to the words, "Abide in me!" It will be as if He says, "Think, soul, how completely I belong to thee, I have joined myself inseparably to thee; all the fulness and fatness of the Vine are thine in very deed. Now thou once art in me, be assured that all I have is wholly thine. It is my interest and my honor to have thee a fruitful branch; only abide in me. Thou art weak, but I am strong; thou art poor, but I am rich. Only abide in me; yield thyself wholly to my teaching and rule; simply trust my love, my grace, my promises. Only believe I am wholly thine; I am the Vine, thou art the branch. Abide in me."

What sayest thou, O my soul? Shall I longer hesitate, or withhold consent? Or shall I not, instead of only thinking how hard and how difficult it is to live like a branch of the True Vine, because I thought of it as something I had to accomplish,—shall I not now begin to look upon it as the most blessed and joyful thing under heaven? Shall I not believe that, now I once am in Him, He Himself will keep me and enable me to abide? On my part, abiding is nothing but the acceptance of my position, the consent to be kept there, the surrender of faith to the strong Vine, still to hold the feeble branch. Yes, I will, I do abide in Thee, blessed Lord Jesus.

The seeming ill-fortune of to-day is so often the basket that holds tomorrow's choicest blessing; that it would seem as if even our human impatience might learn to wait a little for the key,



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### Value of Birds in Agriculture

As stated in our issue of last week, we purpose publishing from week to week, information on birds in relation to agriculture. There are a number of facts regarding the value of birds with which many of us, no doubt, are not very familiar and it should prove not only interesting, but valuable to study some points about them. Many birds that are of much more value than we realize are still killed by the thoughtless and reckless. There is, however, a growing sentiment in behalf of the birds as shown in the protective laws of various states of the United States and the bird treaty between the United States and Canada. This is one of the results of teaching public school children something of the life, the beauty, the habits of birds and their value to mankind, and awakening an interest in them, thus causing the boys and girls to refrain to a large extent from pelting them with sticks and stones, or of robbing their nests.

Birds prevent insect plagues. Plagues of locusts, etc., occur only in treeless and birdless countries like Egypt. Where birds are plentiful, insects are kept in check. The waterfowl of the Mississippi valley save it from the Rocky Mountain locust. Blackbirds, plovers, quails and prairie chickens have rescued Nebraska from crickets several times. Meadowlarks, kingbirds, cuckoos, grouse, killdeers, black terns and gulls have, no doubt, saved Manitoba from the devastating army worm, which, on several raids, never got farther than the southwest corner of the province. Grosbeaks, nighthawks and quails feed upon potato bugs and slugs. The United States has spent millions on investigating the damage due to insects and the value of birds. The annual loss of crops and trees due to insects is thought to be nearly \$700,000,000 in the United States, and \$125,000,000 in Canada. Fifty thousand bird stomachs have been sent in and examined, and it was found that over 50 different birds fed upon destructive caterpillars, and 50 species live upon destructive scale insects and plant lice. One nighthawk's meal was found to consist of 340 grasshoppers, 52 bugs, three beetles, two wasps and a spider. Robins take five ounces of food per day; chickadees will eat 200 to 500 insects per day. Most birds will take over 100 insects per day to feed their young and to keep up the high temperature and 20 hours of energy on the wing per day.

Birds also consume great quantities of weed seeds. Water birds live principally upon weed seeds. Forty species of sparrows in United States are seed eaters, 97 per cent. of their food being weed seeds; 64 per cent. of the Mourning Dove is seed and 27 per cent. of the Meadowlark's food is weed seeds.

Gophers and mice are bad, but they would be worse if it were not for hawks and owls; the hawk works by day and the owl by night. The horned owl will swallow a striped gopher entire; the bones and hair are then digested as pellets. Thousands of pellets are often found under the roots of these owls. In the stomach of a young horned owl, two weeks old, the remains of five mice were found; 3,000 skulls of gophers and mice were found in the retro of a pair of barn owls. All the hawks are expert at catching young "Flickertails."

Hawks are not as harmful as is often supposed. In an examination of thousands of stomachs of hawks in New York state, 220 had less than two per cent. poultry; 65, no trace of poultry; 220 sparrow hawks, no trace of poultry, but 101 mice, 244 insects,

52 birds and 12 reptiles; 124 marsh hawks, only seven contained poultry and 79 contained mice. Rodents are the sharp-shinned Cooper's, Pileas and Goshawk maliciously attack poultry.

### Canada's Share a Large One

BELOW are given some of the statements of the world's authorities regarding a threatening famine.

"The allied larder is dangerously empty, but we are carrying on in a resolute belief that we can rely on the people of North America to prevent our food supplies from becoming so diminish as to imperil the issue for which we are all fighting."—Lord Rhonda, Food Controller for Great Britain.

"Few people have yet grasped the fundamental fact that Great Britain still relies on the United States and Canada for 45 per cent. of her essential foodstuffs. Unless we can get this food, or nearly all of it, we shall peter out."—Sir William Goode, Secretary of the British Ministry of Food.

"Unless we can get more food now we shall go under, and 1,000,000 people will starve. This is my conviction and I know as much about the situation perhaps as anyone."—Dr. J. W. Robertson, Chairman of the Advisory Council, Canada Food Board.

"Great Britain is on shorter rations than at any time in the last 100 years.



### Gulls Following the Plough.

The situation not only is grave, but its possibilities are terrifying. A large measure of responsibility for providing food for Europe falls upon Canada.—H. B. Thomson, Chairman of the Canada Food Board.

"Wheat is the scarcest article in the world today. The amount available for shipment in the next three months means the extent of hardship which the allied people will have to endure."—S. E. Todd, Secretary of the Canada Food Board.

"The food wanted by mankind does not exist. The word 'shortage' is not strong enough for the situation. To put the matter bluntly, the whole world is up against a nasty thing, familiar to the people of India, called 'famine'."—Lord Rhonda, Food Controller for Great Britain.

### New Women's Institute Bulletins

"WARTIME Foods and Cooking," is the name of a new bulletin recently issued by the Institutes Branch of the Department of Agriculture, and it is one of the most practical bulletins of its kind which we have seen. It is pointed out in this bulletin that while beef, pork, wheat and sugar are the main foodstuffs needed overseas on account of their high nutritive value and being easily exported and easily prepared, until the present they have always been taken for granted as common articles. Just how to eliminate them and still be properly nourished, is the problem confronting us as housewives today. The subject of balancing meals, substituting other foods for those required for export and food values with price, is treated in a practical way. Recipes for preparing nests, fish, cereals, poultry, yeast breads,

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After 15 years you, we feel that you with the chicks procurer very handsome. Get your order avoid disappointment.

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In splendid near neighbors, telephone if desired, school, churches for milk, etc. made past this State Auto road, creamery farm watered pasture, abundance wood. Good 9 room house, horse barn, poultry house and 12000 would not Owner's low price. Terms, if taken, \$2500. horse racks, plow, etc., etc., will be B. CHAYER,

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THREE CENTS A WORD FOR SALE—2 H. H. H. and cream, value, H. R. No. 2, F.

BUTTERMACHINES Name and address of National Manufacturers

LADIES WANTED light sewing at home, good pay, work charges paid. Send to National Manufacturers

FOR SALE—2 Unit Cal Milk, has been in good repair. Do not need farm. Phone or write to St. Seaford, Ont.

DUCKS—America's heavy egg producing and White Indian breed your's eventually special than hens on large fertile eggs. Special price on larger Murray, Harrow, Ont.

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**AFORTUNE IN POULTRY**



Increase your egg yield by purchasing eggs from our high-record Breeder's Rocks, Wyandottes, Leghorns or Reds. 1917 mating list containing 45 photos of stock and building. Free and tonic formulas free.

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In splendid farming section, near neighborhood, small delivered. For English if desired. Well established school, churches, stores, factory for milk, etc. Survey has been made past this farm for improved State Auto road, which always increases farm value. 14 acre brood-watered pasture, estimated to cut out 100 tons besides other crops. Abundance wood, timber and fruit. Good 3 room house, 50 ft. cow barn, horse barn, corn crib, poultry house and milk house, which \$1,500 would not replace. Owner's low price, \$2,500, on easy terms. If taken now, I cows, 2 calves, 24 hens, mowing machine, horse rake, plow, harrow, cultivators, wagon, harness, tools, etc. etc., will be included.

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**THREE CENTS A WORD, CASH WITH ORDER**  
FOR SALE—5 H.P. engine, 2 sets gears, valves and cream van. Johnston Road, Box R.R. No. 2, Peterboro, Ont.

**BUTTERMAKERS' WRAPPERS**—Name and address printed—best parchment, 500 sheets anywhere in Ontario. \$1.00; 1,000, \$3.00. Cash with order. Farmer's Printer, Beaverton, Ontario.

**LADIES WANTED**—To do plain and light sewing at home, whole or spare time, good pay, work sent any distance, charges paid. Send stamp for particulars. National Manufacturing Company, Montreal.

**FOR SALE**—2 Unit Sharples Mechanical Milk, has been in use about 8 years. In good repair. Terms reasonable. Do not need it, as I have sold my farm. Phone or write **JIM MONAY**, Box No. 5, Sarsfield, Ont.

**DUCKS**—America's greatest winning heavy egg producing (800 strain) Fawn and White Indian Runner Ducks. The best you'll ever see. Lay more eggs than hens on large feed. Large snow white fertile eggs, \$1.50 the setting. Special price on large lots. Murray, Harrow, Ont.

**Peck, Kerr & McElderry**  
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**415 Water St., Peterborough**  
**L. A. Peck, F. D. Kerr, V. J. McElderry**

quick broods, vegetables, fruit, eggs, milk, cheese, etc. are given.

Another publication just issued from the Institutes Branch is "The Girls in the Institute." Women's Institute branches who are anxious to provide something of interest for the young women and girls in the community should secure this bulletin. Girls who wish to form a Junior Institute would also do well to secure copies. Either of these bulletins may be secured by applying to Geo. A. Putnam, Institutes Branch, Parliament Bldg., Toronto.

