

Eighth Annual Dairy Magazine Number

FARM AND DAIRY & RURAL HOME



DEVOTED TO
BETTER FARMING
AND CANADIAN
COUNTRY LIFE



Peterboro, Ont. April 6, 1916

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That is a true if a somewhat hoary proverb. In all the realms of science, art and invention, nothing has ever been accomplished by any "sudden flash" of genius, but rather by the system of patient plodding and experiment, and the application of the wise man's principle of "line upon line, precept upon precept, here a little, there a little." That is the story of the development of the cream separator and the milking machine which finds its climax in the perfected



Simplex LINK BLADE Separator AND B. L. K. Mechanical Milker

It has taken many years of patient labor and experiment with all kinds of separators and milking machines to produce the now perfect **SIMPLEX SEPARATOR** and the **B. L. K. MILKER**, two of the greatest money savers and money makers on the modern farm. Write us for information on the B. L. K. Milker and Simplex Separator. Do it now. To-morrow you may have bought a milking machine that will be a disappointment. You take no risk with the B. L. K. or Simplex. They have been a demonstrated success on hundreds of farms throughout the Dominion.

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Two Years of Satisfaction

W. J. Barber, Prince Edward Co., Ont.

I HAVE used the B. L. K. Milker in my herd for two years, milking from 30 to 36 cows, using three units, milking six cows at a time. It has worked very satisfactorily, with no bad effects on either udders or teats. The cows take kindly to it, in fact, nervous cows can be milked with it; that can hardly be milked by hand at all.

It is a great labor saver, as two men can milk and tend to the milk in less time than five or six could by hand previous to installing the machine. Regarding the cost of the upkeep of the machine, I have found it very light—a few rubber tubes occasionally. I believe the milk is as free from bacteria as the hand-milked product, providing the machine is kept perfectly clean, which is a very easy matter by first rinsing in cold water and then scalding directly after each milking with a thorough washing once a week, which keeps it sweet and clean.

The milking machine is coming more in favor each year, and will, I believe, continue to do so, on account of the scarcity of labor and the good work some of the machines are doing.

Big Profit in Cows

J. H. Purvis, Ontario Co.

In answer to the question "What is the cost of keeping a cow?" perhaps the following may be of general interest. As we have a large herd of cows, and weigh both feed and milk, we try to find the actual cost of feed, manurial value, etc. We believe in the 20,000-pound cow, and might say that eight grade Holsteins, with an average of four months since freshening, have given 39,000 pounds of milk. We believe they will average 10,000 in the year. The cost of feeding is the big item, and as we feed ensilage the year round, we can arrive pretty near at the cost of production. Each cow receives the following each day in the 1915:

3 lbs. Cottonseed Meal at 14¢	54¢
3 lbs. Oil Cake Meal at 14¢	54¢
6 lbs. Bran at 14¢	75¢
40 lbs. Silage at 15¢ cwt.	6¢
Labor per day	5¢
Interest on cow equipment, etc.	2¢
Per day	31¢

Total For Year.

1,095 lbs. Cottonseed Meal	\$119.05
1,095 lbs. Oil Cake	19.05
3,190 lbs. Bran	27.37
14,600 lbs. Silage	21.90
Labor	18.25
Interest	7.30
	\$111.92

Manurial Value.

1,095 lbs. Cottonseed	\$ 3.00
1,095 lbs. Oil Cake	11.00
2,190 lbs. Bran	13.90
	\$37.60

Value of ensilage for manure would balance other roughage consumed.
10,000 lbs. of milk at 14¢\$175.00
Cost of feed, labor, etc. 111.92

Profit per cow (not counting manure)\$ 63.08
Value of manure, indirect profit 37.00

Total profit\$100.08

The cow that the dairy farmer needs is the one that converts feed into milk and butter and gives more milk and butter as the feed increases. Cows of this kind are practically all found within the four great dairy breeds.

An abundance of good fresh water is almost as important to the cows as abundance of fresh pasture grass. If there is a spring creek in the pasture, and good. If not, a windmill and trough make good substitutes.

The Dairyman's Friend

SUPPOSE one of your most valuable cows gets seriously injured or sick and you need a veterinary in a hurry. If you have a telephone you can call him immediately and save an animal that might otherwise die.

This is only one use of a telephone on the farm. Our handsomely illustrated book, "Canada and the Telephone," gives numerous uses. Send for a copy. It's free.

The Provincial Governments recognize the advantage of telephones in rural districts and practically all of them have done something to encourage the construction of independent telephone systems.

In Ontario, the Government has given municipalities the right to build and operate independent telephone lines. In Nova Scotia, the Government bonuses independent rural telephone systems. In Saskatchewan, the Government lends its support. And so on.

If your community is without telephone service it is high time to get busy and secure it. Call a meeting of the residents and organize. We will supply you with all necessary information free. Our experience in assisting in the organization of the majority of independent local and municipal telephone systems in Ontario is worth money to any prospective telephone system and insures getting started on a paying basis.

Our telephones are of the very highest quality and most modern design. Our construction materials are guaranteed first quality. Our prices are right. In many instances, we can do unusually well for our customers because we were fortunate to make large contracts some time ago at exceedingly favorable rates. The raw materials entering into the manufacture of telephone construction supplies have steadily advanced in price on account of the huge demands caused by war orders. There are certain to be further advances, too. Any independent local or municipal system should be sure to get our quotations before placing an order.

Canadian Independent Telephone Company, Ltd.

269 Adelaide St. W., Toronto

New Seed Oats Bruce's New Leader

The first to produce 5 mature grains in a spikelet. It is medium early, ear thick set and spreading, grain plump, white, thin husk, straw strong, of fine quality. It will give a greater yield than any other cereal in cultivation, and is adaptable to any soil. Pck 75¢, Bushel \$2.00 here. Postpaid, 25¢ lb.

BRUCE'S CONQUEROR. A new variety from Northern Europe, very heavy yielder, straw is strong, of medium height, grain is plump, thin skinned, nearly white, and makes splendid Oat Meal. It is hardy and ripens medium early. Pck 40¢, 5 bushel \$1.55 here. Postpaid 25¢ lb., 5 lbs. for \$1.00.

NEW O.A.G. NO. 72. A new variety, of exceptional merit, an immense yielder of fine appearance. It is a branching White Oat early, and the straw is good and strong, the hull is thin and the grain weighs well. Pck 60¢, bushel \$2.00 here. Postpaid 25¢ lb., 5 lbs. for \$1.00.
New 2½ bushel cotton bags 50¢ each extra.



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JOHN A. BRUCE & CO., Limited, HAMMONT
CANADA



FARM AND DAIRY & RURAL HOME



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. XXXV.

PETERBORO, ONT., APRIL 6, 1916

No. 13

Shall I Buy A Milking Machine This Year?

In Answer Several of Our Folks Contribute Their Experiences

I HAVE always been slow to advocate the milking machine very strongly; so people who have used them have not continued their use. Can now say, however, after using a Sharples Milker (three unit) since a year ago last July, that I would not think of going back to hand milking, and I cannot see why any man that can run a gasoline engine cannot operate a milker satisfactorily. Any little troubles we have had have been ordinary engine troubles, and only once in that time have we not been able to use the milker, and then I was away, both men had enlisted and I had had a new man only a week. A slight leak in a connecting pipe caused the trouble.

We have milked a four-year-old with it this winter that gave 160.5 lbs. of milk in one day, and a two-year-old that gave 91 lbs. in a day. I have milked the latter heifer continuously for 11 months, and she has now given 18,300 lbs. of milk in that time. Our herd are all pure-breds, and all test cows, etc., are milked with the machine.

Speed of the Machine.

With three units two of us can milk the cows in just about half the time we could by hand. One changes the units and the other does the stripping, which in most cases is only a few ounces; I have often found more milk in a cow's udder after hand milking than after a machine; but to get best results I would advise hand stripping.

The machine is best appreciated when the cows are milking heavy, as the same changing and stripping does, and this is where they make the time. One person that is used to it can run two units and do his own stripping, which we often do in the summer time, especially at the after dinner milking.

It is not the same trouble to get men to milk with the machine as it is by hand, and we do with one hand less; besides, my wife never milks now, and always did before we got our mechanical milker.

Repairs for test cup inflations, and everything to date, have been under \$4. We have had no udder trouble in any way since installing the machine, and cows seem to even like it better than hand milking; even when just put on they continue in some cases to chew their cud.—R. M. Molby, Ontario Co., Ont.

Produces Certified Milk

And Does It With A Milking Machine

E. A. PARSON, Carleton, Co., Ont.

I INSTALLED two B-L-K units in April, 1913, after giving a 30 day trial to another make of milker. From the outset they have given me the best of satisfaction. Since installing I

have not had to milk by hand more than six times at the outside, and this was not caused by the milker, but by some slight trouble with the power. Regarding the running expenses, as there is so



As Good As His Right Hand

IN the old Province of Quebec, where the dairy cow is supreme, is a dairy farmer who can very truthfully say, that his milking machine is worth as much to him as his right hand. Mr. W. F. Stephen, in a recent address at Lindsay, Ont., tells of this dairyman's experience as follows:

"One instance that has come to my notice of the benefits that may be derived from the installation of a milking machine, is that of a young farmer who had established a profitable dairy herd, and who was getting along very nicely and making money. He then met with the misfortune of losing a hand, which incapacitated him for milking, with the result that he had to sell out his herd and go back to grain raising. He found, however, that it was impossible for him to pay off the mortgage on his farm by grain growing. He then purchased a milking machine and re-established his herd of good dairy cows. He is again a prosperous dairy farmer."

This year many dairy farmers with two good hands will find the milking too great a task with the scanty and inexperienced help available. Thousands are enquiring about the milking machine. To give this information Farm and Dairy publishes in this issue letters from seven users of milking machines of standard makes. Our folks who thus testify to the merits of the mechanical milker, speak from experience, and their testimony is good.

One great trouble with most milkers is, the pulsators sticking, being erratic and generally causing trouble, especially in cold weather; the B-L-K pulsator is simplicity itself. It runs with extremely little attention, and is very easily regulated when desired. Now, as regards cleanliness, I am confident my machine is hard to beat, there are no inner linings to crack and accumulate filth, and as there are so few rubber parts about the machine at all, it is a comparatively simple matter to thoroughly sterilize all parts. My contention along this line, I think, is quite proven, when I state that I have been furnishing certified milk to Ottawa for nearly a year; in fact, I am the only dairyman in this district producing this class of milk. When you remember that the law requires certified milk to contain not more than 5,000 bacteria per c.c. for eight months of the year, and 10,000 per c.c. for the balance of the year, I think that it must be clear to anyone that whatever machine I am using, it must be capable of thorough sterilizing. I have had counts as low as 1,500, and plenty of 2,000 and 3,000 counts, and these, of course, are all taken by our city inspector from the delivery rig on the streets.

20 Cows an Hour.

As regards the time taken for milking, I know that it must take me more time than if I was not producing the certified article, as we have to take extra pains in washing udders and rinsing the machines, but even with it all, a man with two units will milk 20 cows an hour, and that much easier than he would milk 10 by hand. As for sickness or udder troubles, I do not know what it is, outside of the usual troubles at calving time, or when a cow gets a teat stepped on and badly cut; but contagious garget, etc., I have never had since using this machine, for the obvious reason, I think that there is absolute release from suction on the teat between each pulsation.

As to whether my cows like the machine or not; well, they have never said anything to the contrary; they are contented and happy, and give fully as much milk as ever. I can assure you that their owner would not part with his B-L-K for a lot.

Milker Now Essential

Two Years Successful Experience

W. E. THOMPSON, Oxford Co., Ont.

I HAVE been using a Hinman milking machine for nearly two years with very satisfactory results. When we installed this machine we were milking 12 cows. The conditions on which this machine was installed were 60 days' free trial, when, if satisfactory to me, I was to pay \$170 for the three units and the stable fixtures.

little rubber about these machines, the costs for replacements are practically negligible. As for experience needed to operate I must say that any man, with average intelligence, and a genuine desire to make machine milking a success, will get along with a B-L-K.

required only one man and myself one day to install this machine ready for operation. Having it in shape to do the milking at six o'clock. As my engine was in the dairy we had to use a belt from the line shaft to a spur shaft with a bevel gear on it connecting with the shaft on which was the crank that drove the pump rod. We found we had not sufficient power to drive the third unit, as my engine was only $1\frac{1}{2}$ horse power. Had the engine been connected direct to the crank shaft no doubt we would have had no trouble, but as we did not wish to shift our engine I then traded it off for a three horse power engine which gives us plenty of power and very little trouble. With this engine the rods are cut, the milk separated, and the milking done, all three operations going on at the same time, using about six gallons of gasoline per month.

In starting our machine we had Nos. 3 and 4 teat cups which we found too small for my cows, as they made the ends of some of the cow's teats red. We then exchanged them for No. 6 cups, and found them very satisfactory; indeed, having no trouble with them pinching the cow's teats or falling off. Here is where a man needs to use good judgment with his machine to have the teat cups right size and to run his pump shaft not more than 44 or 45 strokes per minute; if it is run faster you have not sufficient release between strokes, and the result is your machine will not milk so fast, and is liable to injure the teat udder.

Cleaning the Machine.

We keep the rubber tubes and teat cups in a solution of chloride of lime and water supplied us by the City Dairy Co., where our cream is taken during the winter months. Before starting to

manner as ordinary milk pails. We have never had any complaint as to the flavor of our milk or cream, due to our milking machine, and the milk is very much cleaner than it is possible to have it by hand milking.

We have always made a practice of stripping, as some cows do not milk right clean at all times, while others never require to be stripped. Some one may ask, How do the cows take to machine milking? I shall answer this by saying, The same as hand milking, but they prefer the machine when they get used to it; also, it is much easier to teach a heifer that has never been milked.

My machine has never cost me one cent during the time I have had it.

As the mouth-piece rubbers seem to be the only parts which give out, and there were a few extra pieces that came with the machine.

Time and Labor Saved.

One man who is accustomed to operate this machine can milk from 20 to 25 cows per hour in June or July when cows are in full milk, and the weather hot, and not feel he is burdened with



This Herd Prefers to be Milked Mechanically

The proprietors, Thompson Bros., of Vaudreuil Co., Que., write 'Farm and Dairy' that cows that kicked over many a gallon of milk when milked by hand stand quietly while the machine does its work.

or milking machines in use in this section of the country, and they seem to be giving entire satisfactory results, and most of them doing the milking for men who have pure-bred Holsteins. There is one redeeming feature about the milking machine; the dairyman who has one finds it easier to secure help, as it is not necessary to have a good milkster.

In conclusion, I would say, if you have plenty of help to do the milking there can be no advantage in installing a milker, but if on the other hand you, like myself, have to depend on hired help to do the milking, I feel safe in saying the machine will do the work at a much smaller cost and quite as efficiently as the average man, and besides it is always ready and at home at milking time.

The question is often asked, Do you think the cows give as much milk as when milked by hand? I can see no reason why they should not if the work is rightly done and the cows carefully stripped.

For A Classy Trade

His Machine Produces Certified Milk

R. R. NESS, Chateauguay Co., Que.

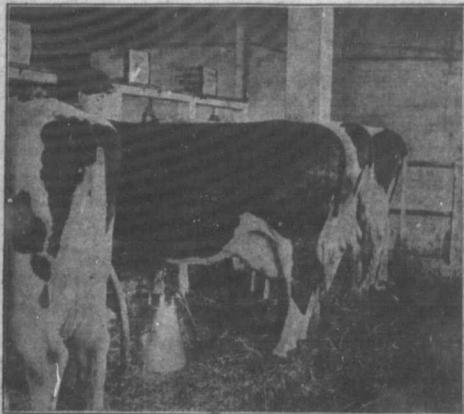
WE are pleased to be allowed an opportunity through Farm and Dairy to give to our card and steadily worked fellow-dairy men, the pleasing and relieving experiences we are having with our Omega milking machine. The milking machine question has been one of the things that we have been investigating for the past five or six years with a view to lessening our dairymen's work easier. At every opportunity we discussed and watched their work on trials at exhibitions. From information gathered and our own observations we decided that some of the machines offered were quite satisfactory.

At last the Omega was presented. We were induced to try it, and had it installed the first week of July, 1915—just in time to help do our hayings. It has given entire satisfaction in all respects, thus far, and we fail to see anything in the operation of it that leaves any doubt on our minds as to its being an altogether satisfactory milking machine. Our cows have all taken readily to it; they seem to prefer it to hand milking.

No Decrease in Milk Flow.

As to their giving the same quantity as of yore we cannot see any difference as yet. Some of our cows are doing much better this year with

(Continued on page 19.)



Agricultural Colleges and Experimental Stations are Now Milking by Machinery. This illustration was secured at the Nova Scotia Agricultural College.

milk the tubes and cups are well rinsed with warm water, then put together and the milking operation started. It requires only one man to look after the three units and empty the milk into pails or cans in the dairy where the cream separator is located. When the milking is over, the warm water is again drawn through the cups, the tubes to take away any milk which might be lodged therein. This is done by dropping the cups into a pail of water and pulling the pump handle four or five times. It is done by order to keep away dirt and all which is very injurious to rubber goods. The balls and covers, which are not heavy or complicated, are washed in the same

machine myself for the first four months. Then I secured a man who had previously worked in a factory. After a few days showing he took full charge of the milking, he being with me for eight months, after which a new man took his place and likewise took full charge. During these 22 months we have only milked twice by hand, both occasions not being able to use our engine, and no result of the milking machine.