**Girls Going on Dairy Farms**

**W**HILE probably the majority of girls who volunteered for service on farms last summer, were placed on fruit farms, they are this year being sent out to dairy farms as well. Through information which has reached us from the director of Women's Farm Work in Toronto, we find that many girls are going on dairy farms. For instance, on a 600-acre farm at Brant, Ont., four girls have been hired; one of these is running a tractor, and one works vegetable and dairy farms. Another large farm on six girls for general farm work. Besides milking and vegetable work, they are expected to handle the teams. On a dairy farm in Niagara-on-the-Lake, five girls have been hired for dairy work exclusively. These girls are to milk, look after the herd, clean the stables, etc.

While such work as looking after the herd and cleaning stables is very necessary on the dairy farm, is there not a possible danger of girls injuring their health, by performing such heavy work? Working in the form of lifting and pitching is hard on a girl's physical make-up, and it seems to us that farmers who employ girls, should be very careful about allowing or expecting them to do such heavy work.

Capable women are applying for work on farms, the following letter is a sample of some of those received by the director of Women's Farm Work:

"I beg leave to make application for some sort of farm work for the coming summer. I am a farmer's daughter, a graduate in Household Science from Macdonald College. I am thoroughly experienced in farm work in every way, as my father owned a large dairy farm. Owing to ill health he had to retire from my life, therefore, I feel it my duty to try and assist in some way this coming summer. I might mention that I was taught how to milk, churn, do housework, such as washing, mending, laundry, sewing, care of the house, etc. I am 24 years of age, have the best of health, would be able to furnish the best of references as to my character and ability, should my application meet with your approval, believe me it would be my earnest desire to fulfill my duties faithfully. Kindly let me know if my services will be required, as I am very anxious to help out in some way. I have two brothers now on active service in France and I know it would be a comfort to them if they could feel that I am trying to do my bit at home.

When in Toronto recently, one of our editors had a conversation with Miss Harvey, the director of Women's Farm Work, and we were rather surprised when she informed us that they had received quite a number of applications from farm girls. When we asked Miss Harvey how the girls could be spared from their own homes, she told us that the reason they gave for leaving was, that if they stayed on the home farm and worked they would not receive any remuneration for their labor, while if they went away from home they would, and that the girls be blamed for taking this attitude? Is this illustration not a most convincing argument that the way to keep our girls contented on the farm is to give them remuneration for their services

and thus help them to feel that they are really partners in the farm business?

**A Fireless Cooker Advocate**

**Mrs. John Charlesworth, Wellington Co., Ont.**

**W**E are now approaching the time of year when we commence to think of fireless cookers, and the question of saving fuel and heat during the "dog days" of summer. I bought a fireless cooker two years ago to save fuel and time, and it has done both. It cost me \$18 at that time and paid for itself in nine months in the amount of fuel saved. My cooker is aluminum lined and has aluminum vessels with soap suds disks. There are three vessels, one large and two smaller ones, the capacity altogether being about 18 quarts.

Speaking from my own experience, I would not now buy a fireless cooker for the farm home until I had experimented with a hay box. Take a good wooden box or old trunk, line it with thick paper or oilcloth, fill it with closely packed hay or excelsior, making nests or hollows for your vessels. Heat your food to the boiling point, letting it boil two or three minutes, then pack into the hay box, cover tightly, put hay in on top, then fasten the lid of the box on tightly.

The disadvantage of the hay box is that the hay must be frequently renewed, as it will become impregnated with odors. Hay, however, is usually plentiful on the farm. Then when you are convinced that a hay box is a good thing, you can get an aluminum fireless cooker if you want one. You will not now get one for \$18 as aluminum is advancing rapidly in price and cookers which were selling at \$18 two years ago are now \$30. That is why I would advise experimenting with the homemade article first.

Of course my readers understand that the principle of a fireless cooker is to retain the heat, cooking things in their own steam. The contents of a pot will simmer for hours, and when you return from a trip to town, or visit a neighbor, or have been busy upstairs or out of doors, you will find a hot dish awaiting you.

One can easily see the advantages of a fireless cooker in summer, especially a fireless coal stove is used, or even with wood. It is an easy matter to lift the saucepan out of the cooker and bring the contents to the boiling point on the coal oil stove. If wood is used, the dinner stew can be started with the breakfast fire, thus avoiding a big hot fire in the middle of the day.

Things which require long, slow cooking are the most satisfactory for cooking in a fireless. Fowl, ham, tongue, corned beef, pork and beans, crests of all kinds, prunes, rhubarb and all fruit, are all good if cooked in a fireless. The apples will not break up and will become a lovely color. Fruits will almost double their size. A year ago when apples were scarce, I used to do them in the cooker and serve them with whipped cream, and they were frequently mistaken for peaches.

A book of directions and recipes comes with fireless cookers, but anyone can soon learn what things will cook best and will enjoy experimenting with the cooker, as I have.

A home-made floor polisher which is claimed to be better than prepared polishes which are on the market, is made from melting down candle ends and mixing with paraffin oil and turpentine.

"Ah," sighed the boarder who was given to rhodomontades, as they sat down to the Christmas dinner. "If we could only have one of those turkeys that we used to raise on the farm when it was a boy!" "Oh, well," said the pessimistic boarder, "perhaps it is one. 'You never can tell.'"



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Ade Course by correspondence. Degree with one year's attendance of four summer sessions.  
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## Turn to the Right!

THE Insurance Times of New York is one of the best authorities in the world on the subject of Life Insurance. In its issue of February, 1918, in commenting upon the fact that another of the large American Companies had adopted the mutual principle, the following words are used:—



The Six Largest Companies of the United States are Mutual Companies.

"The Mutual idea is unquestionably the highest ideal in Life Insurance service. Cooperation, collective bargaining and distribution are the order of the twentieth century. All Life Insurance must ultimately come to be written as well as conceived on a purely mutual basis. Genuine mutualism—mutual in fact as well as in theory—will be called for in the coming years, and the company that does not limit its mutual program to its principles, but makes its practice and its policies concretely mutual, is the company that will be most in demand in the coming generation, which before all things, must be social-minded and democratic. Mutualism, in this connection, 'Turns to the Right,' and it is the road that all life insurance will eventually take."

The Mutual Life of Canada is the only Canadian representative of this ideal system that has ever been developed throughout the whole of the Dominion. You "Turn to the Right" when you turn to the Mutual Life Assurance Company of Canada for protection.

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

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This Book FREE

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### Some Thoughts on "Mother's Day"

With the Household Editor.

THE custom of setting apart a special Sunday in the year to be known as Mother's Day, has now become fairly general and in many cities, towns and villages, the second Sunday in May will be observed by those wishing to honor the person, who more than any other has stood between them and the world's buffetings. The methods of celebrating this day are varied. Some attend church services where the sermons and music are appropriate to the day. Others visit their mothers, send flowers or a loving letter if away from home and if at home endeavor through acts of kindness to commemorate the day. It is a very general custom also to wear a flower of some kind on that day.

The first thought with the originator of Mother's Day, was that it might help to overcome the growing lack of consideration for mother among grown-ups, who, engrossed with worldly cares, are apt to neglect home ties. It was also instituted as a reminder to children of the present generation of their lack of respect and deference to parents.

The commemoration of this day is certainly well worth the effort and cannot help but exert an uplifting influence. From the viewpoint of every mother, however, probably she asks herself, "How are my children remembering me?" Is there not a danger as

ing of the children and to save mother many steps. We do not mean by this that children should be made to work hard before and after school and all day Saturday, but rather that they be trained to realize that the home is the one where "team work" is practiced. The mother who is so busy with household duties and caring for the physical wants of the children that she has not time to cultivate the finer things of life, is doing both her children and herself an injury.

Is it not true that children would rather have the memory of mother's smile and cheery word than to remember the bread she used to make, how good her cookies were and how careful she was about their clothing—although all of these are excellent qualities. As Jean Blewett says: "What is needed is mothers—who make real homes for real children to grow up in; mothers who realize that the little courtesies of life, the little refinements, the common joys and griefs and hopes and plans, all go to the making of the coming manhood and womanhood of the country. It pays to stop and ask ourselves occasionally, 'How are the children remembering me?'"

### The Farm Mother

By Edgar L. Vincent.

THE farm mother? That is the mother of the farm any different from the mother elsewhere? And yet, in some ways she is and must always be. Nobody occupies just the same place in the world that the

### The Old-Fashioned Mother

THE world is blessed to-day as never before by the lasting influence of the old-fashioned mother. Mark you, not a woman enamored and painted, whose jeweled hands never felt the clasp of baby fingers, but the dear, old-fashioned, sweet-voiced mother in the depths of whose clear eyes the love-light shone and, in later years, her hair was threaded with silver threads that arched over her forehead. We recall her now in the golden setting of the years, those dear hands, worn with toil largely for us; those hands that guided our faltering steps in childhood, smoothed our troubled brow in sickness, even reaching out to us in tenderness when our path was troubled with worries in after years.

Blessed is the memory of the old-fashioned mother. That memory floats to us now like the perfume of lilac blossoms out of the past. The music of other voices may be heard, but they are soon lost in contrast with the entrancing memory of hers, which will echo in our souls forever.

When in the fitful pauses of busy life, our feet wander back to the old homestead and we cross the well-worn threshold and stand once more in the low quaint room once hallowed by her presence, the feeling of childlike dependence and dependence comes over us and we are carried back to the time when we knelt in the molten sunshine, just as in the long ago, by our mother's knee and lisped, "Oh, Father." How many times when the tempter lured us away from the paths of rectitude has the memory of those sacred hours, mother's words, her untiring faith and earnest prayers saved us from plunging into the abyss of sin?

Years have come and gone since boyhood and girlhood days. Mountains of trouble have risen to strengthen us in the battle of life, but they have not hidden from our sight the glory of the good, old-fashioned mother of the past and her unselfish life.—Western Farmer.

mothers in our anxiety to care for the physical wants of the children, in keeping their clothes clean and mended and the home spotless for them to live in, that we may forget about the more gentele side of our nature? Are the majority of mothers too tired when night comes to have a play hour with the kiddies or to enjoy an evening's fun with the older children? Will the children say as one young woman said with a hungry look in her eyes, "My only memory of my mother is that she was always tired, often sick and generally too busy to pay much attention to me."