As for sore teats and injured quarters, which we hear so much about, I am pleased to say we have never had a sore teat or a bad quarter due to the machine since we installed it, having only one three-teated cow on the place she being injured by an accident. There are a goodly number

From Hired Man To Farm Owner "via" The Dairy Cow

An Inspiring Story of Perseverance and Success in Dundas County, Ont.—By F. E. Ellis

AMONG the many prosperous and successful farms in the great dairy county of Dundas, Ont., no one deserves more credit for his accomplishments as a dairyman than does Wm. Bailey, the second largest milk shipper of the Chesterville district. It is hard to believe when one is acquainted with the farm of which to-day Mr. Bailey is the proprietor that just 22 years ago he was working as hired man on that self-same farm. Yet such is the case. Mr. Bailey has travelled to farm ownership over a road known to many others of our best dairy farmers of to-day—through the successive stages of hired man, tenant farmer and finally, farm owner. This road is often rough and hard, and many there are who get discouraged on the way and leave the farm for some other avocation. It is a road, however, that many of us will have to travel if we are ever to enjoy the independence that goes with the ownership of a good farm. And it was as an encouragement to all who must start as he did that indeed Mr. Bailey to tell me his story. It is for the same reason that the tale of this Dundas farmer is here related in Farm and Dairy—that other young men may see the possibilities and the reward of perseverance and energy applied to dairy farming.

I first became acquainted with Mr. Bailey on a pleasant day last June. I had spent the day before around Chesterville, and found that everyone spoke well of Wm. Bailey. I was advised to visit his farm. Just as I arrived at the gate, Mr. Bailey drove out with eleven 80-lb cans of milk on his rig. He was on his way to catch the milk train for Montreal; and milk trains don't wait on dairy farmers even though dairy farmers often have to wait on them. Mr. Bailey went on to the station, three and one-half miles away, and I took advantage of the opportunity to look over his farm and a couple of farms in the neighborhood as well. The Bailey farm is of the rich clay loam, characteristic of the district; soil ideal for the growth of clover, small grains and corn. The fields are level and easily worked. In short, it is such a farm and such a soil as requires careful handling, but yields maximum returns when managed well. It is part of the old Carlyle homestead, at one time one of the biggest farms in the county, but now divided into three farms, of which Mr. Bailey owns the 125 acres on which are the central buildings of the original farm. That is, 125 acres, more or less; a careful measurement would probably be nearer 150 acres.

Mr. Bailey treats his soil very much as he does his bank account—he is careful to put more into

it than he takes out. A systematic rotation is followed of corn, oats seeded to clover, and hay one or two years. Very seldom is the sod allowed to remain down more than two years. In addition to feeding on the farm all that is grown on the farm, and to the fertility added to the soil through clover, quantities of concentrates are bought each year to feed to the dairy herd, and indirectly these purchased feeding stuffs feed the soil. Thus is Mr. Bailey preparing for permanent

prosperity that comes by way of a fertile soil. The buildings stand well back from the road. The big red barns and the brick house are surrounded by trees, making a very attractive homestead. The main barn, in which are housed 32 cows and a quantity of young stock, is 113 feet long and 56 feet wide. The horse barn nearby is 70 feet by 32 feet. Two silos stand out prominently by the dairy building. One of these, 14 by 24 feet, was on the farm when Mr. Bailey purchased it. The newer silo, 20 by 24 feet, was erected a year ago. Mr. Bailey is in dairying more extensively than was Mr. Carlyle, and as he grows 25 acres of corn each year, lots of silo capacity is needed. Silage is fed all winter, and to some extent through the summer as well. The foods purchased to go along with the corn silage, clover hay, and chopped oats grown on the farm are gluten feed, with small quantities of cotton seed and oil cake. Straight oats are preferred to mixed grain, barley being objected to on the ground that it seems to "heat up the cow."

Mr. Bailey's Story.

In the meantime, Mr. Bailey had gotten back from town and started me out on a personally conducted tour of the premises. As we leaned against the pasture fence inspecting the dairy herd, Mr. Bailey told me something of his upward climb on the dairy ladder. He is an unassuming man, and told his story in an unassuming way. Had it not been for the additional details learned in the neighborhood, I might not have realized just what a worth-while success Mr. Bailey had achieved.



The combined milk and ice house is well equipped for city milk shipping.

We all knew of men born and bred in the country, given a training which fits them to be successful only in the country, but are not given farms on which to apply that training. This was the class in which Mr. Bailey found himself when he must needs leave the parental roof. He had the desire to farm, but not the farm. Accordingly he hired out with Mr. Carlyle at a small sum per month, and worked with him for three years. During that three years he did a lot of the hard work incidental to making the Carlyle farm one of the best in the neighborhood. He did not spend his money on a fancy driving outfit, and to such good purpose did he work and save that at the end of his three year period he quit, got married, and rented a 50-acre farm. He started right into dairying. The nucleus of his herd was five Ayrshire grade cows, which he purchased for \$20 each from his previous employer. "They were a little old," commented Mr. Bailey, "but they were all I could afford, and I thought they would do until I bred some." His wife brought him two cows and soon the number was increased to ten.

Milk and Pork the Specialties.

Dairying and pork were the specialties on that 50-acre farm. The milk went to the cheese factory at a low price, Pork sold as low as four cents a pound. But if prices were then low, the cost of living was low in proportion, and at the end of two years a 150-acre farm was rented near Morewood in the same county. Here Mr. Bailey

(Concluded on page 28.)



Herds such as this one, pleasing to look upon and profitable to milk, have raised the mortgage from many a farm.

A Catch of Clover Every Year

An Outline of the Cardinal Features of Clover Culture

SIMCOE COUNTY produces more clover seed than any other county in the Province of Ontario. Simcoe county farmers have been studying the clover crop for a great number of years and passing their knowledge along. A few of them go about each winter at Institute meetings, giving to others the benefit of the lessons they have learned through dearly bought experience. Of these, none are more appreciated than Mr. Henry Grose, of Lefroy. Mr. Grose was recently in Peterborough county speaking, and after one of his meetings, one of his audience remarked to him, "I have been wondering for some years why I couldn't get a decent catch of clover. I have heard several speakers on the subject, but you are the first one who ever went to the root of the matter. I know now that I have been burying it." Others were heard expressing themselves in appreciation of the very practical talk given by Mr. Grose. We are encouraged to believe, therefore, that a somewhat extended review of his address may prove of interest to Farm and Dairy readers. Mr. Grose has a style all his own, and we will not attempt to tell the story as he told it.

Mr. Grose first emphasized the importance of using enough good seed. He recommended 16 lbs. of pure clover seed to the acre, and then it would not be a bit too thick, either for hay or for seed. When it came to methods of sowing the seed, he advised all his hearers to go home, take an axe and knock the clover seed attachment off the back of their drills. These attachments, he believes, are directly responsible for many failures to get a catch. He then told of the way that he would sow the seed.

Don't Bury the Seed.

"You never had any trouble getting a catch of clover when you brushed the seed in, did you?" he asked his audience. They agreed that they had not. "You never had any trouble to get a catch when you scattered the clover seed on the early snow?" Again they agreed. "I'll tell you why," Mr. Grose fired back. "Then the seed was covered very shallow, if at all. Now you bury it. My way is to roll the land after the grain crop has gone in and then scatter the clover seed with a small hand cyclone seeder. This seeder will throw the seed over a strip 16 feet wide, and a man can cover a good many acres in a day. Then I harrow with the lightest harrow on the farm. I don't believe that clover seed should be buried over one-half inch."

"Do you pasture your young clover?" he next asked. A few farmers admitted that they did. Mr. Grose then explained the formation of the clover plant, how that the leaves and stems start from the crown of the plant, which is above the soil. When the young clover is pastured in the fall, the cattle nip off this crown and kill the plant. The richer the land, the higher the crown and the greater the damage done. "If you want clover you can't have pasture, too," was the way Mr. Grose summed up the situation.

He advised against allowing the clover to blossom the first year. In a favorable fall the clover will do this, and there will be no clover the next year, as the plant has then completed its life cycle. "Take the swather bar off the mower," he directed, "raise the cutter bar well above the crown and run over the field. Leave the clover tops right on the land. They will protect the crowns through the winter, and will add as much fertility to the soil as a nice dressing of manure."

Growing Clean Clover Seed.

Then the consideration of clean seed came up for discussion. "I am convinced that if you want clean seed you must spud your fields," said Mr. Grose. "There are too many weed seeds of the same size and weight as the clover to allow of it

being cleaned thoroughly by screening. Go over the field twice at least and remove all weeds.

"Clover won't grow with wet feet," remarked the speaker later. "Tie your farms for clover. Nothing will pay better."

The clover midge has long been known as one of the worst enemies of the clover seed producer. The pioneers in the business found that by pasturing their clover fields early in the season and then running the mower over it and taking a late crop for seed, the depredations of the midge were avoided. This is because the midge lays its eggs in the first bloom. The larvae crawl down to the root, and then come up again and attack the second or seed bloom. Growers to-day, however, wish to have both a crop of hay and a crop of seed, and Mr. Grose advocated cutting the first crop for hay just as soon as it starts to bloom. The digestible nutrients per acre in the crop cut at that time will be practically as great as if the crop were cut later when the clover has reached full bloom, and at the same time the operations of the clover midge are as effectually prevented as they were under the older pasturing system.

"Let the clover stand for seed until it is dead ripe," directed Mr. Grose. "Then cut when the dew is on. If you haven't finished cutting when the dew rises, stop for the day. Rake the clover when the dew is on and do not rake across the swaths, but with them, and rake the same way as you cut. These are small points, but they make the difference between profit and loss in clover seed production. Cutting and raking at any other time or in any other way, too large a proportion of the heads will be lost."

Many other points were emphasized by Mr. Grose, but these are the principal ones.

Soil or Pasture?

This Experiment Favors Pasture

E. S. LEITCH, O.A.C., Guelph, Ont.

THE problem that many farmers are endeavoring to solve is the proper relationship between number of acres and number of cows. Generally I would say that it does not pay to put a large herd of cows on a farm too small to afford pasturage for them. Our results at the Ontario Agricultural College go to show that as cheap milk cannot be produced in the stable in summer as can be produced on pasture. At Guelph we pastured 22 cows, which produced in four months 11,650 lbs. of milk at a cost of \$38.28. This figures out to a production cost of 46 cents a cwt. of milk, and 11 cents a pound butter fat. In the stable we fed 15 mature cows. They were better individuals than the cows on pasture. In the same four months they produced 56,290 lbs. of milk at a cost of \$426.21, which figures out to 86 cents a cwt. of milk and 22 cents a pound butter fat, or very nearly double the cost of milk produced on pasture.

One of the causes of high costing milk in the summer may be too much poor pasture. The natural grasses in Ontario do not produce pasture for the cows for more than one-half of the summer, and there is no part of the farm where manure and seed can be more profitably expended than in the production of an annual pasture crop. The seeding mixture that I would recommend for this purpose is one bushel of spring wheat, one bushel of oats, one bushel of barley and five to seven pounds of red clover. One acre of this annual pasture will produce more feed than three

*A synopsis of part of an address delivered by Mr. Leitch at the recent Ottawa Winter Fair. Mr. Leitch is lecturer in farm management at Guelph, and also the manager of the college farm.

acres of natural grass pasture. An experiment conducted at Guelph last summer illustrates this fully.

In one field we had 28 acres of arable land, four acres in natural grass pasture, and four acres in rough land and woods. The mixture mentioned was sown on April 30, with an addition of two and one-half pounds Canadian blue grass; two and one-half pounds meadow fescue, and two and one-half pounds orchard grass, and two and one-half pounds meadow fescue, and these grasses being added to provide pasture for the next year. On June 8 we turned into this field 14 mature beef cows, six beef heifers one to two years old, 14 dairy heifers one to two and one-half years old, four dry dairy cows and 22 milking dairy cows. Altogether we pastured on the field 75 head of cattle from June 8 to August 21. Then the 32 cows were taken off to second growth clover, and on September 8th the 14 beef cows were removed.

There was no time during the season when that pasture could not have carried more cattle. I will admit that last season, with its extreme humidity, was unusually favorable to such an experiment as this. The only supplementary feeding was to some cows running in Record of Performance. In an ordinary season the results might not be so good, but in any season they would more than justify this method of feeding. Natural grass pasture requires two acres to an animal, or \$5 a cow, rent or interest on moderately priced land. Then there would be another \$10 for the supplementary feeding necessary, or \$15 a cow. Our pasture carried 75 head at a total cost of \$548, or \$7.50 a cow.

Results from Cow Testing

The Dividends are Substantial

S. J. GOODLIFFE, Kings Co., N.B.

I CONSIDER keeping a record of the amount of milk given by each cow daily, to be very interesting work. It gets at the root of the question as to how a farmer can make his business more profitable. I commenced weighing the milk from each cow several years ago, and it took a season to get all hands into a regular habit of doing this. Consequently, my record for the first year was incomplete. The habit was soon acquired, however, and no one would think of not weighing his pail of milk before commencing the next cow.

My method of keeping this record was very simple. I ruled a sheet of paper and attached it to a board, changing it every Sunday. I entered the weekly totals in a book kept especially for the purpose.

The longer one keeps weighing out his poor cows the harder it becomes to pick out by guess work the one that gives the least milk, because they all grow to be good ones, and there is very little difference between the ones at the bottom of the list and those that are higher up. Then, again, a cow that gives a big flow of milk for a short season is usually the one that has the good opinion of those working around the herd, while the cow that gives her steady 200 to 255 lbs. a week all the year round, has not nearly the splendid reputation of her more spectacular producing sister. It is really the steady producer, however, that comes out on top. If a man does not keep a record of what each cow gives, he is likely to sell the steady producer in preference to the spectacular cow.

In regard to the increased production wrought in my herd by the practice of weeding out annually, according to amount of production, I will take the year after I started testing and compare it with six years later. In the first year the average per cow was 4,590 lbs., and six years later this had increased to 7,835 lbs. I have demonstrated to my own satisfaction that no time spent in working with the dairy herd is so profitable as that spent weighing the milk yields.

W. W. Ballantyne As A Farmer

A Visit to the Home of This Noted Breeder and Judge of Ayrshire Cattle

W. W. Ballantyne, of Stratford, Ont., is a farmer of parts. As a judge of dairy cattle, he has a continental reputation, having officiated at the leading fairs of Canada, and at many of the greatest fairs in the United States. When in Canada he is apt to be called upon to judge any dairy breed; even French-Canadians. When in the United States, he specializes on the judging of his favorite breed, the Ayrshire. Mr. Ballantyne also represents the dairy interests of his province on the Boards of the Winter Fair at Guelph and the Canadian National Exhibitions at Toronto. Not the least important of his many connections with the dairy industry is the fact that Mr. Ballantyne is the president of The Rural Publishing Company, and, therefore, as a practical farmer, associated with a number of others, he helps to frame the editorial policies of Farm and Dairy. He has one distinction, which can never be taken from him. He is the first graduate from the Ontario Agricultural College to have a son graduate. This brings me to the real subject of this sketch, to tell something of the farm that is now being run by Mr. Ballantyne and his son Norman, for Mr. Ballantyne has succeeded in keeping his son on the farm. After all, it is Mr. Ballantyne's success as a farmer and breeder, that has led to his appointment to the several official positions that he now fills successfully.

The Ballantyne farm is situated a couple of miles from Stratford in the county of Perth, Ont. The district in which it is situated is one of the most fertile farming communities of Ontario, one of good farms and of prosperous farmers. There are 200 acres in this farm, 40 to 50 in bush and permanent pasture, and 150 acres of workable land. The farm is rolling and tends to be stony in places, but anyone who knows would brand it as naturally a "right good farm." It has been a live stock farm during the 30 years that Mr. Ballantyne has managed it, and live stock, com-

bined with a systematic rotation of crops, have resulted in continually increasing production. The hoe crop is followed by grain, seeded down. Two crops of hay are taken, then one year of either pasture or wheat. The 14 acres of alfalfa, one of the most valued crops grown, although according to Norman it is "awful to plow," is not in the rotation. The hoe crop consists of 12 acres of corn, sometimes more, two and one-half acres of mangolds and one acre of turnips.

Silage Fed 21 Years.

Mr. Ballantyne is always ready to say a good word for corn ensilage; the silo he regards as a necessary adjunct to the profitable dairy farm. In endorsing the silo he speaks from long experience. The oldest silo on the farm, a rectangular concrete structure, 16 x 12 feet and 28 feet high, has already housed 21 crops, and was the first silo built in that district, and at a time when they were almost a curiosity in the Province. This square silo has given good satisfaction, although the wastage is a little greater than in the round type. Another silo, 12 by 28 feet, has been added right across the drive floor. Both silos are inside the barn. This latter is a circular stave structure, and is usually kept for summer feeding.

When I visited the Ballantyne farm last spring the Ayrshire stock was low, just about 40 head with 12 milking. There was, however, a long line of two-year-old heifers which would soon bring the milking herd up to normal strength. These two-year-olds exemplified the type that Mr. Ballantyne considers ideal for the Ayrshire breed. They were big, well constituted animals, due to freshen at 30 months of age. I might add, that it is in this policy of deferred breeding of heifers that Mr. Ballantyne attributes in no small measure the extra good size of his cattle.

Milk Records—Long Kept.

The herd was established in 1893, and since then the policy has been to breed Ayrshires, not deal in them. Individual milk records were kept



W. W. Ballantyne, the Senior Member of the Firm.

for many years before the Record of Performance was instituted in Canada. They were considered necessary to intelligent herd improvement. The foundation stock was largely of the Auchenbrain strain, imported direct from Scotland. That the selection was a wise one is proved by the fact that more notable Record of Performance cows are from sires bred on the Ballantyne farm than from stock of any other farm in Canada. Such notable producers as Annie Laurie, Primrose of Tanglewyld and Briery of Springbank, have near relatives in the Ballantyne herd. At the present time, all of the females are run, in the R. O. P. test, and if they don't qualify in the first lactation period, they are given another chance. If they do not then qualify, they leave the herd, most of the culls going to the butcher.

"We have made no big records in our herd," remarked Mr. Ballantyne, Jr. "We don't feed for them. We feed for good, satisfactory records that will be repeated year after year, and we want their daughters to be as good producers or better. We don't know of many great record cows with daughters of their own calibre. Our ideal is high, uniform production."

The present herd sire is a son of Briery of Springbank, one of the most notable cows of the breed, and his sire is Leasesock Forest King. In selecting this sire, the Ballantynes are really propagating their old original stock.

Feeding Methods.

"How do you feed?" I asked Mr. Norman Ballantyne.

"Father does the feeding here, but I can tell you the general plan followed. We aim to feed principally what we grow on the place. The concentrates purchased are largely bran and cottonseed. First thing in the morning we feed ensilage; then we milk and have breakfast. For breakfast we feed roots whole, and when they have been cleaned up, the cows get hay. At 4.30 in the afternoon we again feed ensilage and meal milk, 2 1/2 to a feed of hay, and the stable work is then done for the day."

Right off the cow stable, but effectually separated from it, is the pig pen, where the by-product of the dairy are turned to profitable account.

(Concluded on page 11.)



Choice Ayrshires in the Canadian Home of the Breed—Chateauguy Co., Que. A Portion of the Herd of Mr. John Logan.

The Primrose



A "One-Adjustment" Cream Separator

BEFORE the Primrose came, cream separators were machines of many gears and bearings, requiring all sorts of adjustments all the time. If you ever owned one, you know what that means. It was tightness this, and move that, —adjustments that you never felt quite safe in making yourself. You knew you were losing cream, but couldn't help it, and you found even a wasteful separator much better than hand skimming.

All those adjustments are now done away with. The Primrose is, in truth, a "one-adjustment" machine. There is only one place where wear affects the work of the Primrose, and that is on the hardened steel point that carries the weight of the whirling bowl. And since this point is made of finest tool steel, tempered like a fine razor, you can see that the adjusting will not take much of your time.

Ask the Dealing Local agent, who sells Primrose cream separators, to show you this machine that anyone can keep in perfect working condition all the time, or, write us at the nearest branch office for complete information. If you're going to buy a separator, you'll never regret the time you spend studying the Primrose.

International Harvester Company of Canada, Ltd.

BRANCH HOUSES

At Brandon, Calgary, Edmonton, Estevan, Hamilton, Kelowna, London, Montreal, St. Catharines, Ottawa, Quebec, Regina, Saskatoon, St. John, Winnipeg, Yorkton

SYDNEY BASIC SLAG

THE two elements lacking to the greatest extent in Ontario soils are Phosphoric Acid and Lime. Most heavy soils already contain potash in abundance, and farmers need not buy expensive nitrogen when they can secure all they want by the growth of clover. The cheapest and most effective method of applying Phosphoric Acid and Lime to the land is by the use of Sydney Basic Slag. Our make for this season is all sold, but if you want to know the merits of this fertilizer send us your name and address and our general Sales-agent will call and have a talk with you. Perhaps you could place a carload for next fall and benefit your community?

THE CROSS FERTILIZER CO., Ltd.

Sydney, Nova Scotia

The Dairy Situation Reviewed

Dairy Conditions in Nova Scotia

By W. A. MacKay, Prov. Dairy Superintendent.

IT is more difficult at this time to predict what the prospects are for dairying than perhaps at any former time, due largely to the fact that out of our 20 creameries, 13 men have enlisted for overseas service, and it is hard to compute what effect the large number who have enlisted from the farms in the province is going to have on the production end.

Outside of this fact, the evidence is for a considerable increase in the amount of creamery butter and some increase in the dairy butter and possibly a decrease in factory cheese.

A splendid demand continues for breeding stock of a higher quality and a determined effort is apparent all over the province for higher milk production. The work of the Cow Testing Associations and Record Centres is showing tangible results. In our Record Centres, where full yearly records are available, for the past two years on 216 cows, an increase in 1914, and similar results to a greater or less extent all over the province.

The creameries are in better condition than ever before. The output of 1916 showing an increase of 24 per cent. over 1914 and we might, I think, safely predict a still greater increase in 1916. The registration of creameries and cheese factories, which took effect last year, has had an apparent effect in better kept creameries, more sanitary, and many improvements made that otherwise would not have been made, and consequently a heartier cooperation and more confidence on the part of the producer.

An effort is being made at present to have cream grading adopted in all the creameries during the coming season. Many have already signified their intention of taking it up after the 1st of May, starting with two grades at present and paying a premium of two cents per pound on grade 1, over grade 2. This appears to be a practical assistance in the solution of the quality problem.

To sum up, the forecasts are: Better kept creameries, a heartier cooperation between patron and creamery man, and an increased output. The one great drawback is the high cost of production, due to the amount of feed that has to be imported.

Western Ontario Will Increase

Frank Hearn, Chief Dairy Inspector for Western Ontario.

THERE is preparation for an increased output of cheese in Western Ontario this coming season and the high price of butter is also stimulating that part of the industry.

Several additional creameries and cheese factories will be opened. Several cheese factories have been bought by the milk condensers and milk powder factories. A number of cheese factories and creameries continued operations during the winter and there is a general increase in winter dairying.

Since the first of January the inspectors and the writer have attended about 80 annual meetings of cheese factories and creameries. The attendance at nearly all these meetings was large and the patrons were optimistic regarding the future of the cheese and butter industry. The prices received in 1916 were the highest ever realized in Canada and producers are anticipating good prices for the coming season.

Owing to the increased cost of dairy supplies including rennet and color, some of the manufacturers have been

obliged to raise slightly the price for manufacturing cheese.

Greater attention is being given to cow testing and a wider interest in supplying good quality of milk and cream to the factories.

There is every probability of a shortage of farm and factory help this year. I have received several reports from different sections and every one mentions the question of a lack of farm help stating that some farmers in the community are selling their dairy cows on account of being unable to secure sufficient help. These cows are, however, being transferred to other farmers who are probably in more fortunate circumstances in so far as help is concerned, and therefore should not be lost to production. A number of farmers in the dairy sections are arranging to try and deal with the help problem. On the whole, however, as conditions appear they should be a prosperous season ahead of the dairymen.

From Eastern Ontario

G. G. Puhlow, Chief Dairy Instructor for Eastern Ontario.

PROBABLY dairymen have never had such favorable conditions surrounding the approach of a manufacturing season as those prevailing at the present time. Dairy products at any time, when of good quality, are always staple products and profitable commodities to produce. But seldom, if ever, in the history of Canadian dairying has the demand reached such proportions accompanied by such extraordinary prices. Therefore it seems most fitting that all those connected with this particular branch of agriculture should start the year with a clear understanding of the needs of the industry and the opportunities awaiting the individual to secure for himself, and his countrymen, at large the most beneficial results.

It is already at this date none too early for producers and manufacturers to make a careful inspection of their buildings and equipments with the idea of placing them in a suitable condition for obtaining the best results. The Dairy Act of Canada states specifically that all places surrounding the production and manufacture of dairy products must be maintained in a clean, sanitary state, and it is the intention of those in charge of the inspection of these places to see that the regulations are complied with even more fully than ever, because all have had sufficient time to make necessary preparations or alterations.

Let us first refer to the work of the producer of milk at the farm, and without going into a long discussion of details we can touch at the most vital part by simply repeating what we have said in varying ways before, namely, that the farmer controls in almost every conceivable way both the quality and quantity of the manufactured products, by the manner and condition in which he produces the raw material, which in this business is clean sweet milk. And let us repeat also, for it is not yet too late, for all dairymen to provide themselves with a supply of ice for cooling the milk immediately after its being obtained from the cows. Dairymen can do no better than to spend time to better advantage than in the proper cooling of milk and cream, to preserve its purity until it reaches the factory or creamery.

Factorymen, too, must in justice to themselves and their patrons, as well as in compliance with the laws of sanitation, put their places of manufacture in suitable shape for the assurance of cleanliness and efficiency

In the manufacture of the finished products, and this should be done sufficiently early because if left until after the manufacturing actually begins the manager usually finds himself too busy with the daily routine of work to devote the proper attention to the condition of his equipment and plant.

In all probability, many factories will re-open early in the year, with the idea of securing the highest of spring prices and these, no doubt, will be counteracted with the usual temptation to send their goods to market before they are sufficiently prepared for the consumer; the old story of green cheese, one of the greatest errors resulting from the lack of forethought on the part of the men who suffer most from its practice. No effort should be spared to stop this most detrimental of all defects in our early spring proceedings. Let us much rather keep in mind that it is the actual consumer who decides the demand and therefore, prices for our products and it is in whom we must satisfy.

The Saskatchewan Situation

W. A. Wilson, Dairy Commissioner.

I HAVE no reason to believe there will be much change in the development in Saskatchewan. Our farmers have not shown any evidence of going beyond their depth in so far as dairying is concerned and for the past eight years very steady and substantial progress has been recorded. In that time other inducements have interested but our dairymen, thanks to the steady market which we have, with their assistance, succeeded in developing, have given evidence that they will continue a safe and sane line of progress. Last year the campaign for greater wheat price indicators caused some interference with the production of dairy products. This year there is a possibility that the enormous grain yield of 1915, associated with war prices, will reflect in favor of grain production, but inasmuch as the increase in production of creamery butter in 1915 exceeded all prior records, and that a rather remarkable increase has taken place every year for the past eight years, it leads me to conclude that dairy farmers are not to be stampeded and that the end of 1916 will permit an official statement which will be quite satisfactory.

The market conditions are all that can be desired, especially for the best quality of butter. We look for an improvement in the quality as a result of the high standard in grading cream that has been gradually developed in a period of four years grading. The pasteurizing of cream for buttermaking purposes will constitute the outstanding advance step in Saskatchewan's creamery policy this year. Ninety per cent. of the creameries that have not been equipped for this work are now actually installing plants and an effort will be made to have the butter from the Province of Saskatchewan equal to the best offered to the trade.

Alberta Output Will Increase

C. MARKER, Dairy Commissioner for Alberta.

THE outlook for this year's dairy business in Alberta is, in my judgment, very encouraging. The satisfactory marketing of our dairy products in 1915 and the abundance of feed produced in all sections of the country will stimulate our dairymen to greater production.

During the past three years the creamery butter production has been increasing at the rate of practically 36 per cent. annually, and I expect to see a similar increase, at least in the butter output, of the 60 odd creameries in 1916.

I also look for a generous increase in the cheese production of a few fac-

ories in thickly settled districts and, especially in some of our large city areas. Owing to the higher cheese prices last year some of the latter were able to crank into cheese a fairly large "surplus" of milk supplies during the summer months by their regular milk shippers. This arrangement worked out to the advantage and satisfaction of all concerned.

The general adoption of the pay-according-to-grade principle in the buying and selling of dairy products in the western markets has given the dairymen on the farm, as well as the butter and cheese maker in the factory a real incentive to do his best in the production of more and better dairy products.

Given stable and satisfactory markets for his products, the dairymen will feel that he can safely extend his business along more permanent lines. He will be glad to avail himself of the service of various public agencies that are now at work to promote more economical production, and more profitable marketing. This point has been practically reached here now.

Dairying in British Columbia

T. A. F. Wanlock, Provincial Dairy Instructor for British Columbia.

THE area of land devoted to dairying in British Columbia is not his great, but it is capable of supporting many times the number of dairy cattle that it does at the present.

The developed lands of the E. & N. Railway belt on Vancouver Island and those of the Lower Mainland constitute, with certain of the Gulf Islands, the main dairy sections of the Province.

To a more limited extent dairying is also successfully carried on at Nanaimo, Armstrong, Kelowna, and Grand Forks. Around several of the cities of the interior, Kamloops, Revelstoke, Nelson, Kootenay, Cranbrook and Fernie, sufficient cows are kept for city milk purposes.

In the newer parts opened up by the Grand Trunk Pacific and Pacific Great Eastern Railways there are immense areas where dairying may in time be profitably followed.

In the Coast districts the grazing season is especially long, the growth of spring and fall grass good. In the interior especially, alfalfa flourishes and is quickly coming to the fore as an important and excellent feed for dairy cows. In many parts of southern British Columbia the winters are sufficiently mild to make expensive buildings unnecessary and cattle can be outside almost every day of the year.

The growing of fodder crops, corn, roots, clover and alfalfa, has been made the subject of special enquiry by the Department of Agriculture. Plots to test the value of certain green fodders have been started in a number of different districts, in others five-acre tracts have been selected to demonstrate principles of tillage and crop rotation, as well as the adaptability of crops to the different districts.

The building of sties for the storage of corn and other fodders in an economical and palatable form has also been encouraged, and a large number of these have been built during the past year.

Outside the town and city milk, cream and ice cream trade, which is very considerable in itself, dairying in the Province takes the form mainly of lettermarking. Besides two large plants for the manufacture of evaporated milk there are a. the present time 24 creameries in successful operation, four of which have been established during the past year. By the majority of these are owned by co-operative associations, the shareholders being mainly farmers who are directly interested in the development of the dairy industry.



"Good News for Farm Women"

Orange, N. J., March 1, 1916

Dear Mrs. Dairywoman:-

The bearer of good news is always welcome and I have some very good news for farm women. We've a new separator at our house and it's a wonder.

One splendid feature of this new invention which must have been planned with the comfort of the dairy woman in mind is the knee-high supply can. This does away with the hard, high lift no woman should be asked to endure day after day. It's only a few inches to lift and a tilt of the pail, even for a small boy. This is one item of good news.

Cleanliness is the beginning, middle, and end of good dairy work. You know how quickly the separator shows the effect of any slight leaning up in this direction. With dishes to wash three times a day, cooking utensils, calf pails, milk pails, etc., a big pile of separator cans is just about the "last straw", isn't it? But with our new Sharples there are only three pieces to clean, not one heavy, bulky, or fuzzy. This is the second piece of good news.

Formerly, a slight slowing of speed in turning the handle of the separator meant a loss of cream—and money. One's attention had to be strictly on turning the crank at an unvarying high speed, which was trying to both mind and strength. My third and best piece of good news is that

THE NEW SHARPLES SUCTION-FEED

Separator draws up into the bowl just the right amount of milk—always in proportion to the separating force. If you feel out of sorts, you may turn slowly and the bowl will drink up just enough milk for clean skimming and no more. If you feel spry and just enough milk for clean skimming and no more. If you feel spry and want to get through to sew, to trim a hat, or to visit a neighbor, turn as fast as you please and the same thickness. Smooth, sweet cream, such as the Suction-feed gives you makes quality butter that brings top prices.

The separator has only one thing to do while you have many tasks. The separator has always been a tyrant which insisted on being turned at regulation speed, whether you were well or ill, worried or happy, rested or worn out. But this new Suction-feed Separator meets your moods. Its speed is your speed and yet, it gets all the cream all the time.

Why don't you drop a postal to the Sharples people for their new book? Then, you can show your husband that this new invention will be a money saver for him as well as a labor saver for you.

Yours truly,
A Dairy woman

What this farm woman says in her letter is absolutely true. There are many other pieces of good news in our new book, "Velvet for Dairywomen," which fully describes this wonderful separator. Send for your copy today. Address Dept. 77.



The bowl is easy to wash. There are only three parts, and no lids.

The Sharples Separator Co.
Toronto Canada

PEERLESS PERFECTION

THE FENCE THAT STAYS "PUT"



PEERLESS Perfection is one of the easiest fences to erect, because it stays "put." It can be erected over the most hilly and uneven ground, without buckling, snapping or kinking. Every joint is locked together with the well-known "Peerless Lock." The heavy stay wires we use prevent sagging and require only about half as many posts as other fences.

Peerless Farm Fence

is made of the best Open Hearth steel fence wire. All the impurities of the steel are burned out and all the strength and toughness left in. Makes the fence elastic and springy. It will not snap or break under sudden shocks or quick atmospheric changes. Our method of galvanizing prevents rust and the coating will not flake, peel or chip off.

Send for catalog. It also describes our farm gates, poultry fencing and ornamental fencing.

Agents nearly everywhere. Agents wanted in unassigned territory.

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Insure Your Crops

WITH A

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THE GREAT SPRAMOTOR DISINFECTANT

You find it good business to insure your life, your home, your horse, then why not insure your crops upon which your livelihood depends? A few minutes' work with a Spramotor at suitable intervals will rid your crops of fungus diseases, and assure their arriving at maturity in that hard, beautiful condition that secures first grade prices. We have Spramotors adapted for every kind of spraying in every part of the world. Let us quote you prices and terms to meet your own special needs. Meanwhile, write for a copy of our booklet, which describes the various styles of Spramotors and gives valuable information about the treatment of crop diseases. Made in Canada. No duty to pay.

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100% Healthy

Records show that in barns and stables which are regularly disinfected with Zenoleum, not one single case of disease has appeared. This great Coal Tar Disinfectant is SAFE, SURE and CHEAP. It kills lice, mites and fleas. Used as a spray inside houses, barns, stables, pigeonies, poultry houses, etc. It destroys germs and thoroughly PREVENTS DISEASE. Used by Dominion Experiment Stations, Farmers, and by 50 Agricultural Colleges in Canada and United States. No danger of fire or poison. Ask your dealer for ZENOLEUM when you want a reliable, safe, powerful and economical Disinfectant. Write for Booklets. Your dealer can supply Zenoleum. \$1.50 gal. makes 80 gals. disp. Sample, 50c.

ZENNER DISINFECTANT CO., WINDSOR, ONT.

More Milk in Winter

More pounds of milk—and more butter-fat—come from thorough digestion of food. If the good of the food may be turned into profit if you keep your cows healthy—with the aid of

Pratts' Animal Regulator

The World's Greatest Digestive Tonic
25c. per quart, or larger water-saving size up to 95 lb. pails, 95c. ea.

Pratt Food Company of Canada Limited
68 L. Clarendon Street, Toronto

POULTRY



Preparedness in Poultry Raising

PREPARE now for a good crop of chickens. Hatch early—avoid late summer stock.

Early winter layers should be out of the shell early. A pullet hatched now is worth three in June.

Avoid twenty-second day chicks. Helping chicks from the shell is inviting trouble.

Darken the incubator to keep chicks quiet and induce sleep.

Remove chicks from the incubator when all are dry and do not feed for 36 hours.—College of Agriculture.

Artificial Incubation

By Michael K. Boyer.

FOR successful work it is necessary to have good incubators, good eggs, and good, common-sense management. The same directions that apply to one will not necessarily do for another make. Neither can the same directions successfully fit all conditions. But there are some matters that will generally apply to all incubators.

In the first place the machine should be strongly built of well-seasoned lumber. Next, it should be located in either a well-ventilated dry cellar, or in a double-walled room above ground.