While the woman who works hard for her children, day in and day out, deserves a very large amount of credit and appreciation, is there not a danger of some of us allowing this danger of life to become too important? It is a prime essential to see to it that the children take a certain amount of responsibility and share in the duties around the home, both for the train-

ing of the children and to save mother many steps. There do come some days to the wife and mother of the town when she may unbend, slacken the girdle a bit, and rest; but the days of the farm wife and mother are very much alike. Every day there is the same routine to go through—baking, washing dishes, cooking, or the usual folk, sweeping, and all the other work of the house—and it is tiresome. No wonder that when night comes, and the last little tired body is put to bed for the night, the mother sighs, and maybe cries a bit, all by herself. She is so tired!

And it is in these tired moments that the bitter words are apt to slip from the lips, words which could not be spoken were it not that every nerve in the body is a-tingle with pain; words which in the days to come will return to plague and hurt the soul. Do for the world what any mother do or say that which might linger in the memory of her boys and girls and

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cause them to say by and by: "I wish Mother had not said that! I can't forgive it!" How, then, shall the mother of the farm keep from doing and saying the things she should not?

In every farm home there is, at least one room to which one may go and be all alone. It may be now a poor little room, but make it bright and cheery. A bit of paper on the walls, a few cents' worth of paint on the woodwork, an easy chair or two, and a window that lets in the blessed sunshine freely.

When the men-folks are away at work and the little ones are at school or about their play, slip away to this room and lie flat down for a few minutes. Shut the eyes. Let every nerve and muscle be lax. Think of nothing at first. Then let some good thought of your own or another fill the mind. Tell it over and over again, until at last peace comes and the tired body is restored to its wonted strength and vigor. Then you can go back to life's simple round with a song. Selected.

## HOME CLUB

### Keeping the Girls on the Farm

WE are glad Sam Ray has opened up such a live question for discussion in the Home Club. Rural depopulation and the large part which the girls play in connection therewith, is one of the big problems of country life to-day. It is well to keep our boys off the farms, but we must keep the girls there also. The girls are still going to the city, however, and are securing good positions. The country is losing these girls. They are not liable to come back and settle down in the community where they were raised after they have become accustomed to city life. How to keep the girls on the farms, therefore, is a subject well worthy of our serious consideration. Sam Ray has started the ball a-rolling for a live discussion, and we hope all Home Club members who are interested in this problem will send along their views on the matter. Even if you are not a member of the Home Club, but are interested in the question, please feel free to write our Home Club.

### Whither Away?

DEAR Home Clubbers, say, did you happen to know that the rural population of Eastern Ontario is headed for the boneyard? Ah, I see you open your eyes. But it's true just the same. You see the girls have deserted—and when the girls quit it's "good night," for the rest of the population.

I recently had occasion to travel through some of the rural districts of Eastern Ontario and this is the situation I found. Young bachelors, some of them handsome and almost all of them desirable, are living on good, well built homesteads and their mothers are doing their cooking for them. The young married couples in the districts I visited are scarce as hens' teeth and prospects for pedlars of marriage licenses are not good. An old man with whom I talked over the situation put it, "You could pack all the girls within a 10 mile radius into the back seat of our double sleigh."

"Where are the girls?" you ask. For answer I point you to the train coming from Ottawa or Montreal on any bank holiday. You'd think each was an excursion train, but that horde of city girls climbing off are not visitors. Oh no! They're the daughters of the rural district coming home—for the day. The high salaries and the bright lights have lured these girls to the urban communities—communities in which the proportion of females to that of males is already alarmingly large. Without considering the individual prospects of these girls in say 15 years from now, this exodus from the rural districts of the girls

who should normally be the wives of the aforesaid bachelor farmers, constitutes a serious menace in our national life.

For many years our rural uplifters have been worried anent the keeping of the boy on the farm, and it is now generally agreed that the way to keep him there is to give him a calf. That may suffice up to a certain age for the boy, although I have a strong suspicion that the boy will ultimately desire more than a calf.

What we must decide now, however, is "how can we keep the girl in the country?" Seems to me the first thing is to find out the reason for her desertion. If the farm girl wants a calf, for the love of Mike let's give her one. As a mere man and a bachelor at that, I can only ask questions. Perhaps your Home Club members have some ideas on the subject which might be the better for a little airing.

I have a suspicion that when Mrs. Jones finds some way for keeping her daughter Jane at home, instead of allowing her to "take a position" that then Mr. Smith will find that his son John is becoming better satisfied with farm life. As it is, the situation of our bachelors in the district I visited is rather hopeless. It might pay them to take a few months of some winter, dress up and loaf around town. In this way, they might capture some of the deserters.

In closing I would just like to point out to the respected members of the opposite sex, that during the present scarcity of men every bachelor should be cultivated.—SAM RAY.

Pat got a job moving some kegs of powder, and to the alarm of the foreman, was discovered smoking at his work.

"Gracious!" exclaimed the foreman. "Do you know what happened when a man smoked at this job some years ago? There was an explosion, which blew up a dozen men."

"That couldn't happen here," returned Pat. "'cos there's only me and you!"



## Take Your Time

NEVER buy a cream separator in a hurry.

Your reason for buying is not so much to get a cream separator, as to get all the cream from your milk, all the time. It takes time to pick that kind of a machine out of the many on the market.

Send to reputable firms for catalogues, and study them carefully. See which machine requires the fewest and simplest adjustments; which has the best oiling system; which is most sanitary and most easily cleaned, which is so well made that it will undoubtedly do good work for a long time. Go into details, and pick the best two or three of the lot.

Then ask for skimming demonstrations to determine how little cream is left in the skim milk. This is important, because the wrong machine can waste more cream than it is worth, while the right one will put money in your pocket every time you use it.

Why you are through you will find that you have bought a Lily Cream Separator because the Lily will prove to be first on all these counts. We will send catalogues on request, leaving the final decision to your judgment. Write to the nearest branch house.

### International Harvester Company of Canada, Limited

#### BRANCH HOUSES

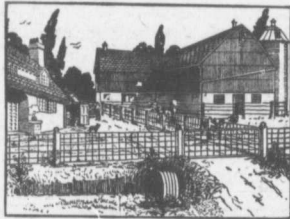
WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.  
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When Writing Mention Farm and Dairy

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Put in material that cannot burn, that is unaffected by any and every kind of weather, that cannot rot or rust, that will last for many years without repair. Use



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Then you will have buildings that are not only perfectly weather-tight, but that present a handsome appearance.

Pedlar's Galvanized Corrugated Steel Siding is the best quality obtainable—there is no better made. In fact, no better quality could be made. It is perfect.

Using Pedlar's Galvanized Steel Corrugated Siding is the truest building economy. It costs but little more than inferior material and gives a lifetime of service.

We manufacture steel siding in many forms, including handsome designs closely imitating brick and stone, which are ideal for re-covering frame houses.

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## Farm Production and the Military Draft

Farmers Will Organize Huge Deputation of Protest to Visit Ottawa on May 14th  
 THE office of the United Farmers of Ontario are the centre of much activity nowadays, preparing for the great deputation to Ottawa to protest against the drafting of young men from the farms for military service. "The deputation will not express merely the opinion of the United Farmers of Ontario," stated Secretary J. J. Morrison. "It will express the opinion of rural Ontario. Not only farmers clubs, but municipal councils are acting through us. We are merely a clearing house for the organization of the deputation."

Arrangements have been made through Hon. T. A. Crerar, for a hearing from the cabinet on May 14th at 10 a.m. For delegates west and north of Toronto, who will take train at Toronto, arrangements have been made at the Carlisle Hotel, opposite the Union Station, for a committee room in which to arrange plans. The dining-room service at the hotel will continue until 9.30 p.m. Full information can be had at the Hotel office, Ottawa trains leave Toronto about 10 p.m. On arrival in Ottawa, directions where meeting is to be held can be seen at West End entrance, East Block Parliament Buildings. Delegates are reminded that when ten or more take train at same station, a five and one-quarter cent per mile rate each way can be secured.

### Farm-Boys Called Out by Mistake.

Many of the farm-boys have already been notified to report on the 13th, the day before the deputation gets its hearing in Ottawa. These instructions were due to a mistake and the Minister of Militia has issued instructions that bona fide farm workers, when reporting, be granted two weeks leave of absence to help further with the seeding.

### Mr. Thornton's Deputation.

Last week a deputation of 300 farmers, headed by C. J. Thornton, ex-M.P. of Durham Co., Ont., waited on the Cabinet to protest against the new draft. The speakers for the farmers were Mr. Thornton, A. A. Powers, Durham county; E. J. Sills, Lennox and Addington; H. St. Claire Fisher, Lincoln and Welland; and C. W. Gurney of Brant. The arguments that they advanced do not need repetition here. They are well-known to all farmers because the conditions described prevail universally over rural Canada. Premier Borden himself heard only the last speaker. In his reply he said: "I do want you to understand that a situation exists which you do not quite understand. I have been twice in France, at the front, and I cannot help myself to be short, at any measures to give our soldiers the support that they deserve."

"We talk of hardships and sorrow here in Canada; we have had hardships and God knows, too much sorrow, but we have no conception of what is going on in France at the present time. Production is absolutely essential, and the most commanding duty of the Government is to see that it is carried on. But if we waited for further exemptions, and our men were decimated and destroyed, what kind of answer would it be to say we had increased production?"

"You must realize that we did not reach this decision until we had given it the most careful consideration within our power. We came to the conclusion which duty seemed to compel I cannot bring myself to consider courses which I believe would give within the proper time the needed reinforcements to our men there, equipped with whose sufferings and sacrifices those which we, who still remain in Canada have endured are comparatively insignificant."

Messrs Rowell and Crerar took the same view as the Premier, who also announced that after national re-creation next June, the Government

hoped to be able to mobilize labor for harvest.

The lack of results from the deputation of last week will in no wise affect the carrying out of the determination to see through the greater deputation for May 14th.

### New Brunswick Farmers Organize

ONE more link in the chain of independent farmers' organizations was forged on April 23rd last at Woodstock, N.B., when the United Farmers of New Brunswick were formed. This new movement is off to a fine start, and bids fair to overrun the Province during the present year, if the enthusiasm displayed by the farmers of the three counties representative may be considered as a fair representation of the purpose and enthusiasm of the farmers of the rest of the Province.