The first proper step to be taken is to carefully follow the directions as given by the manufacturers. One or more hatcheries may be necessary to note whether the directions fit your conditions. If not, then there can be gradual changes made, as might be suggested.

Important rules to remember are:

Fill the lamps each evening, and never use oil of less than 150 degrees test.

Always begin a hatch with a new wick.

Keep the temperature of the egg chamber as near 103 degrees as possible, and keep the incubator away from the sunlight.

Test on the seventh and fourteenth days. Study the air cells of the eggs to determine if moisture or ventilation is needed.

After the fourth day turn the eggs night and morning, up to the eighteenth day.

Keep the burner clean from dirt, and scrape the charred part off the wick in preference to trimming it.

Never turn up the flame of the lamp so high that it will smoke.

In placing the eggs in the machine, have the large ends pointing the same way, and never add eggs after the hatch has started.

Cool the eggs after the fourth day, by placing the trays on top of the machine, and placing a thermometer on a fertile egg. As soon as the temperature has fallen to 90 degrees, return the trays to the machine.

If the air-cell of the egg is unusually large, add moisture; if small, give ventilation. The air-cell on the first test should measure about a quarter of an inch from the middle of the large end; about five-eighths inch on second test, and about three-quarters of an inch on the nineteenth day.

Incubating white and brown-shelled eggs at the same time in the same machine generally results in unsatisfactory hatch. The shells of the former are thinner than those of the

latter, and consequently require different treatment.

After removing the infertile eggs in order to have an even temperature for the eggs in the machine, spread out the fertile ones in the trays so that they will occupy about the same relative position to one another.

In selecting eggs for hatching have them of a uniform size, neither too large nor too small. Also reject thin-shelled eggs, and those having a ridge around them, or round and poorly-shaped ones.

Hints for April

IF the hens are used for hatching, set them in a dry place where the ventilation is good.

If the hens are not to be used for hatching, break them up and get them to laying again.

A good way to break up a broody hen is to put her in a light, airy coop, with a wire or flat bottom that can be hung up. This permits a free circulation of air and as it blows up through the fluff, it reduces the fever which is in her blood at this time.

This is the month to get out the winter layers.

Keep the windows in the henhouse clean, as the hens need all the sunlight they can get these days.

Hens suffer in a damp henhouse, so it is well to keep the floor covered with litter.

Let the poultry have a share of the sun milk.

If one has not had the nerve to use the open front house during the winter, better begin now by removing the windows on the south and use muslin.

Eggs from hens that have made a fair showing in laying, this winter, will be more fertile than from those that did heavy laying.

Keep a flock of hens, a good cow or two, prepare for a good grain this year, and it will not be necessary to complain of the high cost of living.

There never will be too many good businessmen, therefore strive to be among the best.

Incubator Should be Repaired

By C. E. Brown.

IN a few days incubators will be in operation. Whether the chicks are to be hatched early in March or not until the middle of April, it is time to look after repairs and to get the machine in shape. Repairs for the incubator may not be readily found.

If the incubator was neglected at the close of last season, it should be thoroughly cleaned. Removable parts should be taken out and washed and the entire machine should be aired and sunned. A 10 per cent. solution of genoleum should be used as a disinfectant in washing the interior of the machine. Failure to clean the burner and rinse out the lamp may prevent regular heating when the incubator is in operation.

Turkey Pickings

THE turkey crop hatched previous to June 1st, should attain good growth by last of November, the cock bird reaching 10 to 12 pounds.

The turkey is not fully matured until two years of age, and is in his prime at three years, and nearly as good at four years old. It is therefore a mistake to sell off all the older birds and retain the young ones for breeding purposes.

Young turkeys are of a delicate nature until they are fully feathered and have thrown out the red on their heads, which usually occurs at about three months of age. After that they are hardy, and may be allowed unlimited range at all times.

W. W. Ballantyne as a Farmer

(Continued from page 1.)

As cream is shipped from this farm there is much skim milk to be disposed of and porkers have been found most satisfactory for the purpose. In the past the plan has been to buy live feed and sell about two acres of hogs each year. Recently, however, good pure bred Yorkshire breeding stock has been purchased and pigs will be bred on the farm from now on. There is also a small flock of registered Southdown sheep.

Perhaps the most notable feature of this farm is the extensive use made of mechanical aids. Mr. Ballantyne and his son seem to have everything in the line of farm machinery from a pitch fork to their own threshing and silo filling outfit. Some idea of how they are solving the farm labor problem by the use of new and up-to-date machinery, was given in the last Farm Machinery Number of Farm and Dairy. In that article, however, I did not begin to mention all of the mechanical aids on the farm. The stable equipment, for instance, was entirely neglected. "It's a caution the amount of work we can do in a short time in the stable, if you only have the conveniences," remarked Norman.

Stable Conveniences.

And they have them. Just how convenient the litter carrier is, for instance, they discovered one day when it was out of commission, and 17 big wheel-barrow loads of manure had to be taken out in the old fashioned, back breaking manner.

We all know that cut straw makes the most satisfactory bedding, but that it cannot be carried on a fork.

In the Ballantyne stables a home made carrier runs right alongside the straw chute, and solves the problem nicely. The feed car which runs on an overhead track from the roof collar and slides down between the two rows of cows, anticipates the commercial feed carriers now on the market. It was invented by the Ballantynes themselves, and is superior to many of the most up-to-date carriers obtainable, in that it has two compartments, a big one for ensilage or roots, and a smaller one above for meal. This double compartment carrier is particularly convenient where the ensilage and meal are fed together, as is the practice on this farm.

Of course the cows are watered in the stable, a small gasoline engine pumping the water to a tank in the upper part of the barn. When necessary a hose is attached to the pump, the engine started up and wagons, buckets, sprayers, or the family automobile washed most expeditiously.

Conveniences in the Home.

The Ballantyne home was built many years ago before the Ballantynes owned the farm at all, if I remember correctly. The conveniences in the home, however, must all be credited to the present owners. The use of mechanical power has not been limited to the farm end. A two h.p. gasoline engine has recently been installed to pump water. A belt runs up through the basement floor into the kitchen, running the washing machine and wringer. The engine is situated outside of the house alto-

gether and noise and odor are thus done away with.

The running water system is most complete. Above the kitchen are most tanks for both hard and soft water. In the basement is a large soft water cistern. A system of changeable valves makes it possible to pump either hard or soft water with the same pump. The running water system has been in the house for 12 years, but until recently the pumping was done by hand, and, of course, kitchen and bathroom have both hot and cold water on tap.

Yes, the Ballantyne farm is a good one. And why shouldn't it be? So far as I know it is the only farm in the county worked by two graduates of an Agricultural College. The farm is a testimony to the value of such a training.—F.E.E.

Reduce Fire Risks

J. Fraser, West Westminster Dist., B.C. THE average farm building is a fire trap from one end to the other. It is full of readily inflammable material. Once started, a farm fire is very seldom stopped. We will suggest a few precautions which we take to reduce fire risks.

If a lantern is kept almost anywhere in the ordinary barn or stable, there is a litter or chaff around to take fire. The first precaution we would advise is to clean up the chaff and litter and eliminate this danger. Another precaution is never to set a lantern down where it can be knocked over. Everywhere in our barns we have convenient hooks or wires running from one end of the stable to the other on which the lantern may be suspended.

Spontaneous combustion is suspo-

ed to be the cause of many farm fires. Is there such a thing? A United States professor who has examined into hundreds of cases, states his belief that in almost all cases of so-called spontaneous combustion the heating of the forage was not sufficient to set the forage itself on fire, but that it set some smudge of oil or grease ablazing. The dirty lantern distributed by the hay mow is a prolific distributor of oil dirt. The best preventative is to throw down the hay by daylight. A lantern in which the burner is always kept clean, however, is not so liable to distribute oil.

We never let the tramps sleep in our barns, no matter how solemnly they swear that they will not smoke or throw matches around. They are a prolific source of farm fires. We restrain our own love for "the weed" when we are around the buildings. Farm and Fireside, compares a smoking man to a walking stick of dynamite, and they are about right. There may be dozens of other methods of reducing fire risks. These are a few.

Dirty feed pails are the most prolific source of summer scours in calves. The good herdman is always on intimate terms with his charges. We have even known herdsmen to carry pumps of sugar in their pockets for nervous cows.

It is only natural that the difficulty of rearing calves should increase as the productive quality of the herd increases; the nervous organization is then more fully developed.

The trouble and cost of boiling the strainer cloth after every using is greater than the first cost of cotton cloth. Have a fresh cloth for each using.



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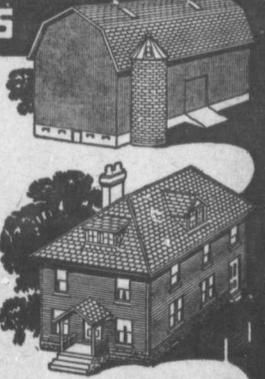
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If you will make those sudden stops,
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If rain will make muddy roads;

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Simple Concrete Wall Construction

CONCRETE walls are easily constructed and at low cost. These walls are especially suitable for farm entrances or enclosures about farm buildings. Where merely serving the purpose of an enclosure, such as a barnyard, it is not necessary to construct the wall more than six inches thick. Simple methods of construction are as follows:

The most important consideration in the construction of any wall is a firm foundation, sufficiently deep to prevent heaving by frost. In most localities this distance is three to four feet. When the earth is firm and the sides of an excavation will stand up vertically, it is unnecessary to use wooden forms for the portion of wall beneath ground level. A trench of the required width is dug, taking care that the sides of the trench are straight, vertical and fairly smooth. The width of all walls below ground level should be at least 12 inches. Where sandy or crumbly earth is encountered, it is best to use wooden forms below ground level. In depositing the concrete in the foundation trench see that no dirt falls into it, as this would weaken the wall. The proper proportions for walls below ground are one bag of Portland cement to 2½ cubic feet of sand to five cubic feet of crushed rock or pebbles.

When the trench is filled with concrete to ground level, a simple form, as shown in the drawing, is set in

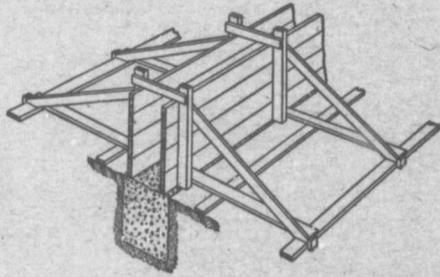
ings of considerable size the thickness of the walls should be eight inches, and one or two lengths of rods should be laid about two inches above the tops of windows, doors and other openings.

Good Hay and Good Wheat

Daniel Horst, Waterloo Co., Ont.

HAVING noticed in Farm and Dairy that you desire to have experiences of farmers in different kinds of farm work I thought I might give an experience of value to your readers. In the fall of 1915 I had eight acres of clover sod, which I intended to use for potatoes the ensuing year, so I manured it quite heavily, with the intention of plowing it down in the spring. When spring came one and three-quarter acres of the eight was too wet to plow in time for potatoes, so we left that strip for hay, and when haying came we took our good loads of hay from the one and three-quarter acres, which I considered was very good, as the average hay crop was light through here, many getting less than one load per acre.

After the hay was off we plowed the sod, and afterwards top cultivated for wheat and in the first days of September we sowed to wheat without any manure or fertilizer added, and the wheat crop last year on the strip was a wonder, it being too rank



Simple Form-Construction for Concrete Wall.

place. The surface of the foundation at ground level must be entirely free from dirt, chips or other foreign substances and the concrete roughened before depositing upon it the above-ground portion or wall proper. The minimum thickness of walls for very light structures may be four inches, although it is very difficult to deposit concrete in a wall this thin. A thickness of six inches is better for most purposes. The proportion of walls above ground should be one bag of Portland cement to two cubic feet of sand to four cubic feet of crushed rock or pebbles. Bank-run gravel may be used if the pebbles are separated from the sand by screening through a ¼-inch screen. For the above-ground portion of walls the forms should be made with care, the boards being carefully matched so that a smooth surface will be obtained in the finished wall. This result is obtained by spacing the concrete as it is being placed in the forms. Spacing consists of thrusting between the form and the wet concrete a thin wooden paddle. This serves to force the stone back into the concrete, allowing a rich mortar coat to flow against the forms. In walls above ground it is well to reinforce with small steel rods or wire mesh. This reinforcing runs in both directions and serves to prevent any cracks due to settlement or other causes.

Walls for buildings can be constructed as described, but for build-

as it lodged very bad some four weeks before it was ripe, thereby injuring the grain to some extent. I may have manured the piece too heavily, and again it had been an exceptionally good year for wheat; in an ordinary year it might have been just right.

Measuring Hay in the Stack

THE most common method of selling hay in the stack is at so much per load when it is drawn away. Occasionally, however, it is desired to buy or sell a stack as it stands. How can its contents be measured?

In the states of New York and Virginia, 55 stacks of hay which had stood less than 30 days, averaged 529 cubic feet per ton and 50 stacks which had stood from 30 to 60 days, averaged 531 cubic feet. Seven stacks which had stood from 74 to 155 days averaged 515 cubic feet per ton. These stacks were probably of ordinary mixed hay such as is usually sold in Canada, and from these figures we see little to justify the rule of 480 cubic feet to the ton which is sometimes followed on this side of the line.

Some of the states of the United States have laws governing stack measuring. In Wyoming the law provides 423 cubic feet to constitute a ton of native blue kent hay; 515 cubic feet for a ton of alfalfa and 450 cubic feet for clean timothy or clover after 30 days up to one year.



Fencing? Yes, but what kind?

The farmer who thoroughly examines the relative merits of the various brands of wire fences offered to him will not have any difficulty about deciding upon the one he ought to have. Let him decide by that most unerring of all tests—weight. Why judge by weight? Because weight means strength, and strength means durability and long life. Of the different makes of wire fences, there must naturally be one that will weigh heavier than the rest.

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Profit of \$43.90 Per Cow
By F. H. Westrey, Ontario Co.

HAVEN'T been engaged in dairy farming for the last few years, and finding the net profits quite satisfactory, I will endeavor to explain to your readers my opinion on the cost of keeping a dairy cow.

We use a mechanical milker and find that it gives excellent results. Our cows are pure-bred and grade Holsteins. This breed we consider best for our business for the following reasons: They have good appetites and capacities, qualities necessary for maximum results, and they are not picky eaters. We do not produce certified milk, but ship to one of the large Toronto dairies.

Cost of Keeping 20 Cows for One Year (1915.)

Pasture six months at \$1 per month	..... \$120.00
Silo full of well matured corn, 33 x 15	..... 240.00
Out chop, cotton seed meal, bran and other concentrates	..... 365.00
Two acres turnips, at \$25	..... 50.00
Salt, 1,000 lbs.	..... 5.00
Straw to balance manure, at tendance, milking, drawing milk to station each morning, one mile, etc.	..... 275.00
Interest on investment of 20 cows and milk, \$2,150, at 6 per cent.	..... 129.00
Depreciation risk, at 6 per cent.	..... 129.00
Use of stables	..... 30.00
Service fees, average, say, \$2	..... 40.00
Total	..... \$1,377.00

Receipts.

830 cans milk, at \$1.40 net	..... \$1,148.00
790 cans milk, at \$1.15 net	..... 908.50
Milk for use of house and sold at home	..... 73.00
Value of calves sold and on hand	..... 225.00
Total	..... \$2,354.50
Net profit	..... \$ 977.50

For one cow this figures out as follows:

Cost of keep, per year	..... \$ 68.80
Average receipts	..... 112.70
Net profit	..... 43.90
Average milk yield, lbs.	..... 6,949

Many dairymen go much over this amount, and we hope to do so this year, as we are continually weaning, but this leaves one very nice profit, and the writer finds the work very pleasant, and by using the milker the most disagreeable job (to many) is done away with. Of course all are not so well situated as we are. Before we commenced shipping our profits on butter were considered small. Now we hold stock in one of the Toronto dairies, and thereby get the best price all round.

Making Use of a Milking Tube
By Karl B. Musser.

WHEN the teat has been damaged in such a way as to necessitate the use of a milking tube, too much care cannot be taken in having the tube sterile.

No udder can be handled with good results if foreign germs are constantly being introduced by unsanitary milking tubes. Many times that quarter that is now blind could have been saved if the tube used in milking it had been washed well after each operation and then submerged in a five per cent. solution of carbolic acid until time to use it again.

There is no necessity for further

precautions if the hands are cleaned and the tube is inserted into the teat direct from the antiseptic solution. The tube should touch nothing after being taken out of the solution and until being inserted into the teat.

Infections in the udder are practically impossible to treat effectively, so precaution in the use of tubes, bistouries, teat openers, etc., will oftentimes save much trouble and expense, and that man may use a milking tube who is careless enough not to introduce foreign substances of an infectious nature into the udder.

Care of the Dairy Heifer
E. G. Woodward, Nebraska.

ALTHOUGH the first few months of the heifer's life is the most critical period of her existence, still many heifers are stunted, due to lack of attention after being weaned.

It is a rather common practice to have cows calve in the spring, yet this is not usually the best time. It is a fact that a calf born in the fall will get a better start in life than one born in the spring.

It makes little difference in the rate of growth of a calf whether it has pasture or has only dry feed in connection with its milk. But after weaning time the calf that has pasture will make by far the cheaper and more rapid growth. A fall calf will also be ready for breeding so that it will drop its own calf in the fall at the age of about two years.

Furthermore, a cow will give best returns when freshening in the fall. This is true because it is usually easier to maintain a steady flow of milk through the winter and early spring than during the summer and fall. Also, dairy products demand highest prices during the winter.

Feeding.

Until a calf is weaned it receives a liberal allowance of protein in its milk, but when milk is removed from the ration it is necessary to supply protein in some other form, such as legume hay or a high protein concentrate. It is advisable to keep the heifer in a thrifty, growing condition, although there is no need of fattening her. However, if she does become rather plump it will not injure her dairy qualities.

If fed so as to induce a thrifty growth yet not produce fat, dairy heifers will gain on an average close to one pound daily from the age of six months up to two years or calving time.

Six to Twelve Months Old.

Ration 1.—About two pounds daily of a mixture of 75 pounds corn chop and 25 pounds bran; all the alfalfa hay the heifer will eat.

Ration 2.—Six to 10 pounds silage; about two pounds daily of a grain mixture of 40 pounds corn chop, 40 pounds linseed meal or cottonseed meal, and 20 pounds bran; all the alfalfa hay the heifer will eat.

One to Two Years Old.

Ration 1.—About three pounds of corn daily; all the alfalfa hay the heifer will eat.

Ration 2.—Corn silage, 12 to 20 pounds; about three pounds daily of a grain mixture of equal parts corn chop, bran, and linseed meal or cottonseed meal; all the alfalfa hay the heifer will eat.

Breeding.

The proper age at which to breed a heifer will depend very largely upon the size and thrift of the animal as well as upon the breed.

Jersey or Guernsey heifers mature more rapidly than Holsteins or Ayrshires and hence are ready for breeding at an earlier age. The approved practice is to breed a Jersey or Guernsey heifer at the age of 18 to 17 months. A Holstein or Ayrshire heifer if in good thrift may well be bred at the age of 17 to 21 months.

Fatality in Colt

WE had a fine colt die recently. About Christmas he seemed to get dumpy although he still ate well. He lay around the stable until feeding, and then became very sick. He was continually biting at his legs and sides as though in pain, and his body broke out in sores. My veterinarian told me to wash with water, then apply vinegar and not let him feed and healthy, only giving him bran mash and such like. He kept getting worse, and the whole of both front legs and from root

tall to the ground were covered with sores. He did not seem to suffer much pain after the sores started to run, but ate scarcely anything.—W. A. B., Glenora, Man.

The symptoms are indicative of that contagion, incurable disease known as farcy, which is generally considered a form of glanders. If you have any more horses affected you must notify the Veterinary Department of the Dominion Parliament, Ottawa, Ont.



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The Merits of Corn Ensilage for Dairy Cows

Silos in General and a Chapter From my Own Experience—By M. J. Hogan
Readrow Co., Ont.

THE successful dairyman to-day is the one who runs his dairy upon the same principles that the merchant or manufacturer uses in his business. He is looking for opportunities to increase his output and at the same time decrease the cost of production. Many farmers will tell you that they cannot afford a silo. The question is not, can you afford a silo, but can you afford to be without it? A silo is the one thing that is absolutely necessary to the profits of the dairy, for without it, no dairy can pay the profit that it should be to a desirable investment.

To make the dairy pay larger profits, it is necessary that the cows should be fed upon some food that can be raised at less expense than the usual hay or grain crops, that will increase the flow of milk and at the same time be beneficial to the cow. This problem can be successfully solved by raising corn and putting it in a silo, the cost of which is much less than the cost of a barn that would contain as many tons of hay as the silo would contain of ensilage. Every farmer has land that would be benefited by plowing for corn, thereby clearing it of weeds and putting it in the best condition for re-seeding.

A Source of Much Loss.

Many a dairy farmer is raising corn to-day and actually losing a large percentage of the crop. Much of it is wasted in the field and more of it is wasted in the cows' manure, as the large, dry stalks contain but little nutriment and are not eaten, but are thrown from the manger into the yard to be trampled and trampled. It is certainly a poor policy, and a ridiculous practice to devote the use of good land to a corn crop, put in time and hard labor cultivating and caring for the crop, and then to allow a large share of it to be wasted.

This waste can be avoided in one way and in one way only, and that is by putting your corn in a silo; the succulent, juicy ensilage has much more than the feeding value of cured corn fodder. It is far richer in milk producing elements and more beneficial to the health of the cattle. Also every particle of ensilage is eaten with no waste whatever. Ensilage gives the cows through the fall, spring and winter months just the feed that they require to keep them in perfect health and produce milk. Instead of dry hay they receive rich, moist, juicy ensilage of a uniform quality, taking the place of their natural food, the pasture grass, which they get in summer, keeping in the best of condition.

Hay is Expensive Feed.

Hay is one of the most expensive, if not the most expensive, crop grown on the farm when it is fed to the dairy herd. When the average hay crop is usually less than two tons per acre, a good cow will consume the greater part of her summer earnings if wintered on hay alone. If we compare the yield of hay with that of corn, which often runs as high as 30 tons per acre, and when put into ensilage is sweet, rich, juicy and wholesome, every particle of it being eaten, with no waste whatever, it is obvious that feeding hay is not to be considered. When a couple of feeds of hay is saved per day by feeding ensilage, which keeps cows in milk as good, if not better, than hay, then it is readily seen that the cost of wintering the cattle is decreased by at least 50 per cent. Again, the succulent ensilage, which replaces the grain which must be fed with hay if we

wish to produce milk, increases the flow of milk and also does away with the feeding of grain and consequently reduces the expense.

The cheapest and most convenient way of harvesting the corn crop is to put it into a silo for ensilage. The work is all done and out of the way at one operation. The silo crop is removed from the land, leaving it ready to plow, the labor of putting the corn into shocks is done away with and the work does not depend upon the weather. If rain comes, the corn is not damaged for ensilage in the least, but is sometimes benefited by the water. There is no way in which the same amount of corn can be stored in as small a space all under cover in such a convenient manner and shape for feeding as in a silo.

The Surest Crop of All.

The corn crop is always sure. Every farmer who has raised corn, knows that the corn crop is the surest and most dependable crop that he can raise, for it is less affected by weather conditions than any other crop. It does not rely on the summer rains, which the summer of 1913 and 1914 proved to be very uncertain. The frequent cultivation in case of a serious drought keeps the corn growing when all other crops are drying up.

It is a problem with all dairy farmers how to keep more stock on their farms or how to keep the same stock that they have now upon a fewer number of acres and thus leave them more land to devote to other crops. To stock farmers, one of our silos enables them to keep the same number of cows on a far less number of acres, also deriving a larger profit from them, and at the same time be able to dispose of a large amount of hay or other produce without robbing the land.

The Writer's Experience.

So far the writer has refrained from speaking in the first person, but in order to substantiate some of the statements made above, he finds it necessary to do so. Having been a grower of corn for the last half dozen years and two years ago, having an extra large crop, I decided that it was almost impossible to save my corn crop without having a silo. About the last of June I purchased an Ideal Green Feed silo. Now as to this silo in itself, it has given me entire satisfaction, and although I have had it only two seasons, I can say with all veracity that it is an indispensable article to the farmer, and especially to the dairy farmer. I regret very much that I cannot give sufficient statistics, for the short time that I am in possession of this valuable article would not allow me to do so. I shall prove some of my former statements, however.

The silo which I had erected last summer is 12 x 28 feet. A silo of these dimensions is supposed to hold about 50 tons of ensilage. If I correct, for it just took about three acres of last year's crop to fill it. To show how quickly and with what little trouble that crop was saved, it just took three days from the time I began to cut it until it was stored in good condition in the silo. I fed from the silo all winter and I never found any of the ensilage damaged by frost. Of course the corn in the silo well saved, but this would not make any difference if it was not secure from the frost. Some of those farmers who have cement silos claim that near the wall of the silo the ensilage freezes. I have no proof for this apart from what I hear,

Fertilizer Quality

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When a smelter buys gold ore he buys not merely two thousand pounds but he insists on knowing how much gold is in the ore, and you should know the amount of active nitrogen, which is the gold of the fertilizer.

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but I am inclined to believe it, for cement attracts frost.

As to the cost of the silo, I must admit when I first considered the price of one, I thought it was steep, I would say now, however, that a silo is cheap at any price. Although I have had mine only two seasons, it has paid for itself in the short time. I have saved enough hay by using the ensilage, to more than pay for my silo, and not this alone, but I find that my cattle are in better condition this spring than they were when I fed extra hay. To the dairyman the

silo is an indispensable article, and to the farmer who is engaged in mixed farming, it is a necessity.

A newly erected silo adds value and completeness to your farm and the buildings on your farm. I must admit with humility and with apologies as a member of this locality, that I am the only one in the immediate vicinity who has a silo erected on his farm, although many of the farmers grow corn. I am sure, however, that the time is not far distant when they will realize that their uncut grown corn profitably without having a silo.

A Fine British Columbia Dairy Farm

Shannon Bros. Have Good Stock and a Completely Equipped Plant

GRANDVIEW FARM, the dairy and stock ranch of Shannon Bros., near Cloverdale, B.C., is the home of one of the finest herds of pure bred Ayrshire cattle west of the Rocky Mountains. In recent years this herd has been forging to the front, both in the show ring and in record of performance work. The farm, too, has more than a local reputation as one of the most modernly equipped and practically conducted dairy farms in the Fraser Valley.

The ranch is situated one and a half miles east of Cloverdale Station, on the British Columbia Electric Railway. It comprises 226 acres, of which 176 are under cultivation. The staple crops are hay, roots and corn. Feed ensilage, the latter being stored in a silo with a capacity of 100 tons. To supplement home grown feeds, a fair amount of concentrates is purchased. The farm possesses engine grinds all the feed, pulp roots and fills the silo. A pure water supply is gotten from a flowing artesian well, which has sufficient pressure and flow to supply all the water required for the farm.

The Ayrshire Herd.

The Grandview herd consists of 50 pure bred Ayrshires and 20 head of high grades. At present the herd is headed by one imported bull and one Canadian bred. The latter is bred right for milk production, as he is a son of Primrose of Tanglewood, an ex-world's champion with an R. O. P. record of 16,186 lbs. of milk and 626 lbs. of butter fat in a year. Among the females in the herd is a two-year-old heifer, Grand View Rose, with a record of 13,611 lbs. of milk and 526 lbs. of butter fat in 385 days. The average butter fat test of the whole herd runs around 4 1/2 per cent.

As certified milk is the main product of the farm, the milk ration of the calves is limited. They are fed whole milk until two months old, and for the next month one and one-half quarts milk with Blatchford's Galf Meal. In feeding the calves, several stanchions are opened by a strip above. When feeding, the stanchions are closed and the calves held in place for some time thereafter, thus doing away with the practice of sucking.

The cow barn is large and roomy, with plenty of light. The floors are of cement, the stall fixtures up-to-date, work facilitated by overhead litter carriers and, being reated all round, the temperature is kept uniform and the atmosphere sweet and clean. The system of ventilation installed is partly original with Shannon Bros., being an adaptation of the Rutherford system. The cold air intakes are near the floor and are indirect. The warm and foul air escapes through ventilators in the ceiling. This system works so perfectly that there are no direct draughts, but a constant circulation and even temperature is maintained.

The dairy house is equipped to handle high class market milk. The milk is removed as soon to the dairy building, cooled to 50 degrees, immediately bottled and held at that temperature till shipped. A steam boiler

of one and one-half h.p. furnishes hot water and steam for cleansing all utensils and power to run a small turbine brush bottle cleaner. All bottles, milk buckets, the bottle filler and cooler, are sterilized in a large steam oven at 180 degrees temperature for over 30 minutes each day.

Certified Milk with a Machine.

It is unusual to find a certified milk producer who, is also an advocate of the milking machine, but for three years now the Grandview herd has been milked with a three-unit Sharples mechanical milker. Concerning their experience with this machine, Shannon Bros. write Farm and Dairy as follows:

"We milked our first cow mechanically on the first day of August, 1912, and in about two weeks we were milking our 23 head. We got the cows that had to be milked on the left side well accustomed to the machine before we put it on them. We believe that a great many rush the matter of getting their cows on to the machines before they get accustomed to it. At the present time, we are milking 34 cows. Two men with the three units milk 30 cows an hour, and this including stripping the cows and carrying the milk to the dairy."

"The teat cups are washed every morning. A brush is run through the tubes that the milk goes through, and this requires about five minutes a day. The rubber tubing is then placed in a solution of chloride of lime till the next milking, when they are rinsed before using. As to the cleanliness of milk produced under these conditions, we might mention that in the recent Dairy Convention, at New Westminster, we tied for first place in the approved milk class with a score of 98. Our bacterial count has always been well down for approved market milk. We are satisfied that the milking machine is a great labor saver, as well as being more sanitary where reasonable precautions are employed."

In the poultry department at Grandview, 15 White Leghorns are kept. Pure-bred Gyrhedeal hens are an important addition, the stock consisting of three pure-bred males, three yearlings, and an imported mature and two-year-old stallion. In addition, there are several working teams and drivers. Shannon Bros. are endeavoring to run an all-round good farm and they are succeeding in their endeavors.

Practical

LITTLE Edna, four years of age, was saving her prayers just before jumping into bed. She was on her knees a few seconds when she turned to her sister, aged six, and asked:

"Why wouldn't it do to pray for our bread one a week or more a month? Why must we ask for our daily bread every day?"

"So as to have it fresh," replied the sister.

Business Men and Business Farmers Agree

In the great McGill Building in Montreal, where men of big business meet daily, immense quantities of Natco hollow tile were used.

On many prosperous Canadian farmsteads the same hard-burned clay tile is the favorite for silos and farm buildings. Business men and business farmers alike agree on the material that is weatherproof, decayproof, frostproof, verminproof and fireproof. Such is the

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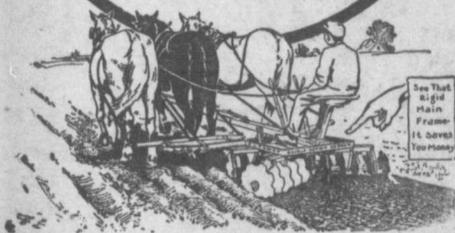
as well as after, with a CUTAWAY (CLARK) Double Action Disk Harrow; makes plowing easier, gives better results. Every particle of soil is thoroughly stirred because the rigid frame—a patented feature—forces the rear disks to cut just between the furrows of the fore disks.

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penetrate deep because of the cutaway steel disks forged sharp. The dust-proof, oil-soaked, hardwood bearings and perfect balance make it noted as a light draft implement. If your dealer hasn't the genuine CUTAWAY, write us direct. Send today for copy of new free book, "The Soil and Its Tillage."

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The Points of a Jersey Cow

Barley A. Bull, Secretary Canadian Jersey Cattle Club, Brampton

THESE breeds may be good, but in my estimation the Jersey cow is always a little better than any of them. She has been bred for economical production of milk and cream for several hundred years. She has been bred closely to one type for 800 years; that is, on the Island of Jersey. In America, fanciers have tried to make of the Jersey a dual purpose cow, one that will give in both production and in the show ring. The breeder who selects a sire because of production only, we believe, stands a chance to weaken constitution and the result of such breeding is almost always a cow with too much daylight under her. We dairy breeders must balance everything to get a proper machine.

When I am judging dairy cows I first take a look at the head. The cow's character is almost always revealed in her head, although, of course, no one point is infallible. In the Jersey we want a small horn, neck in-curling, but we do not lay too much stress on this small point. We do pay much attention to nervous temperament as revealed in good disposition and eyes, a distastefulness and a sharp, bright, but placid eye. There are two types of head in the breed. I myself think it is a mistake to favor the longer head. One that is clean cut with a wide muzzle and a good open nostril, pleases me.

The neck of the Jersey must be long. Such a neck is indicative of a good loose, open, working type of cow. The neck, too, should blend nicely into the shoulder.

Fade in Judging.

Some dairymen lay great stress in the openness of the backbone. They say if they can feel an animal's backbone, with their eyes shut, they know whether or not she is a good milker. I pay attention to this factor in conformation, but do not regard it as a first criterion. Other judges will immediately determine the length of a cow's tail. If it reaches a little below the hock she is a good one. If it does not reach to the hock she will not

make a milker. This, too, I would class as an "Old fogey" idea, although it is one of the points, too, to which we must pay some attention.

We Jersey men attach much importance to the shape and quality of the udder. We want an udder that is carried well forward and well up behind. If carried short behind and below, there is a tendency to a pendulous udder and fast troubles as the cow gets older. The pleasing of teats is receiving greater attention all the time. We find that this placing has much to do with the quality of the udder and our official score cards have doubled the points on teats in the last year. Milk veins on the other hand we are told, have received too much attention. And we have reduced the points on this. Old cows may have large and tortuous milk veins, although they have never been exceptional milkers.

Capacity indicated by Depth.

Now for constitution. I believe that a cow gets her capacity in depth and not width. Hence I would lay more stress on a deep heart girth, than on thickness through the heart.

The Jersey is not a large cow. Let me impress this point. It is for this reason that experts judge sent out by our Department of Agriculture, are so often unsatisfactory to Jersey men. They do not realize that a cow may be perfect from a Jersey standpoint, and not be as big as some of her competitors of other breeds.

The Jersey has been recognized in America as a solid colored cow until the last few years. Over in Jersey, American importers would not buy anything but solid colored animals. The result of this is that importers have recently found that if they would bring the best animals from Jersey, they must bring broken colored cows, and I would estimate that 85 per cent. of the best of recent importations have had some white on them. We are forgetting color in the Jersey breed, and it is right that we should. It is of little importance.

The Type of the Well Bred Holstein

A. S. Stevenson, Ancaster, Ont

WHAT is the type of the Holstein? Our breeders will be wise to get together and decide on a type and work for it, and not go so wildly for phenomenal records, as we have been doing. I have seen cows with phenomenal records to their credit, and seemed weak around the heart. Where are we going to, and breeding from cows such as this? This is a question for Holstein men to consider well.

The black and white cow is the oldest of the dairy breeds. They are the large black and white cattle of North Holland that have been bred pure for perhaps 2,000 years. I would emphasize that word "large." Mature cows of our breed should weigh 3,000 lbs. and mature bulls 2,000 lbs. or more. There is a tendency in some herds to breed too fine and small. We should keep away from this.

Now for points in conformation. We look for a longer head on the Holstein than you would find on the Jersey. We want a broad muzzle and we want a long neck. My experience is that cows with long, thick necks are persistent milkers. The cow with the short, bull neck is a spurt milker. A little width on the top of the shoulder is not objectionable in this breed.

The drooping rump is objectionable in any breed. It is usually accompanied by an udder that is slack in the fore quarters. This is one of the

*Synopsis of addresses.

weaknesses of some strains of the black and whites. There are other places, too, where we can improve. A good many of our cows have too much daylight under them.