A few months ago a few earnest farmers, possessing ideals, convictions, and courage of expression, took the initiative of organization in their own County of Carleton, and commenced an agitation for organization. The field was ready for action in a short time, and Carleton County had thirteen clubs, York County three, and Victoria four clubs. This great success gave the inspiration for a Provincial organization.

The Canadian Council of Agriculture was communicated with through their secretary, R. McKenzie, of Winnipeg, who requested J. J. Morrison, secretary of the C.F.O., to attend a meeting of the delegates of the twenty clubs already organized in New Brunswick, who were to meet in convention at Woodstock, N.B.

Several hundred delegates assembled in the opera house. Mr. F. Phillips was elected chairman and C. Gordon Sharpe secretary pro tem. The chairman, in a few well-chosen words, told the intention of the meeting.

### New Brunswick Conditions.

C. L. Smith and T. Caldwell outlined the conditions that were driving the farmers of New Brunswick to seek organization in defence of their industry and our rural people. The general conditions were apparently identical with those of rural Ontario.

J. J. Morrison, speaking on behalf of the Canadian Council of Agriculture, explained its creation, its aims, and its usefulness to the agricultural industry, and foretold its eventual spread from Halifax to Vancouver.

The desire to join in the great work outlined was so unanimous that organization was at once completed along the lines followed in Ontario, using the Ontario constitution and by-laws for both the Association of the United Farmers of New Brunswick and the United Farmers' Cooperative Co., Ltd.

The Association elected officers at once, securing an exceptionally fine lot of men, as follows: President, C. L. Smith, ex-M.P.E.; 1st Vice-President, A. Chapman; Secretary-Treasurer, C. Gordon Sharpe.

Directors—C. R. Inman, John Paulson, Judson W. Corry, Moses Young, A. A. Morrison; Auditors, R. R. Tracy and J. E. Porter.

A Provincial charter has been secured for the Cooperative Company with an authorized capital of \$50,000, divided into 300 shares of \$150 each. The provisional directors are unanimously in earnest, and have subscribed for stock as follows: C. L. Smith, farmer, 23 shares; T. W. Caldwell, farmer, eight shares; C. Gordon Sharpe, farmer, four shares.

### An Official Organizer.

At a meeting of the directors of the United Farmers, New Brunswick, President C. L. Smith was appointed organizer. A campaign of organization and stock selling is to be in-

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NEPONSET PAROID ROOFING

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RED or GREEN as well as GREY

MANy people do not even yet know that, in addition to the standard GREY finish, the famous Paroid is also made with a crushed slate surface; permanent Red or Green colors. Imagine what handsome effects are possible with these colors.

## NEPONSET Paroid ROOFING

Of course the main points about Paroid are its long life, its weather and fire resistance, the fact that it is so easy to lay and so economical to use. Ask your lumber or hardware dealer.

Look for the roll with the Paroid label—there is only one genuine Paroid.



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THE LARGEST MANUFACTURERS OF ROOFINGS, WALL BOARD AND ROOFING FELTS IN CANADA 177

## The Best Book on Dairy Farming

Perhaps You Have it in Your Library

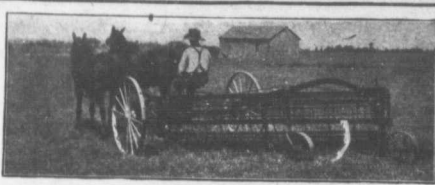
If so its title will be

"DAIRY FARMING," Eckles & Warren

After a close study of the great number of dairy publications that are available, our Book Department feels justified in recommending this book as the most comprehensive of its kind ever written. The book is only recently published and covers practically every phase of dairy work—the balancing of rations, feeding cows for heavy production, the best feeds to use when prices are high—crops to grow, etc. If you want a book that you wouldn't sell for double the price later, order one and study it this winter.

The book sells for \$1.50 and can be secured direct from our

BOOK DEPARTMENT FARM AND DAIRY Peterboro, Ont.



## Efficient Haying Tools

### Side Rake and Tedder

The Massey-Harris Side Rake and Tedder saves the cost of one machine, the extra storage space required, and the time hitching and unhitching when changing from Tedding to Raking or the reverse.

It can be changed in an instant from Raking to Tedding and satisfies the most exacting in either capacity.

Made almost entirely of Steel, has strong and simple Gearing and can be adjusted to meet any requirements.



### Hay Loader

Simple in construction—will not get out of order. Yields automatically to any obstruction or unusual volume of hay.

Places the hay well forward on the load. Its motion is steady and constant.

Will save many a load which might otherwise be caught by a sudden shower.

Our line also includes Mowers in all sizes, Wood and Steel Frame Self-Dump Rakes, Tedders, Rake Bar Loaders, etc.,

## MASSEY-HARRIS CO., Limited

**Branches at**  
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**Agencies Everywhere**

**FOR SALE**—Holstein Bull for Sale, 30 months of age, sired by Pontiac Korndyke Flat Leo, Dam Anna Lora, 25.75 butter in 7 days, \$1.45 in 30 days. Apply to Grant Robinson, Merrickville, Ont.

**FOR SALE**—Holstein Calf for Sale, sired by Hillcrest Ormsby Count, son of Canada's 25,000-lb. Cow. Apply to G. F. McGrath, No. 2, Merrickville, Ont.

### RICHLIY BRED---READY FOR SERVICE

Maplevalle Farm offers for sale a choice bull 2 years old, whose 3 yrs. old Dam and Sire's Dam average over 15,000 lbs. milk in 1 year. He is mostly white, and quiet. Also young bulls fit for service, sired by "Big Korndyke Walker," whose 5 nearest Dams average 30 lbs. butter in 7 days. His 13 near-cot dams average 27.50 lbs. in 7 days, out of good producing Dams. Write today to

D. H. DICK & SON, ..... MEMEE, ONT.

### MAPLE LAWN STOC'. FARM OFFERS

Bulls from King Segis Alcartra Spofford, a son of the \$60,000 bull. No. 1—11 months old, from a 28-lb. cow. No. 2—14 months old, from a daughter of Count Segis Walker Pletier's, who has five daughters that milked over 100 lbs. and averaged 30 lbs. butter. A few full calves of the same breeding.

Write for prices and photos, or come and see  
 WM. H. GOUGH & SONS, ..... BLOOMFIELD, ONT.

## THERE IS ONE BOOK

That we would like to sell in the house of every dairy farmer in Canada. It covers every subject in dairying, from growing the feed—to testing your herd. The price of the book could be saved in two weeks' time from the economical feeding methods outlined in it. "DAIRY FARMING," by Eckles & Warren, tells how to balance the feed—what feeds to buy when prices are high—the cheapest feeds to grow on your own farm—and a score of other subjects. It is a very readable book for the practical farmer. Well bound in linen.

Price is but \$1.50.

Book Dept. **FARM & DAIRY** Peterboro, Ont.



C. L. Smith, President of the Newly Organized United Farmers of New Brunswick.

stituted immediately after seceding, in all of the fourteen counties of the Province.

"An endeavor to obtain the assistance of a speaker from the Canadian Council of Agriculture is authorized.

A vote of appreciation of the action of the Canadian Council of Agriculture was passed amid enthusiasm.

An evening meeting was held, with President Smith in the chair. J. J. Morrison gave a talk on farmers and their problems, and on Wednesday morning the delegates discussed with the directors and Mr. Morrison the problems of the United Farmers' Co-operative Co., Ltd.

### The Makers' Corner

Butter and Cheese Makers are invited to send contributions to this department, to ask questions on matters relating to cheese making, and to suggest subjects for discussion.

### The Price of Cheese

**T**HE price of cheese is now a live subject in all the dairying districts of Canada. Even where cheese is not made, patrons of creameries and condenseries realize that the price set for this commodity will have a decided influence on the price of all other dairy products. In fixing the price this year the farmers, at least, had the satisfaction of being well represented on the Dairy Cheese Commission. Mr. Donaldson of Atwood, President of the Ontario Dairy-men's Association, represented the farmers of Ontario and when interviewed recently by an editor of Farm and Dairy, he explained the situation more fully than has yet been done for the benefit of the public.

"It was proven to our satisfaction," said Mr. Donaldson, "that American cheese could be bought for 22 cts. This was the price offered by the British Food Board for Canadian cheese. As a representative of the producers I refused to consider it. The Old Country authorities were again communicated with, and they raised to 23 cts. We cabled them regarding this price and they cabled back that it was the highest they could give. The price accordingly was accepted. "I might explain," said Mr. Donaldson further, "that the purchase of Canadian cheese has already been financed in New York, and at this price the British Government agrees to purchase all of our make. They do not agree to take all of the United States market; only such as they may need. Further, shipping is to be provided so that the cheese may be moved out regularly.

Mr. Donaldson also explained that the new price is not on board steamer as last year, but alongside water. This means a saving in expense of handling to the trade and should

mean a trifle more to the producer than could otherwise be paid.

#### The Patrons' View.

"And how do you find that factory patrons are taking to the new price?" we asked Mr. Donaldson.

"I have heard practically no complaint," was the reply. "I was talking to a man from Mount Elgin a day or two ago, who told me that he had been talking to at least 100 men regarding cheese prices and all had professed themselves to be well pleased, providing the price of other milk products was regulated proportionately."

"And what is being done in this connection?"

"The Commission has a committee working on this problem," answered Mr. Donaldson. "This committee is working in conjunction with the United States Authorities, and a price on condensed milk and milk powders is proving a little more difficult to arrive at than in the case of cheese. I have expressed on this committee the necessity of arriving at an early conclusion. At present there is no butter for export, and the Commission does not intend to interfere with the domestic situation. As soon as there is a surplus for export, however, a price will be set on butter also."

Mr. Donaldson is kept busy several days explaining the cheese situation to cheese boards. At the time of our conversation he had already appeared before the London board and had ap-

jas. Donaldson, President of the Western Ontario Dairy-men's Association, and Representative of the Ontario Farmers on the Dairy Produce Commission.

pointments before several other Western Ontario boards. He is now planning to visit a few representative boards in Eastern Ontario.

In order to get an eastern view of the price, Farm and Dairy called upon Mr. Alex. Hume of Menlo, who was on the committee appointed by the dairymen's delegation when at Ottawa a few months ago. "Patrons in this section, I believe, think we should have had a cent more," said Mr. Hume. "As a member of the committee I expected at least 24 cts." Then Mr. Hume concluded with, "But we don't want to be considered kickers and we will accept the price graciously and we will all produce all we can."

Regarding the financing of the cheese purchases, it is gladly stated that Sir Robert Borden and Sir Thomas White, during Sir Robert's recent visit to New York, succeeded in arranging a new loan credit in Canada for the British Government, purchase the entire exportable surplus of Canada's cheese production for the present year. The amount of the credit will be forty million dollars. The arrangement will mean a certain market for Canadian-produced cheese at market prices already fixed.

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# food



You have heard or you have read all of the reasons and arguments why we must produce more food.



You may have been troubled by the confusing, ignorant or malicious statements of those who have asserted that there is no lack of food.

## But This Fact is Clear

Your Government would not be carrying on this propoganda if the food situation were not critical. **IT IS CRITICAL.**

We and our Allies have our backs to the wall.

Our men have been fighting and must still fight like Demi-Gods to hold the Huns out of Ypres (of Immortal Memory) and from the Channel Ports.

Our faith is that they *will* hold the enemy and that they will drive him back.

**LET US, THEN, SEE TO IT THAT OUR VALIANT ONES DO NOT LACK FOOD.**

# Farmers of Ontario---Our Faith is in You

*Issued by the Organization of Resources Committee, in co-operation with the Canada Food Board*

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## Year Time Production Seeds

**T**HE farmer will be well advised who makes certain of a good crop of potatoes. In selecting your seed potatoes, get Rennie's—the best. We have secured a supply of good seed potatoes absolutely free from disease; but the supply is limited and we advise you to send your order right away.

### Seed Potatoes

**Earliest Six Weeks**—The Ohio type; very similar to potato now grown in the Northwest. Very prolific and a first-class market sort. Bus. \$3.50; bag (50 lbs.), prepaid, \$4.50.

**Improved Early Ohio**—The earliest heavy yielding potato in the market today. It is the standard early potato. Bus. \$3.50; bag (50 lbs.), prepaid, \$4.50.

**Irish Cobbler**—Chunky, white-netted early potato of splendid quality. Ripens one week later than Improved Ohio. A splendid variety, especially suited to dry climates. Bus. \$3.50; bag (50 lbs.), prepaid, \$4.50.

**Extra Early Eureka**—An extra early variety producing fine large tubers, of a shortened oblong form, thick through and with few eyes. The flesh is firm and of good flavor. Bus. \$3.50; bag (50 lbs.), prepaid, \$4.50.

**Green Mountain**—Its cropping qualities are phenomenal, and we believe it to be one of the heaviest yielding potatoes grown. Its productive-ness is largely attributable to the uniform size of the potatoes, but the crowning merit is its superb cooking quality. Bus. \$3.50; bag (50 lbs.), prepaid, \$4.50.

**Gold Coin**—The eyes are small and there is but little waste in paring. The flesh is fine-grained, starchy cooks to a dry, floury whiteness. Bus. \$3.50; bag (50 lbs.), prepaid, \$4.50.

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Our 1918 catalogue contains information that no farmer should be without. Watch especially the paragraphs enclosed in the star borders containing special values that cannot be beaten.

When buying from dealers insist on Rennie's Seeds.

THE **RENNIE COMPANY**  
WILLIAM RENNIE, LIMITED.  
KING & MARKET STS. TORONTO  
ALSO AT MONTREAL WINNIPEG VANCOUVER

## READY

I've still a couple of yearling bulls. I must sell them to make room for a lot of young stock which are growing up, and I am going to sell them quickly.

**What about this one—**

He is 15 months old, well grown  $\frac{3}{4}$  white and of show type. HIS SIRE IS DUTCHLAND COLANTHIA SIRE MONA, the senior sire at Lakeview Stock Farm, whose daughters recently have made two World's Records, and who is also the sire of Lakeview Dorkel Arts, 34.66 lbs., and several others almost equally good. This bull's sire in turn is Colantha Johanna Lad, 100 tested daughters and 70 proven sons, and his dam is 77.15 cow with 6 tested daughters and 1 proven son.

HIS DAM IS JOHANNA MEAG, 22.04 lbs. at 4 yrs., whose Gr. Dam is DAISY PIETHELIJE JOHANNA, 27 lbs. at 4 days.

This bull is right in every way and is a rare chance for anyone wishing to get in on our world record Holsteins.

I will ship him to the first man who sends me check for \$300. If, when he arrives, you are not satisfied with him, if you think he has been misrepresented in any way, just ship him back to me, and I will refund the cash.

Better phone or wire your order for he won't hang long at this price.

**W. L. SHAW "Roycroft" NEWMARKET, ONT.**

### DON'T BE LATE!

A number of our dairy breeders who regularly use the columns of FARM AND DAIRY have on different occasions sent us copy too late to get it in the previous issue. This is a disappointment both to us and to the advertiser. It is one, too, that only the advertiser can remedy. It is necessary for us to have all our live stock advertising copy NOT LATER THAN SATURDAY OF EACH WEEK. We would, of course, prefer to have it on Thursday or Friday, as early copy means that we are able to give a more careful service.

IF THIS MEANS YOU—you know what to do—mail your copy Wednesday or Thursday of the week previous.

LIVE STOCK DEPARTMENT

FARM AND DAIRY

Peterboro, Ont.

### Hay Making Made Easy

(Continued from page 3.)

commonly made regarding a loader is that of making the windows too large. Nothing is gained by this and a whole lot lost through breakages, unsatisfactory work and over-exertion of both man and beast.

Any farmer who decides to use modern machinery should not stop half way. He should re-arrange his whole outfit so that it may all work together and the next part of the outfit that I would advise is the basket rack, preferably one built in two sections, so that one-half can be loaded and shoved to the front and then the back refilled. I have had no experience with the sliding rack, but have worked several years with the one piece basket and certainly would not try to do without the sides. It saves the trouble of "bulldozing." All you have to do is tramp it in. Have the basket plenty large—not less than nine by 14 feet. Have it mounted on the lowest possible wheels for it is not practicable to build higher than the top of the loader and the lower the bottom of the load, the bigger the load which can be taken.

The next step I would advise, especially after loading from a hay loader into a basket rack, is to use slings instead of a hay fork. The fork is all right for a "built" load, but not for a load that is just rolled in. With the slings the biggest load can be put off in four lifts with no hand forking at the last. Handling the slings requires a little experience, but one soon becomes accustomed, and can put a load off quicker than with a fork.

Another part of the equipment that can be improved upon in many barns is the method of swarding the hay in the mow. A method with which I have had good satisfaction is not to depend on only one track, and that in the peak of the barn. Have tracks also two-thirds of the way down the rafters on each side. Fill the lower tracks first and start in the centre. Also attach the slings to the lift pulley by a long chain so that the lift, when being pulled into the mow, just clears what is already there and gives the man in the mow a chance to swing the bundle to whatever spot he

wishes to have it dropped. In this way only one can easily do the work of two or three in the barn and, in fact, if the hay is real dry and will keep properly without being torn apart, considerable hay can be put in without any one on the mow.

These are a few of the points that I have learned from necessity rather than from choice, but if they are of any use to some brother farmer, who is up against the problem of handling a big crop without any help they may be taken for what they are worth.

### The Silo on the Small Farm

(Continued from page 6.)

that silo was the best investment he ever made. "The cows kept in better condition and give more milk than they ever did before," said he. "I used to feed some corn stalks, but they were only partly consumed, and I looked like a waste. There is none of the ensilage left. I have gotten a couple of small fields into alfalfa and I am making more money than I ever did when my main dependence was strawberries and potatoes." "My friends still had corn stalks and potatoes as cash crops, but he is now talking of adding another 10 feet to his silo and of keeping more cows. When anybody asks me nowadays if a silo is a good investment for a small farm, I refer them to my neighbor. He tells them that the difficulty is to make a small farm pay without a silo.

### Milking Machine Investment

(Continued from page 4.)

have not kept track of the cost of upkeep, but this year it cost me three dollars to put the machine in good shape. We are milking 30 cows at present and have only two hired men. When the men are helping neighbors to fill silos or thresh, my wife and I can milk the bunch alone, and do not consider it a hardship. As far as tainting the milk is concerned, as proof against my argument, one of the vendors of milk at Waterloo has almost doubled his output since September, 1916, and pays me three cents more at the barn for milk than his brother vendors pay their producers. —S. G. Lang, Waterloo Co., Ont.

FIVE TO TWO YEARS SERVICE

1866 1918

## Don't Neglect Your Order

The time is getting short and the stock of good seeds is going down. If you have not already done so in great order, do so at once to avoid the possibility of disappointment at the last minute. To-day is the day to order.

We pay railway freight to all points in Ontario and Quebec on orders of \$36.00 or more.

**CORN.**

Seed corn now on hand is of excellent quality, fine and dry as flint, for quick sale as long as it lasts.		
Early Prince Charles, Bushel.	.....	4.50
Would do as a substitute for Wisconsin No. 7. Guaranteed 90% germination.		
Early Improved Learning.	.....	4.60
Guaranteed 89% germination.		
Clover and Timothy.	.....	14.00
Guernsey and Standard.	.....	14.00
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Bags for Clover 45c extra. Bags for Grain, Free.

GEO. KEITH & SONS SEEDS

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are the practical tool for the farm as tractors, builded, dealers or coal will be at Fairbanks Wagon Scale accurate and fill requirement in

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Start in the spring, birds are arriving be with and in the gening to push fo

Book. That is the whole series, and in you will be able to of our feathered frie

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are the practical heavy load scale for the farm as well as for contractors, builders, hay and grain dealers or coal merchants. Fairbanks Wagon Scales are simple, accurate and fill every weighing requirement in

**Capacities 5 and 10 Tons**  
Every Fairbanks Wagon Scale may be fitted with a Compound or Columbia Grain Beam, adaptable to graduation and standards required by the purchaser. Platforms are of steel frame construction and vary from 8 x 14 ft. to 7 ft. 11 in. x 22 ft.