Another weak point is the conformation of the udder. When we first went into Holsteins the breed, as a whole, had narrow udders. We have succeeded markedly in breeding away from this characteristic. The narrow udder is objectionable from many standpoints. For instance, we hear much nowadays of clean milk. We all know that the pendulous udder is a dirty udder. We will get rid of this character of udder in the breed through use of the right kind of sires.

The milk vein as a criterion of milk-producing ability is sometimes misleading. Especially is this true in an old cow. The vein may be large and tortuous, due to some well having proved an obstruction to blood flow. Still, however, we like a good development of veins.

Constitution is one of the most important points in dairy cattle. Making milk is a hard job on a cow, especially in the poorly ventilated stables that are too characteristic of this country. On no account would I buy a bull with a weak heart. Let us put constitution as one of the first objects in our breeding operations. Color is not usually regarded as important. A patch of mixed hair, however, is objectionable.

The Business Farmer

ONE day I took a little drive among the ruralites, to visit with a few of them, alac to see the sights. I saw one farmer hitching up a nag that looked run down; He had to wire his harness as he started out for town. I asked him pointed questions about what his income was; He said he could not give me an account of it because He hadn't kept the "diggers," but that 'twas easily guessed: He'd made "a durned poor livin'," and th' landlord got th' rest."

And then I saw another one crank up his motor car; He smiled when I approached him, saying, "Well, I see you are About to take a spin, but let me ask before you go, "How is it that a farmer can be spreading it on so?" "Why, stranger, let me show you how my business stands looks," He said, and took me in to where he kept a set of books, in them I saw a record, kept in simple, handy way, Which proved to me that business mixed with farming makes it pay.

—Charles H. Meiers, in Farm and Home.

The Type of a Dual Purpose Shorthorn

Prof. Geo. L. Day, O.A.C., Guelph, Ont.

THE man who has right good dairy cattle and is in the dairy business, would be foolish to make a change to the dual purpose cow. There are many men in the Province of Ontario, however, who want a dual purpose cow, and they have a right to the type they prefer. This is a free country, and free men may do as they will. It was to satisfy this demand that we imported some dual purpose cattle to the College a couple of years ago.

The dairy Shorthorn comes as close to being a dual purpose cow as any. The Red Polls have made excellent records, but we have few, if any, of them in Ontario. We have Shorthorns, however, and in developing dual purpose type we can start from the foundation stock we already have.

Generally, I should say that the difference between a dual and the Scotch Shorthorn type is that the former is a more angular animal than the latter. Dual Shorthorns trace back to the breed of Thoroughbred, and the type has been maintained ever since. One of the cows in the Guelph dairy test gave 36 lbs. of milk a day during the test. This is not big milking, viewed from the standpoint of the dairy fancier, but it is good milking for the dual type of cow. We have a cow in our own herd that has never given more than 43 lbs. of milk a day, but she did give over 11,000 lbs. of milk in the year.

The greatest difficulty that I can see in developing dual purpose cattle in this country is that of securing sires with much milk behind them.—Synopsis of an address.

Work for the Bull

FARMERS generally do not begin to realize the amount of power there is stored up in a big vigorous bull, writes Joseph A. Carroll, of Massachusetts, in the Farm Journal. We have here at the Elm Hill Farms a registered son of the great Colman's Johanna Lead, that we broke when he was three years old (he is six now), and he is as useful as any horse we have. He weighs a little better than 1,700 pounds in working order. We plow with him, harrow, furrow out, cultivate, run the woods, horse rake and tedder. On the horse fork he is a wonder. We have never been able to put a load on the fork yet that would puzzle him in the least, and that is more than I can say for the horses.

In hard going we put him in the lead of a pair of horses on the manure-spreader, and the combination makes a pretty good team. We make frequent trips to town with him, with wood, produce, etc. We have drawn one cord of hardwood at a load from here to Milford, five miles,

and the bull came home fresh as a daisy. For any work around the place that requires only one horse we use the bull, as he is just as handy and much stronger.

Bull and Stallion Team.

We have a registered Percheron stallion that we frequently hitch at side of the bull to plow, and they make as good a plow-team as a man could ask for. The bull was dehorned when he was a year and a half old. He can be driven with reins, but we use a whip mostly, and drive as you would an ox. For harness we turn a horse collar and harness upside down.

We have a herd of grade cows which we breed to this bull and raise all the heifer calves. He has sired some good ones. About seventy per cent. of his cows are heifers. Before this bull was broken he was slow at service, but now at five years he is as quick and vigorous as a yearling, and sure gallop. He has never shown any signs of being cross, and a twelve-year-old boy can drive him anywhere. We are going to buy an ox to work with him.

Work the Bull Till Old.

If farmers who make a practice of keeping a bull would only buy a purebred one and break him to work, then keep him until he is seven or eight years or older, and raise all the best heifer calves, they would find it a very profitable investment. A bull, worked either as a stag or with an ox for a mate, will do nearly as much work on a farm as a pair of horses.

The time has come when we must raise more heifer calves; and any farmer who is a little bit wise will not raise one from a scrub bull. Teach the bull to earn his keep in the yoke, and make him doubly profitable.

Age of Freshening

EDITOR Farm and Dairy.—In reply to your enquiry as to what we consider the best age to breed heifers, would say that I like to have them freshen at about 25 months of age, providing that they have been well cared for and are of good size. I think it better to have them freshen fairly young and then give them a little longer for their first lactation period, which I think will help to make them persistent milkers.

In breeding heifers at this age I like to feed a little extra for about a month before freshening, which I think will help to develop a good udder; then with the care that a cow giving milk should receive, we get a profitable return as two-year-olds, and thus instead of being at the expense of their keep they add to our income and get good sized at maturity.—The Wood, Perth Co., Ont.



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It looks what it is—a good car.

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It is a solidly built car that will stand the hard wear.

It has a powerful "Valve-in-Head" Engine of 30-35 Horse Power.

It has 32-inch tires and 110-inch wheel base.

It has genuine leather upholstery, hair filling and deep spring cushions.

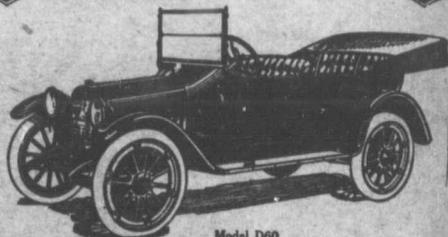
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It has electric self-starting and lighting system, and is furnished complete to the smallest detail.

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Worthy Representatives of Some of Scotland's Choicest Breeding.
Few sales of Ayrshires in Canada will attract as much attention as that of James Benning at Williamstown, Ont., on April 12, when his entire herd of national reputation will be offered at public auction. The splendid type of this herd is indicated by the animals shown above.

The Milker Endorsed

Milks 32 Cows in 35 Minutes—G. & F. Thompson, Vaudreuil Co., Que.

OUR Empire milking machine, we can decidedly say, does the work to perfection. No farmer with a large milking herd can afford to be without one. We have been using our machine for 14 months, and would not do without it, even if we had to buy a new one yearly. The cost of operating is very small: five quarts of gasoline per week, to milk 30 cows twice daily. The cows give their milk readily and prefer the machine, judging by the way they stand, as we now have no kickers; before we bought the machine several were very hard to manage and many a gallon of milk was lost. There has been no damage to our cows by extracting the milk this way, and our average per cow has gone up three pounds daily on last year, which is a sure proof that it is well.

Another item in favor of machine milking is the time saved, with us no less than three hours daily does this milker save us. We now handle 22 cows in 35 minutes, with four units, which we consider very satisfactory. The machine is very easily kept clean. We boil all the rubber fixtures once weekly, which removes all dirt and taste of rubber, then put in lime and water solution.

Any party who buys an Empire milker and is dissatisfied shouldn't have one, and it ought to be a pleasure for the company to take it away. We are very thankful such a machine is in use, and now, instead of a drudgery, milking is a pleasure.

For a Classy Trade

(Continued from page 4.)

the milker than last year by hand, others not quite so well. This point cannot be determined in a few months. In Prof. Leach's 17 day trial at Guelph, they found that the 10 cows on trial made a gain of 206 lbs. over the 17 days previous by hand milking.

We are decided that the Omega is a clean milker. We do very little stripping. Of course, there are odd cows that, for some reason, may not clean out properly, but very seldom. We can produce a much more sanitary milk. Our bacterial count has been much lower than by hand milking, accounted for by the complete use of celluloid tubes, no top lid to open and the test cups are always held up in position; even if by accident they should leave hold of the teats they are always kept up in position, and never drop where air or filth can be sucked in. The machine has quite come up to

our expectations, particularly as a labor saver. It needs a fairly competent man in charge to get proper results, and with one good man and an assistant, we can get more satisfactory milking than by the average hand milker to-day.

We can conscientiously recommend the use of the milking machine to anyone milking over 15 cows, but would also recommend some investigation of the different kinds, as the difference in price between a good and an inferior one can soon be made up in our daily operations with a herd of cows.

Quick Milking Increases Yield

QUICKNESS in milking is highly desirable. There is not only a saving of time, but there is also an increased yield," says an English exchange, The Farmer and Stockbreeder. Recent investigations carried out at the Garforth Farm of Leeds University have shown that the increase may be as much as 10 per cent. in the yield and from 30 to 40 per cent. in the butter fat. Slow milking results in a smaller yield, and the cows frequently get restless. There is no surer way of decreasing a cow's yield or to dry her off quickly than by slow milking, which does not remove all the milk in the udder.

It is probable that the average number of cows milked per hour is about seven; but there are many milkers who will milk ten cows per hour, and there are probably others that could do so if they tried. The time taken to milk any one cow will, of course, vary with the quantity of milk and the ease with which the cow can be milked.

Feeding at "Rosebank"

SILAGE and alfalfa hay are the mainstays of the ration for the big dairy herd at Rosebank Farm, the home of Mr. Henry Glendinning. The silage is mixed with cut straw, thus softening the straw and making it palatable. Generally, too, roots pulped by wind power, are mixed with the silage and straw. The Jersey cows are fed this mixture at six o'clock in the morning. After breakfast they are given a feeding of alfalfa hay. Occasionally when the alfalfa hay is short a little bran and cotton seed meal is fed with ensilage.

"When we have all the alfalfa we can use, we don't bother much with grain even for good milking cows," remarked Mr. Glendinning. "At night the straw, ensilage, and root mixture is again fed."

WITH LOUDEN EQUIPMENT

IT IS EASY

Your time during haying and harvest is most valuable. Save one-third of it by using Louden Hay Tools. They enable you to move larger loads easier and faster than in any other way. There are no delays at the barn for the user of Louden equipment. Louden Carriers with forks or slings will handle the loads safely and surely, and just as fast as they can be drawn from the fields.

THE LOUDEN JUNIOR CARRIER

Is at all times safe and dependable, because of its simplicity and its strength. For twenty years it has been standard, and on thousands of farms it is to-day giving excellent service.

THE LOUDEN BALANCE GRAPPLE FORK

Set the tines of the fork deep into the load. It will lift an immense bundle and deliver it in the snow in even flakes, not tangled up as is the case when other forks are used. Handles clover, alfalfa, loose grain or straw, as clean as timothy.

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- () Stalls and stanchions.
- () Feed and Litter Carriers.
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- () Barn Plans.

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FARM AND DAIRY

AND RURAL HOME
PUBLISHED EVERY THURSDAY



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The Rural Publishing Company, Ltd.
PETERBORO, ONT.

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

The Milking Machine

THE mechanical milker is a success. It has come to stay. Its use will increase until milking machines are as common on dairy farms as are self binders on the prairies of the West, or hay mowers in the East. The mistakes of early manufacturers have been largely corrected, until at the present time there are several standard makes of mechanical milkers on the market, and all capable of giving good service. The best of these machines are advertised in this issue of Farm and Dairy. The experiences of practical dairymen in their use are given on pages three and four this week. The writers of these letters have different machines, but all apparently are getting satisfaction. Some of these machines have been in use three years, which should be long enough to test the merits of any machine.

Now comes the question, who should buy? Difficult labor conditions this year have widened the field for the milker, and there is a place for it in the herd of fifteen cows or over. In fact, some dairymen with only a dozen cows have installed mechanical milkers, and consider them profitable. There are exceptions, however. The man with a large family of growing boys and girls to help him, does not need to buy a machine for the milking. Then there is the farmer who is a dairyman only on the side, milking a few cows for a few months of the year. He probably could not afford the investment. All other dairy farmers have a place for the machine.

It was once believed that the certified milkman would always have to specialize on hand-drawn milk, but it will be noted that Mr. Parsons, of Ottawa, Ont., and Shannon Bros., of Cloverdale, B. C., whose experiences are given in this issue, are both certified milkmen. The old idea, once so common, that it was a grave risk to install a machine in a pure bred herd, has long since been dissipated, and when such men as R. K. Nees,

R. M. Holtby, and W. E. Thompson, are not afraid to use the milker in their pure bred herds, why should the rest of us worry? Of course there are some men who couldn't run wheelbarrows and keep them in running order. These men will not succeed with the milking machine. But the great majority of dairy farmers have enough mechanical ability to run any of the standard makes successfully.

Treating Seed Grain for Smut

OVER \$5,000,000 worth of damage was done by smut to the cereal crops of Ontario alone last year. The loss in other provinces was also large. It is safe to say that the total loss for the Dominion was greater than the total amount contributed to the Patriotic Fund for the year, and it was a loss that could have been almost entirely prevented. Some of the causes of loss to the farmer are beyond his control, but this is fortunately not the case with smut. The most destructive forms, namely, stinking smut of wheat, loose smut of oats, and covered smut of barley, readily yield to the formalin treatment.

The necessity of keeping up production this year should urge us to leave no possibility for the loss of such a large percentage of our crop as was the case in 1913. The growing scarcity of labor, together with other factors, may tend to keep production below that of last year, but these can to a considerable extent be offset by a thorough treatment of our seed grain with formalin, thus preventing a repetition of smut losses. Keeping up the food supply of the Empire is one of the necessary conditions to the successful prosecution of the war, and anything that reduces the supply of food stuffs is working in the interests of our enemies. We are careful to inter-ally our supporters of the enemies whom we find in our midst, but what more active supporters could they have than the fungus and insect pests that work in our fields, reducing our yields of foodstuffs? Of all these pests, smut is the most destructive and the easiest to control.

The cost of the formalin treatment is about one cent per bushel. The expenditure of that one cent may mean a saving of ten bushels in next year's crop. It is plain that that one bushel of seed should be sown this spring without being first thoroughly treated to destroy smut spores.

C. C. James for Deputy Minister

THE transfer of the archives, patents and copyright, and guaranteed branches from the Dominion Department of Agriculture to another department, which also involves the transfer of the present Deputy Minister of Agriculture, Mr. G. F. O'Halloran, will meet the approval of those who believe that the agricultural interests of Canada are great enough to warrant the full attention of the Cabinet Department. Farm and Dairy has long advocated the change that is now being made, and has frequently urged that the Deputy Minister should be first of all an agriculturist. In this we have not sought to disparage the work of Mr. O'Halloran, whose legal and executive ability is beyond question. We have simply felt that the position should be held by a man having a more intimate knowledge of agriculture, and who was in closer touch with the conditions that surround the Canadian farmer.

The appointment of Dr. C. C. James as the new Deputy Minister is so logical as to scarcely call for comment. We venture to state that with the majority of farmers in Canada the name of Dr. James would be the first to suggest itself in connection with the appointment. No man in Canada has a wider experience or a more thorough grasp of Canadian agricultural problems, and his many qualifications make him obviously the first choice for the position.

Western Crop Prospects

THE phenomenal production of grain in the Prairie Provinces last year was a source of satisfaction, not only in Canada, but also throughout the Empire. Never before had the necessity of a good crop been so urgent, but never was the need more amply met. The efforts put forth by the Western farmers were almost superhuman, and a combination of circumstances, including a good rainfall, resulted in the production of the biggest wheat crop in the history of the West.

Just how far favorable circumstances contributed to that production is now becoming apparent. The crop for the previous year was light, with the result that the farmers had ample time to prepare a large acreage for 1915. Then the heavy crop of 1915 required the farmer's full time last fall to get it safely harvested, threshed and marketed, with the result that ample preparation was not made for the 1916 crop. The total acreage prepared for 1915 was 13,375,615, while that prepared for 1916 is only 8,028,061 acres. It is thus evident that, in the production of the bumper crop of last year, reserve effort for 1914 was used up, and large borrowings were made from effort that should have gone to the production of the 1916 crop.

It is becoming clear that under no possible combination of circumstances can the yields of last year be repeated. It can hardly be expected that the weather, which is still the controlling factor in crop production, can be more favorable than it was last year. Instead, the chances are that it will be less favorable. With a reduction of over 5,000,000 acres in the prepared acreage, and with a labor problem more acute than ever, we should prepare ourselves for a considerable falling off in the crop yield of Western Canada in 1916, as compared with last year.

The Value of Dairy Records

THE man who is certain of his ability to "pick a winner," in buying dairy cows for his herd, frequently picks a boarder. The troublesome feature of the transaction is that unless he keeps dairy records he may continue in his belief, sublimely unconscious of the fact that it is losing him money every day he continues to milk his unprofitable cows. One of the United States Universities recently staged an experiment which completely upset the judgment of a goodly number of these sure judges. Several pure-bred Jersey cows were selected from the college herd. To all outward appearances they were of equal merit and opinion was divided among those who were asked to select the best cows of the bunch. All seemed agreed that there was little difference in the dairy merit of the cows selected. Fortunately, however, records of this herd had been kept for several years back, and one cow of the frequently picked as the best by supposedly competent judges, was one of the poorest cows in the herd; she gave only one-third as much milk as another cow that did not meet with as great favor when judged by external appearances.

A similar demonstration might be arranged from almost any untested dairy herd in Canada, provided sufficient time were given to test the cows before hand. The only sure way to eliminate unprofitable cows is to keep records of the production of each and every cow in the herd. In the majority of herds in this country the cows are now beginning to freshen. Now is the time to start testing, and we would suggest that one of Our Folks who are interested will get much assistance by writing to Mr. Chas. F. Whitley of the Dairy Division, Ottawa. Next to the distribution of pure-bred dairy sires, the work being conducted under Mr. Whitley's supervision is doing more than any other one factor to improve the grade herds of the Dominion.

Activities of District Representatives

LAST year one of our club members tried to produce his own seed of White Cap Yellow Dent corn. At a recent meeting he showed those present the results of a germination test of this seed which averaged 92 per cent. strong germination. This brought up a new discussion on the advantages of seed testing, after which several farmers intimated that they were going to test every ear of corn before planting in order that they would get a good strong stand. As a result of the variety test we placed in the County last year, the Club's order is for Golden Glow corn this spring as the White Cap they ordered last year footed the list in our test.

On Wednesday afternoon there was a meeting of the West Haldimand Junior Farmers in Hagersville. The Association decided to order a car of New Brunswick potatoes. Choice cooking potatoes will be laid down at Hagersville at \$1.90 per bag, (30 lbs.) and Irish Cobbler seed potatoes at \$2.10 a bag. This car comes with the broadest kind of a guarantee, and will be financed by the bank. Other supplies will be procured through the Association in due season.—Geo. L. Woltz, Haldimand Co.

Oxford Milk Producers Set Prices.
At the meeting of the Executive of the Milk Producers' Association, held in the office on Saturday, prices were arranged for the next six months and submitted to the City Dairy office. The prices set were, \$1.60 for April and \$1.40 for the next five months, which means a rise of six cents per hundred pounds over last year's prices, to which the men believed they were entitled on account of the increased cost of the production of milk due to the scarcity of labor. I have just learned from the secretary this morning, that the prices had been accepted, and are agreeable to the City Dairy Company.

As a result of turning down an order of 120 bushels of poor clover seed, in connection with one of our Farmers' Clubs, in favor of 400 bushels of No. 1 seed, the same club placed an order for 600 bushels of Extra No. 1 Seed Corn at \$3 more per bushel.—G. R. Green.

Grey Co. Farmers Installing Electric.
In accordance with a request received from Engineer Purcell of the Hydro Commission, we spent one-half day with him at Thos. Mercer's farm for the purpose of planning for the installation of electric power. Mr. Mercer intends to install a 10 h.p. motor for rolling and grinding grain, root pulping, silo filling, etc. He is also installing a one or two h.p. motor for pumping and local machinery in a work shop. A small motor will also be used for churning, running the washing machine and cream separator. Mr. Mercer's farm will be the first in Grey to make use of Hydro power.—H. C. Duff.

Village Labor for Dundas Co.
"I am arranging to cooperate with the reeve of some of the villages in the county in getting together a list of young men in those particular villages, who have no regular occupation, and who possibly would be available for work on the farm. There are a number of such young men in all the villages in the county, and I think by getting the question to them fairly that they would see that their duty at the present time is either to fight or help produce. As the spring advances the need for a supply of help on the farm becomes more evident.—E. P. Bredt.

Retired Farmers of Simcoe Responding.
"Our appeal to the retired farmers living in towns and villages in the county is being pursued vigorously, and is proving that there are a great

many men still capable of doing a good deal of work, who are not fully employed and might take the place of an active young man so that he could go to the front. We wrote to different parties in each town and village, asking for lists of retired farmers, and although only a few of the smaller places have been heard from, we have 114 names. Each of these men is being furnished with a circular. I know that most of the retired farmers go out to the old farm every summer in busy times. Others have their time partly taken up where they reside, but by a little extra effort they could easily make themselves count for a great deal, in keeping up farm production. A retired farmer may not like the idea of working for someone else, but we hope to place them, if possible, with friends in localities from which they came and being generously expensed their help should be of great value.—J. Laughland.

Cooperative Buying in Welland.
"The Ridgeway Farmers' Club has been doing considerable cooperative buying, having ordered three carloads of bran and shorts, two carloads of fine poultry, a quantity of wire fencing and over twelve tons of sugar. They are getting this sugar at the rate of \$6.56 a cwt., and on a quantity of 12 tons they are effecting a saving of over \$100, comparing their prices with the regular local retail prices. This price of \$6.56 includes 1 per cent. commission to cover cost of handling. Each member is required to give his note for \$10 payable on demand. This is signed by the president and deposited in the local bank. They are contemplating buying seed corn, groceries, oil and binder twine through the club.

The first executive meeting of the Holstein Breeders' Association was held in this office on March 14th. We framed and adopted a constitution, which is very favorable to you. It is the aim of the association to encourage the weighing and testing of milk among all Holstein herds as a means toward raising the standard, so that later on when consignments of sales will become a feature of their work they will be in a better condition to put first class stock in the sale. The members of the Association are furnishing the Secretary with a list of their surplus stock, so that interchange among breeders of the Branch will be facilitated. It was also decided to hold a picnic during the coming summer for the members of this Association, not only for the social benefits which would accrue, but for the purpose of bringing before the public the existence of the Association. We are fortunate, indeed, in having a good live section of the best of sales in this organization and the outlook for its success is very promising.—E. K. Stimpson.

Brant Co. Shorthorn Breeders Meet.
"On Tuesday the Shorthorn Breeders' Club held their annual meeting in our Brantford office, about twenty of the members being present. It proved to be a very interesting meeting. The constitution of their Club was revised and they had much lively discussion as to the best way to advertise their stock. To follow are some of the ideas suggested: Advertising through the papers in the West, circulating Western papers with statements as to stock for sale in the county. It was also agreed that every breeder should supply the secretary as soon as possible with a complete list of all the stock he has for sale. It was also moved that the Association aim to hold a sale within the next 18 months.—R. Schryver.

Victoria Farmers Cow Testing.
"Mr. Orvis has been in Stobaycon

Right Now you need a DE LAVAL CREAM SEPARATOR

1st—If you are still using some gravity or setting process of creaming—

BECAUSE your cows have likely freshened now and your supply of milk is greater.

BECAUSE your spring work requires every minute of your time and a good cream separator will be a great time and labor saver.

BECAUSE your young calves will thrive best with warm, sweet separator skim-milk.

BECAUSE with your increased milk flow your greater waste of cream, without a good cream separator, must run into more money than you can afford to lose.

2nd—If you have a very old De Laval or an inferior separator whether new or old—

BECAUSE the losses of the poor separator from incomplete skimming, and the tainted product of the hard-to-clean and unsanitary separator mean most when your volume of milk is the greatest.

BECAUSE of the ample and "more than advertised" capacity of the De Laval, you can separate more quickly and save time when time means most to you.

BECAUSE an Improved De Laval Cream Separator is so much simpler and more easily handled and cared for than any other, and you can't afford to waste time these busy days fussing with an inferior or half worn-out machine.

BECAUSE the De Laval Separator of today is just as superior to other separators as other separators are to gravity setting.



Let the De Laval do all your creaming for you right now. See the nearest De Laval agent at once, or if you do not know him, write us direct for any desired information.

DE LAVAL DAIRY SUPPLY CO., LIMITED
MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENTS THE WORLD OVER

and vicinity in connection with cow testing work. Since organization of the Holstein Breeders' Club, the interest in cow testing has gone ahead by leaps and bounds. The Dairy and Cold Storage Commissioner has taken charge of this work for us, and the testing will be done by one of their men.—A. A. Knight.

New Holstein Herd in Dufferin.

"I have just received word that one of our leading farmers has made a purchase of a foundation herd of Holsteins. These are exceptionally fine animals, and the selection was made from the herd of Mr. Osler, of Bronie. While we are not particularly interested with seeing our farmers take up the question of Holsteins, yet, we are pleased to report that there is being a deeper interest taken in the question of good livestock, and we hope to be able to lend considerable assistance along this line.—H. A. Dorrance.

Scarcity of Labor in Middlesex.

"We advertised for Mr. Farrell in the London papers regarding a supply of farm help. Yesterday afternoon we had fifty farmers visit the office looking for farm laborers. Mr. Farrell was able to supply about thirty of them with men. The labor that Mr.

Farrell is supplying comes chiefly from around Port Huron, and most of them have had some experience at farm work. The wages offered by the farmers ranges from \$20 to \$36, according to the experience the man had.—R. A. Finn.

In the past we have been educating our boys and sending them to the cities for the sake of acquiring wealth. Let us in future instill in our boys the truth that agriculture, although under a heavy burden, is still the noblest profession or calling on earth. Let us educate our boys and keep them at home to be our leaders in the great campaign of organization and cooperation for the benefit of producer and consumer. Thereby we will confer an inestimable blessing on mankind, and place agriculture on a pinnacle where it will not only be admired, but followed by the noblest and best men and women of our great Dominion.

You are safe in dealing with our advertisers. We guarantee their reliability. We make good any losses you may have in dealing with them. Our falls will do well to acquaint themselves with our protective policy as published on the editorial page.



HALF the world is on the wrong scent in the pursuit of happiness. They think it consists in having and getting and being served by others. It consists in giving and in serving others.—Henry Drummond.

When the Sap Runs

(Continued from last week.)

PERRY came back next, from two blocks away. Father met him at the door.

"Tell Mother," he panted, "not to give any gas even if the electricity goes out. Some of the fixtures work hard and she mightn't turn 'em away off. Just remembered it. Use candles—stop shelf of china closet."

"Again they saw him returning. "Don't fall getting those candles down. If I only had time—" He dashed past Father in the doorway and got them down himself.

"They're dear children, Father," Mother said. "They—they like us. I guess you better kiss me, Father—I do know, but I'm going to miss 'em." He kissed her—that was never hard for Father. But he had no notion of letting her miss the children. Already he was preparing for the business of the Big Idea. There was no time, no time at all to be wasted.

"Ain't I got my overalls here, Mother? Somewhere upstairs? You'd never a-thrown 'em away." "They're hanging on their shed nail at home," Mother answered quietly. "I went out there an' rubbed my cheek against 'em most the last thing. They did look so's if you would put 'em on that night to milk in! One of my kitchen aprons is hanging in the kitchen, too. Father, don't you believe we'd feel more at home up yonder in our aprons an' overalls than what we would in white robes?"

"There, Mother, there,—I only just happened to think 'I would seem kind of more homelike—that is,—I mean—" "I would," agreed Mother promptly, "we'll wear 'em. Perry's got a pair an' Genevie has got a plenty aprons. You wait."

In the "children's" back yard grew a single tree. That tree was a sugar maple, and Father was going to tap it. That was his beautiful Big Idea. To tap it in two places and draw off

from his big height to her lesser one. In another minute he would be stooping and kissing her; she knew the signs. Right here in the children's back yard with all the neighbors—"I'll make 'em—I'll make 'em," Father, she said nervously. Mother wanted that kiss, but if it could be delayed long enough—

"Not here, Father! Not out here in broad daylight! I'll make two rules o' fritters if you'll just wait for us to get under cover—"

"Mother, Mary Euphemia Baxter!—you ashamed o' me?" he demanded sternly. A stern father with those twinkles behind his glasses!

But Mother's soft old heart misgave her—Father was worth so much more than all the neighbors under the sun! She lifted a determined, a brave face.

"Now do it quick!" she breathed. "The night all be making beds or something, and not see at all, but if they did, let 'em!"

"Bless your heart, Mary Euphemia Baxter!" laughed Father tenderly. "Think it really do it with you feeling like that? Now me—I'd as lief kiss my own wife in the middle of Harrison Square! Look on, everybody,—she's been mine fifty years. I guess I've got a right!"

The rest of the day and all the precious evening the pleasant spell was over them. They made believe undauntedly. Every little while they made trips to the children's sugar orchard and peered into Genevie's pails. They bustled about the house, doing home things—covering the carpets with newspapers where the sun shone in, setting the chairs, back properly against the wall, playing their little game. It was beautiful to "run things" again, laughed Mother. It was beautiful, Father declared, to see Mother run things. They had a beautiful day.

Up to almost noon next day the sap dribbled into Genevie's lard pails. Then Father took them down and carried them in to Mother. She had her big kettle all ready, but at one glance into the pails she sold it out of sight and substituted the little nappy she had planned to make her fritters in. Father poured his sap into it gaily, intrepidly. The zest of the game was over, but not for an instant did they cease to play it. The memory in the backs of both their minds stayed in the backs of their minds. Father for Mother, Mother for father, they played the little game.

"This is like old times!" Father cried, rubbing his palms together. "Boiling down the sap—listen to it bubble, Mother! Great, ain't it?" "Great!" echoed Mother.

"Guess you'll have to have those flapjacks ready right on the dot—minute the syrup thickens up a bit."

"The very minute, Father," they carefully. Mother watched her little "kettle," stirring and testing and testing. As the contents boiled away, a little crease of anxiety deepened be-

Our New Serial

SINCE running out last serial, "When to Look the Stable," we have been looking for a story which we thought would interest Our Folks, and believe we have found it at last in "God's Country — and the Woman," by James Oliver Curwood. This is a story of the North Woods—of life in the land where the Hudson Bay Company reigns supreme. Mr. Curwood is an author who literally lives what he writes. One-half of each year he spends exploring some new land and it is not until snow and ice make travelling impossible, that he returns to his home on Lake Michigan to write the stories of the great North Woods. In "God's Country and the Woman," the strange promise that Philip Weyman was called upon to make by a girl he met far off in "God's Country," and the surprising events that came out of it, make the story one of the really notable tales of life on the only frontier that is now left. The first installment of this fascinating tale will appear in next week's issue of Farm and Dairy. Watch for it.

tween her brows. There seemed so little now. And now—Mother was a prey to alarms. Suppose it all boiled away! With resolute old hands she removed the sap from the fire on the first approach to thickness and hastily tossed together her batter for Father's cakes. It was midway between dinner and supper when she set out the little feast. She hummed cheerily as she worked and Father caught up the tune.

"Supper's ready!" she announced briskly, a plate of steaming golden disks in her hand. "Nice an' early, ain't it? But I knew your mouth was watering. Here, you sit right down an' begin."

"Where's yours?" demanded Father.

"You got to come too."

"Of course I'm coming, but you begin while they're hot. Here's enough sap—syrup to begin on." It was all there was. Mother's honest soul shrank from the quibble, but it had to be. She rattled about in the kitchen, brought in fresh cakes to Father, kissed his bald spot as she set them before him. Her own plate she concealed deftly behind Genevie's sugar bowl and spoon holder.

"Aren't we having a good time, Father?" she chattered.

"Great—great! These flapjacks melt in my mouth—you always were a master hand at 'em, Mother. That's the

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Sweet Home."

only trouble with your cakes—they disappear. 'Disappearin' cakes!' He laughed hilariously at himself.

That was the trouble, same trouble, with the syrup. Mother thought sadly, 'Disappearing syrup.' It wasn't syrup at all—just sap. She had not dared to wait. Now as she watched poor Father decant the few thin drops onto his cakes, a fierce little sob pushed up from her heart to her throat and fought there. For suddenly Mother realized that Father, too, was making believe—she was not the only one. Father was smacking his lips!

So absorbed were the two old people in their losing little game that they did not know the children had come home. They had taken an earlier train because of their disquiet of mind, and had stolen in by way of the back yard to take Father and Mother by surprise. Big it was Father and Mother who had surprised them. The talkative spies that were still driven into the tree caught Perry's eye at once, and in the kitchen Genevieve read the story of Mother's little trial of dishes. Father and Mother had been up to mischief. Very suddenly the pathos of the "mischief" struck into their souls—the souls of the "children" of Father and Mother were susceptible to tender emotions.

"Perry, do you see—they've been boiling down sap to make it seem like old times!" Just that one little old tree, when at last it climbed the hill and came again to life in his ear. "They've been homedick, Perry!"

The big son, flesh of their old flesh, blood of their blood, did not venture speech. He only nodded slowly. In through the half-open door he watched the valiant little game going on. It was a game—he knew. The same memories of old joys and frolics that Father and Mother had hid from each other came back to this big son. Things cleared in his brain, and he saw Father's wistful viewpoint and little homedick Mother's.

"Perry," Genevieve whispered on, "tell you they're homedick. We've got to do something." And because she was a woman it was Genevieve who knew first what they could do. She burst in upon the unsuspecting old pair.

"We've got home!" she announced gayly. "In a minute I'll tell you how good it is to see you darling old dears again, but first there's something else that can't wait! I've had the most gorgeous idea—came to me on—the way home. Father, Mother, it's sap time! What were we all thinking of, never to remember! We've all got to go home to the old place and sugar-off! We've got to hurry to get there in time—we can't afford to lose a minute. And—and I thought of something else perfectly nice!" Her head ailed, her eager eyes speaking Mother's, "Do you suppose after we are a little bit settled—do you suppose, Mother, we could invite down a few of Perry's and my friends? Since I've never heard of a sugar-off! We could show 'em!"

As indeed they did in the beautiful time that followed. Father and Mother, host and hostess again, moved about the old place, bright and young, in the peace of their old souls. The children watched them, smiling into each other's wet eyes.

"De it ever so humber!" hummed Mother, and somewhere within hearing Father's militant old whistle took it up. "There's no place like Home." "We're having a beautiful time, Father!" for this was not making believe, not playing a difficult little game. "And it isn't all going to stop short of, Father! You listen—yes, first time you, her sweet face upheld, radiant, to him. "Now listen—we're coming back to keep Thanksgivings, Father! Genevieve and Perry want to know if they can—Father, can!" Her laugh trembled joyously and Father's laugh joined it. It was as if they had laughed to the tune of "Home, Sweet Home."

"Thanksgiving anyway, and may-be."

A happy vista opened before Father and Mother. Who was growing old? It was sap time again in their veins.

The Upward Look

Travel Thoughts—No. 26 Guidance.

"FOR this God is our God for ever and ever: He will be our guide even unto death." Psalm 48:14.

From my tent down in the valley, though they were far away, I could hear them distinctly, and see them clearly, those radiant misty Yosemite Falls. Once I saw on them the glory of the afternoon rainbow. One day I started to go to the foot of them. First came a broad road, then a path, getting narrower and narrower, rising higher and higher. Though I thought, on leaving camp, I had understood and could follow the very explicit directions given, I had great difficulty in finding the path, and far greater in keeping to it. It wound in and out through the dense growth, and around those boulders. Sometimes there was nothing to do but climb the last. Again and again I thought I had lost it, but again and again I would know I was in the right way. Perhaps it would be a branch broken off; perhaps it would be a small pile of stones, evidently man-put; it might be the impress of a foot in a tiny patch of sand; again it would be a ledge of rock; that would be the only available means of climbing.