**Fairbanks Pileless Wagon Scales** are the accurate scales for use where space is undesirable. Height of scale nine inches. This is an ideal outfit for farm, contracting and quarry use. Capacity 5 tons. All are exclusive of timber and foundations. Write our nearest branch for full particulars.

#### The Canadian Fairbanks-Morse Co., Limited

St. John, Quebec Montreal  
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### BOOKS

#### on BIRDS and FLOWERS

**Start in the spring.** Just when our birds are arriving back from the south and when the flowers are beginning to push forth the first buds. That is the time to study them and then follow through our whole series, and in one session you will be able to recognize most of our feathered friends and wild flowers of the fields and woods.

**Land Birds,** by Chester A. Reed, B.S. Contains six color plates to identify all birds found east of the Rocky Mountains. It describes their habits and peculiarities; tells where to look for them and describes their nests, eggs and song. Every bird is shown in color. Linen 11.00. Leather 11.35. Postage 5c.

**Water Birds,** by Chester A. Reed, B.S. This book is uniform in size and scope with Land Birds. It includes all the Water Birds, Game Birds and Birds of Prey east of the Rockies. Each species is illustrated in color from oil paintings; the bird's habits and nesting habits are described. Linen 11.00. Leather 11.35. Postage 5c.

**Field Guide,** by Chester A. Reed, B.S. A Guide to the Wild Flowers, 101 colored illustrations. The text tells where each is found and when it blooms, the height that the plant attains, etc. Linen 11.00. Leather 11.35. Postage 5c.

**Butterfly Guide,** by Dr. W. J. Holland. The first pocket butterfly guide which gives in full the natural colors each of the 265 varieties described. It makes the identification of our common butterflies a simple matter for amateurs. Index. Linen 11.00. Leather 11.35. Postage 5c.

**The Guide,** by Julia Ellen Rogers. It contains illustrations of 107 of our colored and many in black and white) and descriptions of trees east and west of the Rocky Mountains. An ideal volume for experts, naturalists and amateurs or for the exhaustive study. Linen 11.00. Leather 11.35. Postage 5c.

Book Department  
Farm & Dairy, Peterboro, Ont.

### YORK COUNTY HOLSTEIN "QUALITY SALE"

This is one of the big Holstein sales that breeders have been looking forward to from year to year. The class of stock offered at York County "Quality Sale" is the greatest desire of the breeders to give a square deal and is the opportunity for a good sale are some of the features guaranteeing its success.

York County is well known as a Holstein centre. The area includes a 33-lb. cow of the great King Sigh, a son, a full brother, half brothers and grandsons of the world's record cow, May Echo Sylvia, and sons of King B. Canada. York County has probably more thirty-pound cows than any other county in Canada, as well as more at all ages.

We feel sure the satisfied buyers at previous sales, and the determination of York County breeders to give satisfaction will, as before, insure the success of this sale.

The date of the sale, Wednesday, May 15th, is most opportune! The problem of cheap pasture and the necessity of a time when the prospects were better for good milk for butter and butter together with the bright outlook for the Holstein cow from the standpoint of the breeder. The demand for Holsteins of merit was never better.

The sale will commence promptly at 10:15, under cover at the Richmond Hill Fair, Phillips, and will continue in the stable Tuesday, May 14th, for inspection by intending purchasers.

Take the Metropolitan Radial from Toronto for Richmond Hill on Wednesday, May 15th.

#### THE OAK OR THE MUSHROOM—WHICH?

Once upon a time there was a man who planted a garden. He had never had a garden before and yet he started quite sensitively about it. He prepared the soil carefully, enriched it with fertilizer, pulverized it, and then deposited the seeds.

On the night of the first day, being a sane man, he went to bed as usual instead of watching over his garden to see whether the seeds were germinating. Even on the second and third days, and on the fourth and fifth, he was content to stay away, because he had faith in something else besides his own ability to prepare a seed bed and plant the seeds.

He trusted Nature. He believed that the shower which fell during the first week, and the wind which stirred up the soil, and the germs in his way at other intervals, and the tender shoots would eventually force their way through the earth even if he stayed away.

And it came to pass that the same man decided to see some other farmer's garden more about it than he did about the gardening, but the trouble was that he lacked the same faith.

He prepared the soil carefully, or had some one do it for him. He enriched the soil and deposited the seeds. But, said he to himself, he will not stay in something else besides his seeds? He did not. He stood right over his garden patch and a few minutes after the plants had been done he said: "Well, why doesn't it come up? Why don't I see some result? Show me something."

And because there wasn't a crop at most instantly, that man who knows that Nature must go through certain processes and who ought to know that advertising is as important as any human activity can be—lost his patience because the blooming thing didn't come up.

"Show me something!" he repeated. "Let's see what it is." He stood standing here watching that place and there isn't even a crack in the ground to show that the stuff is doing anything. The moral is clear. Advertising is a GROWING process, and it needs patience. The soil and air and rain and needs there needed, just as the garden needs. And just as the garden needs for growth is never instantaneous. The quickest of all things that grow are mushrooms, toadstools, etc., and they are the most fragile. Everything sturdy in Nature represents the slowest and the most lasting thing. And you would not hesitate to stand over a mushroom if you were advertising as a natural process.

In case any of our new advertisers are disappointed that their results have not measured up to the results of our former prominent and successful old-time advertisers, we would say, however, that they have not yet had the opportunity to try our present advertising. We would say that they should not throw up the sponge and quit. "Advertising is good." Rather than "Advertising is bad." It is like the ball rolling—keep it rolling—and wait for the natural growth of publicity advertising, and which eventually, if not immediately, assures a sure and profitable return.

Remember that for PERMANENT SUCCESS you must grow into the acquaintance, and your herd into the confidence, and permanent goodwill of your fellow breeders.

C. G. McKILLICAN  
Live Stock Department, Farm and Dairy,

### HIGH CLASS REGISTERED JERSEYS FOR SALE

Strictly Guaranteed as Represented.

I have at present some fine young bulls for sale. They are all from Island blood sires, and their dams are good producers. They range in age from one month to 1 1/2 years, and are all sturdy individuals. There are prices to sell from \$60 to \$100 each. Also some fine cows at \$200 each. If you are really interested in what I have to offer write or visit my herd of Jerseys, one of the finest in the Dominion.

T. J. HETHERINGTON

PETERBORO, ONT.

### R. O. P. CHAMPIONS

According to the R. O. P. reports a Jersey cow produced more butter fat during last year than any other cow of any other breed. We have now for sale Twenty Cows, fresh or springing, also Young Bulls, all ages. Some of these are closely related to the champion butter cow mentioned above.

B. H. BULL & SON,

BRAMPTON, ONT.

#### THE EDELEY CHAMPION HERD OF JERSEYS.

Write us about your next herd sire. We now have some of our present herd sire, Edgley's Bright Prince, who is a son of Canada's champion butter cow, Sunbeam of Edgley. Buy us a visit. Sunbeam of Edgley is not the only high-record cow we have. We are pleased to show our herd at all times.

JAMES BAGG & SONS (Woodbridge, C.P.R., Concord, O.T.R.) EDELEY, ONT.

### LAKESIDE AYRSHIRES

A choice selection of young bulls for sale from Record of Performance dams, imported and Canadian bred. Sires: Auchincraisin Sea Foam (Imp.), 3147; many times grand champion. Fairfield Mains Triumph (Imp.), 15137; a son of the noted Hobland Perf. Performer. Write for particulars.

Proprietor:

GEO. H. MONTGOMERY  
Dominion express Bldg., Montreal.

Manager:  
D. McARTHUR,  
Phillipsburg, Que.

## Protection and Profit

When money is in a Savings Account in

The Merchants Bank, it is absolutely safe

from loss, as far as you are concerned.

All the time it is here, it is earning interest

—so that the bank actually pays you to let

it take care of your money. Don't carry

unnecessary sums on your person or hide

them at home. Protect them against loss,

theft and fire by opening a savings account.



## THE MERCHANTS BANK

Head Office: Montreal, OF CANADA. Established 1854.  
with 112 Branches in Ontario, 31 Branches in Quebec, 13 Branches in Manitoba,  
21 Branches in Saskatchewan, 13 Branches in Alberta, and 9 Branches in British  
Columbia serves Rural Canada most effectively.  
WRITE OR CALL AT NEAREST BRANCH.

## The Urgent Cry of the Motherland and Her Allies to Canada Is SEND US MORE WHEAT

Ontario farmers have responded nobly, but still greater efforts are necessary if we are to win the conflict in which the British Empire is fighting for its existence. It may be asked HOW CAN THE PRODUCTION OF WHEAT BE INCREASED?

The answer is:

### USE SYDNEY BASIC SLAG

or at any rate use some kind of fertilizer. The most progressive farmers are increasing their consumption of fertilizers all the time because they find it pays. If you have never used any no doubt you have often thought of doing so. Drop us a line and let our representative, who is a practical farmer, call and have a talk with you. If we think it worth while spending our money in sending him to see you it is because we know that once we get you using Sydney Basic Slag you will be a permanent buyer for our mutual benefit.

### The Cross Fertilizer Company, Limited SYDNEY, NOVA SCOTIA

**LUMP JAW**  
The lump jaw is the only jaw  
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## AVONDALE FARM

Only one bull left that is fit for service. His sire is Champion Echo Sylvia Pontiac and dam a 34 lb. 4-yr.-old daughter of Stag Apple Korn-dyke 6th. We have, however, several others six months old.

### SHEPDS:

1. Champion Echo Sylvia Pontiac, son of May Echo Sylvia.
2. Woodcrest Sir Clyde, our 33 lb. bull. We are offering several of his milk calves at bargain prices.
3. King Echo Sylvia Johanna, a son of Bell Model Johanna and our twin 37 lb. cow, and a son of May Echo Sylvia by King Pontiac Arid Chamade. This young sire was bought by Quentin McMillan of Toronto, for \$5,300 at public auction.

We want to sell 100 calves in the next two months, and quality considered, are going to offer prices that cannot be met. We seldom have to keep them over five or six months.

The \$4,400 cow sold at the Brethren Sale was sold by our former herd bull, King Pontiac, and this \$2,300 cow by our Champion Echo Sylvia Pontiac. These are the highest prices by far, ever paid in Canada for these classes.

Send for pedigrees.

**H. Lynn, Avondale Farm, R. R. No. 3, Brockville, Ont.**

## SUNNYBROOK FARM HOLSTEINS

Only one bull of serviceable age left. Have three that will be ready in a couple of months. All from approved dams, and highly strained in the world's record book. Write for particulars.

**Jos. Kilgour - Eglington P.O. - North Toronto**

### KORNHOLD FARM

offers for sale a choice bull Korngold Emerson Burke, No. 3333, a son of a 31-lb. dam, well grown, ready for service, and a good individual. Write for Extended Pedigree and Price.

**F. J. McCALPINE - R. A. No. 1 - BLOOMFIELD, ONT.**

### CHOICE BULL FIT FOR SERVICE

SIRIS—Francis 3rd's HARIC 2nd, whose two nearest dams average 31.87 lbs. butter in 7 days, and 102 lbs. milk in 1 day. DAM—Minnie Palatin Wayne at 3 years old, butter in 7 days, 28.84 lbs. milk in 1 day, 96.8 lbs. Write for Description and Price.

**P. SMITH, R. R. No. 3, Stratford, Ontario.**

## EVIE STOCK FARM

Chesterville, Ont.

We still have on hand, a few yearling bulls and heifers, all from imported Dams and sire. Also this Spring's calves for sale. Anyone wishing to get something really good in pure-bred Ayrshires, will never have a better chance to look over and select from this stock. Our Mr. Deiorde on the farm will give all information and prices.

## PURE BRED AYRSHIRES

**J. & C. C. BALLANTYNE, Proprietors**

## STOP! LOOK! LISTEN!

What DUTCHLAND COLANTHA BIR MONA'S DAUGHTERS are doing. Lakeview Dutchland Arab, 547.9 lbs. milk, 34.6 lbs. butter. Canadian Champion Ben, 3 yr. old, Lakeview Dutchland Queen, 708 lbs. milk, 31.40 lbs. butter; one day's milk 108.2. Lakeview Dutchland Calamity Rose, 610 lbs. milk, 31.71 lbs. butter; Canadian Champion and world's record for 3 yrs. and 8 months old. We are offering for sale a show bull, mostly white, of serviceable age, sired by him, and whose dam is Lakeview Loustrange, 741.9 lbs. milk, 35.96 lbs. butter, one day's milk 113 lbs. Also several young bulls by same sire.

**Major E. F. Osler, Prop., T. A. Dawson, Mgr.**

Lakeview Farms, Bronte, Ont.

### CHOICE YORKSHIRE HOGS AT RIGHT PRICES

Roses and sows, all age, from best prize-winning strains—a few good bred sows, also young ones. R. C. White Leghorn eggs for hatching—50¢ per 25-egg strain. B. B. Brown Leghorns, Barred Rocks, R. I. Reds, \$1 per lb.; \$10 per 100. Fawn and White I. R. Duck eggs, \$2 per 11. Chinese goose eggs, 50¢ each.

**T. A. KING - MILTON, ONTARIO.**

### LOWBANKS HOLSTEINS

Our herd sire is FAIRVIEW KORNODYKE BOY. His first ten daughters were all tested and averaged almost 30 lbs. butter in 7 days at 3 yrs. old. His sire is DON-TIAC KORNODYKE, 155 A.B.O. daughters and 9 proven sons. Write us about a few young bulls from his sire. K. M. DALGLEISH, KENMORE, ONT.

### DONT STOP

that machine just because it has a few broken parts which you cannot conveniently replace. Have them welded by the OXY-ACETYLENE process. We repair broken parts of farm machinery or engines—in fact any broken metal, whether cast iron, steel, brass, or aluminum; melting together the broken edges and making the article as strong as new.

GIVE US A TRIAL.

Send articles by express. Write or phone for time required and prices.

**H. T. MILLARD, 225 HUNTER ST. Phone 1255, PETERBORO, ONT.**

## Holstein News

### ANOTHER 40 POUNDER.

**E. DITOR, Farm and Dairy.**—I am advised through preliminary reports and by wire that the Holstein-Friesian cow Leahy Veeman DeKok 16149 has shown a production of 487.7 lbs. milk containing 22.97 lbs. fat in seven consecutive days. She has increased at the age of 7 years, 10 months, 19 days. Her sire is Duke Wayne Veeman DeKok 1164; her dam is Leahy Veeman DeKok 1184. She was bred by Mr. Byron Barstow, Barstow, Wis., and she is sired out by Abbott & Clark, Cortland, N. Y. With this production she is the thirty-first cow to obtain this record in the Holstein-Friesian cow class with productions exceeding 35 lbs. fat in seven days. Computed on the 20 per cent. basis, the equivalent butter claimed for Leahy Veeman DeKok amounts to 41.9 lbs.—Malcolm H. Gardner, Supt. A. R.

### RECORD THREE-YEAR-OLD.

**E. DITOR, Farm and Dairy.**—I am advised through preliminary reports and by wire that the Holstein-Friesian cow, Superior Palmyras, 16141 (Twin) has broken the record for fat production in the junior three-year class of the seven-day division, by producing in seven consecutive days 651.1 lbs. milk containing 30.97 lbs. fat. She freshened at the age of three years five days. Her sire is King Stag Belmont Colubo 10169; her dam is Bloomingdale Hesper-ville Palmyras 9478. She was bred and is now owned by Mr. Oliver LaPrairie, Kilmara Centre, N. Y. In the junior three-year class of production the Unionform Lorenas, whose production for seven days is 655 lbs. milk containing 30 lbs. fat, stands second on the same basis, the equivalent butter production so far claimed for her would amount to 38.35 lbs.—Malcolm H. Gardner, Superintendent A. R.

### SOME CHOICE BULLS.

**M. R. L. ROBBERS, of Manchester,** who is now advertising a few choice bred bulls, forwards us the following notes on his best production. "In regard to foundation stock at Sun-zarbo, I bought with a view, more to butter production and compact type than had feeders with heavy flow of low testing milk. How far to have modernized is being borne out by some fine records and very high tests. Daisy Ormsby Lees, a daughter of my first producing foundation cow, recently made 31.46 lbs. butter from 551.8 lbs. milk. This year's crop of calves, through their sire, reached to Lakeview LeStrange, 731.3 lbs. milk and 31.06 lbs. butter; Taylor to Lakeview Batters, 794 lbs. milk and 37.84 lbs. butter, in 30 days eight months after calving; 61.28 lbs. butter each changed. Records when made; twice to G. & E. Canada Wayne Rose, first 3-year-old in change to make over 100 lbs. butter in 30 days; Chapman when made; twice to her dam; Lakeview Dutchland Calamity Rose, 610.4 lbs. milk, 31.71 lbs. butter; world's record 3-year-old; twice to Lakeview Dutchland Queen, 708 lbs. milk, 31.40 lbs. butter; once to Queen Inka DeKok, champion cow, eight months after calving, whose daughter, Lakeview Queen, is a champion in same class. Also another daughter, 544 lbs. milk, 35.30 lbs. butter."

### WALBURN RIVERS' GREAT HERD.

**R. BARNES, of Farm and Dairy** may think it unusual to see a live stock ad. occupying the most prominent position in our Special Farm Machinery Number, yet when you come to think of what is the dairy farm machinery that is of greater importance to the dairy farmer than the dairy cow. Mr. Walburn Rivers' extensive fortune in having the material wherewith to work up such milk and thus to be congratulated on his foresight in securing this prominent placing in Farm and Dairy.

Just a few words regarding these three cows and a few of the other excellent animals of his herd, which space would not permit to have featured on this page. Notice to her dam most interestingly around the new senior 3-year-old champion, Calamity, Snow Meenthilde 2nd. To begin with, as can be readily seen by the photo, she is a cow of practically perfect dairy type, and weighs about 1,600 lbs. This champion commenced her career as a producer at the age of one year and 6 months, when she made a record of 156.4 lbs. butter, 360 lbs. milking this up with 14,295 lbs. milk and 669 lbs. butter, in R.O.P. The following year, as a junior three-year-old she made a record of 21.89 lbs. butter, 442.1 lbs. milk when freshened. In her junior three-year-old she made 570.3 lbs. milk, 26.15 lbs. butter and 17.9 months later 607 lbs. milk and 26.30 lbs. butter—52.3 lbs. milk in one day, making four official tests practically within one year, the latter one almost five lbs. better than the first. In the same year she started her Canadian champion record in R.O.P. of 27.74 lbs. milk and 1,006 lbs. butter, the best-

### TYPEWRITTEN PEDIGRES

with records up to date. 110¢ a piece, including 2 extra carbon copies. Ten or more pedigrees in one order for catalogue work, including one copy only of each. 75¢ a piece.

**Catalogues**  
\$2.00 per page, complete, including making out of pedigrees. Orders should be sent in early.

The Canadian Holstein Sales Co.,  
Toronto.  
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### For MILK, BUTTER, CHEESE, VEAL

Holstein cows stand supreme. If you try just one animal you will very soon want more. Write for HOLSTEIN FARMER'S ASSOCIATION, W. A. CLEMONS, Sec., St. George, Ontario.

### More Work for Less Feed

Thirty here owners give their horses Fratts' Animal Regulator with the feed, and after a matter of 15 to 20 cents.

### Fratts' ANIMAL REGULATOR

Improves digestion, keeps the blood, bowels regular, cost money, cleanses your animals healthy, vigorous and productive.

At your dealer's in pigs, 25¢ halves and 10¢ lbs. bags.

Money Back if Not Satisfied  
Write for Free Booklet

**PRATT FOODS**  
608 CAN. ST.  
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## CURDALAC AND SPONGY PEPSIN

(STANDARDIZED)

The First and Original Peptic Compound. Not an experiment. Time-tried and a demonstrated success in the manufacture of Canadian cheeses.

## START-O-LAC

(LACTICACID CULTURE)

A pure culture of selected and tested lactic-acid-producing bacteria improving milk and cream, and improving the quality and flavor of cheese, cottage cheese, butter and buttermilk.

## GERMTOX

(NOT A POISON)

A scientifically prepared Germicide, Disinfectant and Deodorant. The ideal sterilizer for all dairy utensils.

The above products are sold by all dealers in dairy supplies.

Write to us for descriptive booklets and other desired information.

**PARKE, DAVIS & CO.**  
WALKERVILLE, ONT.  
MONTREAL, QUE.

Age's milkings—better for 4-year-old or more, made the following year for 614 lbs. milk in 7 days, 32 lbs. butter in 30 days in a better season. She is the sister Farmher he says—"His cow, 4 years old, has per cent, and she should be a good champion. I was not in the past 90 days, though she covered the period they cover out an equal in C. G. the next cow, and she gave me 32 lbs. milk in 7 days, and 72 lbs. butter in 30 days from the cow as a junior three-year-old. 22.7 lbs. milk in R.O.M. following mature record of 22.3 lbs. butter in the milk in one day, 84.0 lbs. butter in the milk and 11.23 lbs. the next full season. My Snow Wayne, who is his senior, gave 71.8 lbs. butter, R.O.M. her record 478 lbs. R.O.M.

Another cow, who is four years, is Du-Mechilde. She is 160 lbs. at an 11-year-old age. She did in one year and 11 months she gave 11.85 lbs. butter in 30 days and 718 lbs. butter in 1 year and one month again and made a record of 22.3 lbs. butter in 30 months after freshening. She is the sister butter as a senior present time she is 160 lbs. and with an average test of several of the other Breeder had are excellent, who has a 4th rank and 24.07 lbs. butter, best day's butter, best day's milk, Du-Mechilde Wayne said.

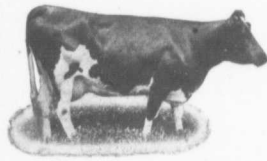
Nearly a bulls of excellent  
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Sale Comm.  
R. W. E. BUYER  
R. F. HICKS  
W. F. ELLIOT









IDELLIA DEKOL TENSEN—(17,000 lbs. milk in 1 year as a 2-year-old), one of the great "producers" in the herd of D. C. Platt & Son, of Hamilton—where Hinmans have been used for over two years in producing practically "Certified Milk."

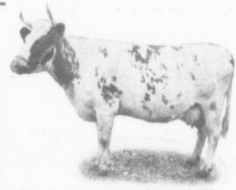
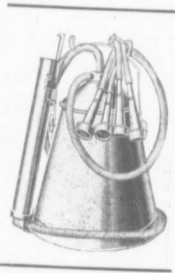
# Dairymen! 'Carry on' With a Hinman---

To the Dairyman who considers decreasing his herd this year—Keep your eye on the future. Dairy products MUST remain high for years to come. Grain prices will drop. Hold fast, therefore, to your dairy herd. Hold fast, too, because butter and cheese are two of the great needs of "Our Boys." "Carry On" with your herd. A Hinman will take care of your Milking problem better than a hired man—yes, and at less expense. The Hinman will give you that same satisfaction it is giving to thousands of our dairymen milking many of the finest herds in all parts of the world.

## Why a Hinman

We take a sufficient pride in our machine to say that we believe it the most satisfactory milking machine made for the Canadian Farmer. We do not say this boastfully, but considered from every angle, and based too on the experience of over 2,000 constant users here in Canada. Here are a few of the reasons why more dairy farmers have selected Hinmans—more Hinmans than all other machines combined:—

- 1. **SIMPLICITY**—No other machine in America is so simple of construction and easily operated as the Hinman. This eliminates practically all trouble. It means that practically a child can run it—boys of 14 are doing so.
- 2. **INITIAL COST**—The Hinman is inexpensive. You save \$150.00 to \$200.00 on the purchase price—you save this because the Hinman is simply built—but well built.
- 3. **POWER REQUIRED**—Just enquire the cost of buying a 3 h.p. engine as compared with a ½ h.p. motor such as is required to operate four Hinman Milkers. Not only is there the first cost, but you have the continued expense of running the greater power. That's poor economy.
- 4. **CERTIFIED MILK** bringing a much higher price is being produced by a number of Hinman users. That's the real test of the best machines. In the Hinman, the milk passes direct from the teat cups through short rubber tubes to the pail. There is no contact with the stable air—no long air pipe lines to make cleanliness more difficult. No rubber lined cups.
- 5. **LIGHT AND EASY HANDLING PAIS** is a feature of the Hinman, which appealed to the men on one of our big farms. You can imagine how much more it appeals to the women folks, one unit complete weighing about 16 lbs. only.



W. W. BALLANTYNE, OF STRATFORD, finds the Hinman a "great little machine" on his fine herd of Ayrshires. The cut shows Kirsty 2nd of Newpath, who at 17 years of age milked nearly 12,000 lbs. of milk. Mr. Ballantyne milks 20 head with 3 units and ½ h.p. DeLco motor.

- 6. **USERS OF HINMAN'S** number well up into the thousands in Canada—shrewd men with every breed of dairy cattle. These men have studied the question of milking machines from every angle. They know the best.
- 7. **WASHING AND CARE**—The simplicity of the Hinman makes it a machine easy to keep clean. This means so much in the rush season. It ensures sweet, clean milk.

## H. F. BAILEY & SON Galt, Sole Manufacturers for Canada, Ontario



**IN JUNE CLOVER.**—Part of the A. D. Foster & Sons' big herd of "Black and Whites" at Bloomfield, Ont. Constant users of Hinman's since 1915, at a running expense of only \$6.00. Mr. Foster says that one man can handle the 17 heavy milking cows in one hour in the heavy flow season. Sweet cream for city use is one of the Foster lines. The Hinman keeps it sweet.

If you are hesitating about purchasing a milking machine, just think of the hundreds of big pure-bred herds on which Hinmans are being used—herds such as Arboast Bros., (with electric power), D. C. Platt, and hundreds of others. And further still, if you throw out this question of milking machines, **THE HINMAN IS BEST.** But before you decide, just give us the information about your herd by filling out coupon below and mailing to us, and we can tell you to within a few dollars what a complete outfit will cost you, and also receive our beautifully illustrated catalogue free.

My Name .....

R. R. No. .... Postoffice .....

Number of Cows .....

Number of Rows .....

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## Success

### Calamity Snow Mechthilde 2nd

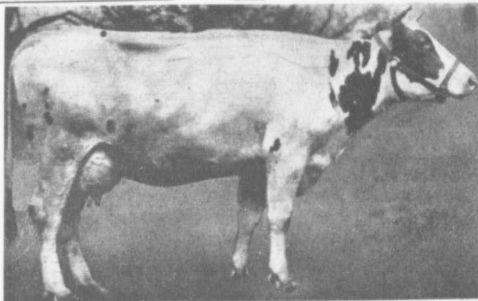
This champion has been a doer right from the word "go." Here are some of her other records: Senior yearling, 15.43 lbs. butter, 260 lbs. milk, R.O.M.; 14.395 lbs. milk, 669 lbs. butter R.O.M. Here are her other records: Junior 3-year-old, 3 months after freshening, 525 lbs. milk, 22.86 lbs. butter; senior 3-year-old, 607 lbs. milk, 26.30 lbs. butter.

Write us about her bull calf by our senior sire, Canary Hartog

### Get a Sire from one of these Cows

These three are not the only good cows. We have several others with records running from close to the 30-lb. mark, including a 27-lb. cow, whose dam is another full sister to the three on this page. Both these sisters of the champion have bull calves which are now for sale. If on the lookout for a good herd sire don't fail to write us.

### Calamity Snow Wayne Another Full Sister.

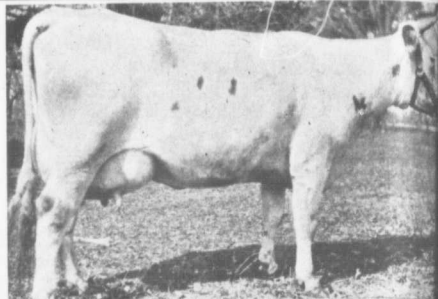


Records:—Senior yearling, 17.85 lbs. butter, 410 lbs. milk, R.O.M.; 15.951 lbs. milk, 718 lbs. butter, R.O.P.; Junior three-year-old, 478 lbs. milk, 32.21 lbs. butter, R.O.M.

### Calamity Snow Mechthilde 2nd Canadian Champion Sr. 3yr. old RolP

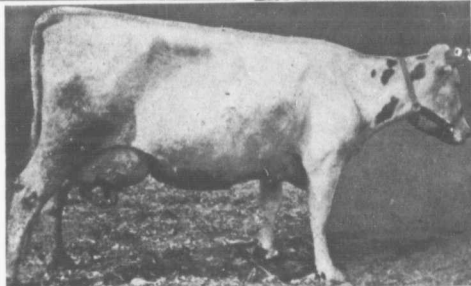
RolP Sr. 3yr.  
Milk  
2324 lbs.  
Butter  
1056 lbs.

RolM Sr. 4yr.  
Milk 7 days  
672.4 lbs.  
Butter 7 days  
32.71 lbs.  
Milk 1yr. 107 lbs.



### Calamity Snow Mechthilde. Full sister to the Champion

RolP Sr. 1yr.  
1528.4 lbs. Milk  
722 lbs. Butter  
RolM Mature  
Milk 7 days  
687.3 lbs.  
Butter 7 days  
27.23 lbs.  
Milk 1yr.  
101.4 lbs.



### A Word on our Sires

Our old sire, Canary Hartog, the sire of two of these calves, is of top notch breeding. His three nearest dams average 30 lbs. butter in 7 days and 198 lbs. milk in one day. One grand-dam is Royalton DeKol Violet, 30 lbs. in 7 days, 29.963 lbs. milk and 1,200.4 lbs. butter in 1 year. The other grand-dam has a 7-day record of 34 lbs. butter.

Our present sire is a son of Queen Butter Baroness, 35 lbs. butter in 7 days, a sire who is giving excellent results. We also have a few young bulls from him, which we are offering at tempting prices. Better come and see them. Visitors are always welcome. Even if you don't want to buy, just come and "browse around" for a day. If you haven't time to call, write or wire and we will try to suit you. The first step to success with Holsteins is to put the blood of champions in your herd. We have that blood as the above records show. Let us start you on the highway of Holstein success.

Walburn Rivers & Sons, <sup>R. R.</sup> 5 Ingersoll, Ont.