So again and again on that long, strenuous climb, I knew I was on the right trail. Then suddenly I came out at the foot of those wonderful falls, the beauty of which more than repaid for all the uncertainty and exertion.

That morning it came to me with peculiar, impressive, God-given power, that in our lives in some marvellous way, we can always know when we are on the right path. It may not always be the easiest path, the most pleasant, but it is the one that He calls us to follow.

Another blessed thought is that in some marvellous way also, He always shows us what path we should choose. This is so, no matter how many are the choices, nor how conflicting and puzzling they may seem. Within us when we have chosen aright, it may not have been according to our inclinations. That makes no difference. The peace of mind that follows the decision, in one of the most blessed of life's blessings. Calm in this peace, one should never wonder if the other way should have been chosen, but continue joyfully until another choice has to be made. "He is our failures, sorrows and trials, unto death, and forever and forever." I. H. N.

Horticultural Suggestions

Culery seed should be planted in soil having plenty of humus and of a rather sandy texture. Barely cover the seed. To hold the moisture, a damp cloth or paper may be put on. Sometimes the soil is covered with a piece of glass and shaded with paper. Do not set shrubby too thick. This is the common mistake of the beginner. Give plenty of opportunity for the plant to grow. Small plants may be set from two to three feet apart. Like mock orange, etc., should not be set closer than seven or eight feet in good soil. They will then spread so as to just touch each other in five or six years.

Makes Fine Bread



Everyone who bakes bread should know about Cream of the West Flour. It is without a peer as a bread flour. With every four 98-lb. bags of Cream of the West Flour and our other guaranteed flours, we give an interesting war book or cook book free. Make out your order now.

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Toronto's Pride (for bread)	3.30
Queen City Flour (intended for all purposes)	3.05
Monarch Flour (makes delicious pastry)	2.95

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Cream of the West Wheatlets (per 6-lb. bag)	30
Norwegian Rolled Oats (per 90-lb. bag)	3.00
Bob-o-link Corr.meal (per 98-lb. bag)	2.70

FEEDS.	
"Bullrush" Bran	\$1.35
"Bullrush" Middlings	1.45
Extra White Middlings	1.60
"Tower" Feed Flour	1.75
Whole Manitoba Oats	1.80
"Bullrush" Crushed Oats	1.90
Sunset Crushed Oats	1.90
Manitoba Feed Barley	1.80
Barley Meal	1.85
Geneva Feed (crushed corn, oats and barley)	1.90
Oil Cake Meal (old process, ground fine or nutted)	2.20
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Feed Wheat	2.25
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Feed Corn Meal	2.40
Monarch Scratch Feed	1.90
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Prices on Ton Lots: We cannot make any reduction on above prices, even if you purchase five or ten tons. The only reduction from the above prices would be on carload orders.

Terms Cash with Order: Orders may be assorted as desired. On shipments up to five bags, buyer pays freight charges. On shipments over five bags we will prepay freight to any station in Ontario, east of Sudbury and south of North Bay. West of Sudbury and New Ontario, add 15 cents per bag. Prices are subject to market changes.

LIST OF BOOKS

- | | |
|----------------------------------|---|
| Tale of Two Cities, by Dickens. | The Woman in White, by Collins. |
| David Copperfield, by Dickens. | The Pathfinders, by Cooper. |
| Oliver Twist, by Dickens. | Never Too Late to Mend, by Benda. |
| The Talisman, by Scott. | Dr. Beak's Letter, by Hawthorne. |
| Waverley, by Scott. | Poems, by Longfellow. |
| Last of the Mohicans, by Lytton. | Poems, by Tennyson. |
| Last of the Barons, by Lytton. | Alrump, by Webster. |
| Three Musketeers, by Dumas. | Tom Fairchild at Sea, by Chapman. |
| Yankee Pair, by Thackeray. | Earth Fielding at Snow Camp, by Cranford, by Gaskell. |
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The flour that delights the heart of any woman who uses it, and makes baking one of the pleasures of life. Try it once and you will want no other. We have special brands for every kind of cooking. Order your Spring supply from your dealer this week.

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The suite, which is made of solid oak, in either Tanned or golden finish, consists of 8 pieces of matched design. Buffet, 48 inches wide, has British bevel mirror, spacious cupboard and drawers; China Cabinet, 42 inches wide, 58 inches high, has glass doors and sides; Extension Table, 60-inch round top; 4 Side Chairs and 1 Arm Chair; upholstered in genuine leather. A grand outfit for the dining-room, sent to any station in Ontario at above price.

The Adams Furniture Co., Limited, Toronto, Ont.

Making Butter on the Farm
Mrs. John E. Turner, Simcoe Co., Ont.

BUTTER making on our farm starts nearly in the spring, after the snow is all gone and the cows are on pasture, which gives a good color to the butter. Then out come the milk pails, separator, cream crooks and churn, to be scalded ready to receive the rich milk from healthy cows. Our cows are a strain of Jersey.

Before milking, we clean off the udders so that no impure substance can get into the milk to taint it. After milking, we strain through a clean cotton cloth, put through our separator and set the cream away to cool. It is not wise to put the warm cream with the cold cream. It takes about three days' milk to make a churn. Then we set this aside to cure, say two days anyway. Sometimes I have churned my cream too soon, and next day churned the buttermilk and got three pounds of butter out of it.

When the cream is ready, we scald the churn, ladle and pound-pan, and cool with cold water. We churn from 15 minutes to half an hour. Some cows' milk takes longer to churn than others. After the butter comes, we pour off the buttermilk and put a pail of cold water into the churn to wash out the buttermilk.

When the butter is ready for salting, we use a large teaspoon of salt to 10 lb. of butter. We mix the salt in well with the ladle, so otherwise there will be white streaks in the butter. We always put the butter into pound prints. We pack butter this way from the churn all summer, and it keeps the churn all summer, and it keeps the summer in always wanting their crock filled.

Up-To-Date Method Used

Mrs. C. E. Rogers, Middlesex Co., Ont.

IN looking over last week's Farm and Dairy, and noticing so many useful letters in connection with the recent contest, I decided to join in the present contest.

We have a milk house under our cement barn-bridge (away from stables) with walls all plastered, good cement floor, cement cooling tank, table and separator.

First the milk is drawn from the cows with a milking machine and taken to milk-house to be separated while yet warm. After separating the milk is just put in cooling tank and

cooled till 88 degrees, stirring continually.

The process for first souring cream is to add a cup of buttermilk to about one and one-half gallons of cream. If I haven't the buttermilk, I put cream can in warm water and bring cream up to about 90 degrees and set continually until cooled, so as no cream will form on top, then set a warm pail. After my first churning I always save sour cream to mix with next churning. In adding fresh cream I always cook same as before.

When enough cream is gathered, the churn is first scalded, and rinsed out with cold water. I have cream at 88 degrees in summer and 64 in winter. It is churned in a dairy churn by a one and three-quarter horse power engine, taking about 80 to 90 minutes for butter to form. I draw off buttermilk and rinse in two waters. Then the butter is lifted with ladle into butter bowl which has previously been scalded and rinsed in cold water.

The butter is weighed and to each pound of butter, I put one and one-quarter ounces of salt, work three hours and stand about three hours then work water out in put in pound prints, or pack in crocks to any customers. I have all my butter paper marked "dairy butter", My butter is always fresh and sweet, and I have more customers than I can supply.

Amusements

Conducted by MARION DALLAS

Good Times and Money-Making

Suggestions

ONE of the successful parties during the Easter season is a "Violet Party." To begin with, the invitation around curiosity. Have plain white egg-shaped pieces of paper, upon which are inscribed in violet ink:

The Women's Institute
At Home
April
Progressive

The missing word is supplied by a bunch of artificial violets, held in place by sealing wax, or a bunch of violets painted in water colors. The decorations are violets.

At either side of the door leading into the parlor are branches of trees, with green leaves fastened on. As each guest enters, the gentlemen take a leaf from one side and the ladies from the other. The back of each leaf bears some such inscription as: Table 1, A, or B and so on. This indicates that the holder is to play at first table and with the one who holds a leaf similarly lettered. Everyone is given a booklet made of cardboard or paper. On each table is placed a small bunch of loose violet leaves, which have been cut from a mullaged sheet of violet paper. At a given signal all the players close their eyes and each tries to place a violet leaf properly on the green calyx which appears on the first page of their booklet. A few minutes is allowed, and then the leader calls "time," and the haphazard planting makes all laugh when they open their eyes.

Couple "A" moves down to the last table. Leaves are picked for a second attempt, and so on until the violet is completed. The couple showing the best violets are awarded a badge or certificate of art. After this a black-board is set up and each guest tries to draw some picture in which a violet appears. The others are supposed to guess what is represented. Parties are chosen for tea by matching broken paper eggs, the hostess distributing one half to the ladies and one to the gentlemen. The refreshments as far as possible reflect the violet shade.

Scrap Party.

A novel party is a scrap party. The (Concluded on page 32.)

The Best Paint That You Can Buy

Is the paint which combines durability and economy to the greatest possible degree. Some paints may be durable but not economical. Low priced paints can never be either.

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is the final degree in paint making—scientifically tested proportions of the highest quality lead, zinc, colors and oils, combined by an exclusive process, make it durable and economical.

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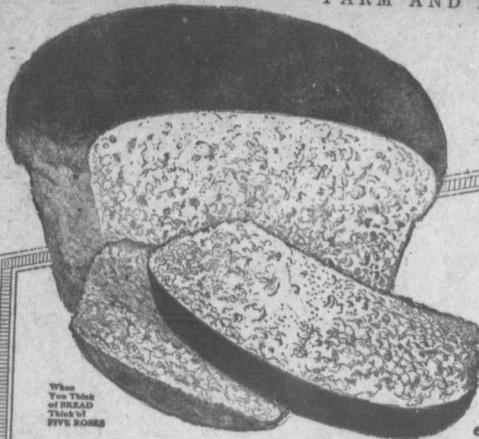
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In the same splendid loaf, let it bring you this extra quality: — a fulness of nutlike flavour, a sweetness that is envied by the best cooks everywhere.

- a crisp, thin crust that is crinkly and toothsome.
 - an elastic texture, porous and well-ripened, that retains for days its original freshness, the kind that cuts without crumbling.
 - every slice not only a delight, but a source of vitality, alive with the matchless nutrition of Manitoba's richest wheat.
 - a downy lightness ensuring ready and complete digestion.
- FIVE ROSES brings more—it brings economy. Because of its uncommon strength, it absorbs more liquid and produces more loaves with less exertion.

Insist on FIVE ROSES flour for all your baking. It promotes the family health and mitigates the high cost of living.

OVER 200,000 WOMEN HAVE SENT for this 144-PAGE BOOK. It gives many ways for stale bread and cake: French toast, bread puddings, bread crumbs, croquettes, fried bread, bread dust. A splendid chapter on sandwich making.

ALL ABOUT BREAD AND CAKE MAKING

The famous FIVE ROSES Cook Book also gives complete, understandable information on pastries, tartlets, fillings, biscuits, buns, rolls, fried cakes, cookies, etc. Over one hundred recipes. Crowded with the best selected recipes of thousands of successful users of FIVE ROSES flour throughout Canada. Send for your copy of the FIVE ROSES Cook Book, mailed for no payment stamp. Address Dept. V, LAKE OF THE WOODS MILLING CO. LIMITED, MONTREAL.



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Packed in Bags of 7, 14, 28, 49, and 56 lbs. Also Barrels of 48 and 100 lbs.

Tasty Maple Dishes

SAP buckets and kettles will soon be putting in an appearance again, and those of us who are fortunate enough to have a good maple bush, will be hieing off to see it "sap-rising time". While maple syrup is delicious served in the usual way, here are several recipes which may suggest a variety of ways in which to make good use of this farm product.

Maple Apple Pie.—Make pie crust as usual, then take three or four good sized sour apples, slice and spread over the crust, then add one cup of

maple sugar. This should be baked in a moderate oven.

Maple Cake.—Two eggs, one tablespoonful of lard or butter, three teaspoonfuls of baking powder, one cup maple sugar, one cup sweet milk, three cups flour. Beat butter to a cream and gradually add sugar; when light, add the eggs well beaten, then the milk and last the flour in which the baking powder has been well mixed.

Maple Syrup Spice Cake.—One cup of sugar, one-half cup butter, one egg, one cup sour milk, two teaspoonfuls baking powder dissolved in milk, one

half cup maple syrup, one and one-half cups flour, one teaspoon each of cloves and cinnamon.

Maple Sauce.—Two egg yolks beaten until thick, add slowly one-fourth cup of hot maple syrup, cook until spoon is coated, strain and beat well until cold, add one-half cup of whipped cream and dash of salt. Serve very cold.

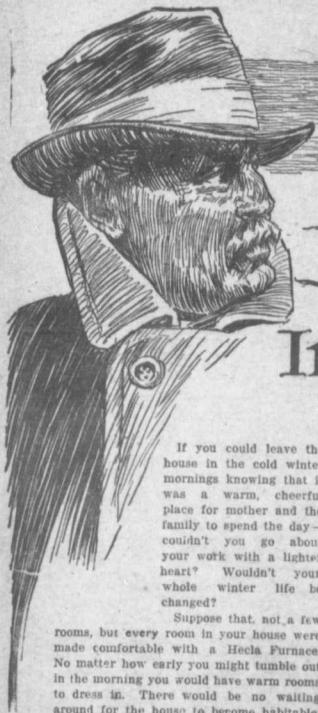
Maple Rice.—Boil rice in the usual manner until tender, then add a quarter cup of cream and half a cup of milk. Cook slowly until the liquid is absorbed. Turn into a buttered pudding dish and pour a cup of maple syrup over

the top, and stand for about five minutes in the oven. This may be served hot either with or without cream.

Maple Pie.—It is difficult to have variety in pies. A nice filling for pie can be made from one egg, butter size of a walnut, one tablespoon flour, and a cup of maple syrup.

Jam-Jams

Two eggs, one cup sugar, one cup butter, one-half cup cream, one scant teaspoon soda, two teaspoons cream of tartar. Roll out thin and cut into desired shape. Put two together with any kind of jam.



If that fine little house were only warm!

If you could leave the house in the cold winter mornings knowing that it was a warm, cheerful place for mother and the family to spend the day—couldn't you go about your work with a lighter heart? Wouldn't your whole winter life be changed?

Suppose that, not a few rooms, but every room in your house were made comfortable with a Hecla Furnace. No matter how early you might tumble out in the morning you would have warm rooms to dress in. There would be no waiting around for the house to become habitable. A few minutes' attention to your Hecla in the morning would provide warmth and comfort for the whole day. Cold floors, drafty halls, and dreary sleeping rooms with their dangers of colds and chills would be gone forever. Your home would be a home twelve months in the year from the day you installed your Hecla Heating System. Instead of being shut off from the world all winter, your home would attract your friends and make life gayer for your family. Add winter comfort to the charm of country life and the city would lose its attraction for your sons and the hired help. With Hecla heating your home would be the best place on earth for you and yours.

An Old House Can be Heated

Without making costly alterations to your house, without a large initial cost, and without much increase in your coal bill, you can have a Hecla Heating System in your present home. Consider, now, that your old home can be made modern for anywhere from \$90 to \$150—surely a small investment in happiness and cheer for your family. Consider that with a few tons of coal a Hecla Furnace will make your home as cozy as the finest city home with its costly heating plant. Some farmers tell us that they use only 3½, 4 or 5 tons of coal during the winter! And if you have wood to burn you can do with very little coal, except in mid-winter, when fires are kept constantly burning. The Hecla burns either fuel equally well. It has a large door to take rough chunks of wood. It has a wood grate that slips in or out without the need of bolts or screws.

Buy Comfort, Guaranteed

A little thought on the subject must clearly show how easy it would be to secure the comfort that would make such a world of difference in your home life. How little action is needed on your part to make the change from winter dreariness to winter cheerfulness?

It is not as though you took any chance in the matter. Hecla Furnaces are guaranteed to heat your home. We plan the heating system and take full responsibility for it. The men who represent us are chosen men. They have our experts to aid them. And they have our guarantee behind every heating job they do. This means that you may be sure of full satisfaction, no matter what the style or plan of your house.

Save One Ton in Seven

And in addition to a guarantee of thorough heating, the Hecla has other fine features that you will surely want. Some of these cannot be obtained in any other system because they are Hecla Patents.

FIRST—Hecla owners save one ton of coal in seven, because the Hecla has a patented Fire-pot with a triple heating surface. This is the famous **STEEL-RIBBED Fire-pot**—the greatest single coal-saving feature ever invented.

Mellow Air—No Gas—No Dust

SECOND—No gas or dust from the fire can ever escape through the warm air registers. This we can guarantee because the Hecla has **FUSED JOINTS** that can never open and allow leakage into the warm air flues. Nor can gas escape from the doors of the Hecla. There is an automatic gas damper that draws off all surplus gas.

THIRD—Dryness in the air, which is found even in the most costly heating systems, is guarded against in the Hecla. The moisture supply is so liberal that Hecla Heating is as mellow as June air.

The Hecla can be checked down to hold the fire for hours without waste. Close-fitting doors and dampers, carefully made parts, fine materials rightly proportioned checks and drafts, all combine to save coal. The Hecla can be shaken down with four separate grate bars so that no live fire need come through with the ashes. These points are all daily money-savers that make big economies in the course of the season.

HECLA A Clare Bros. FURNACE

Make plans now for the time when you will heat your home

Any one who would like to know what it would cost to heat his house with a Hecla can have the information for the asking. It will not matter to us that you are not yet ready to install a heating system. If you feel the need of one and would like to know what your outlay would be, we have men who are employed to furnish you with estimates, full details and blue prints if you want them. This is done without cost to you. You will certainly be interested in studying

the question of heating from the literature we send. Our booklet, "Comfort and Health" is a very thorough treatment of the subject, and we will be glad to send it free to anyone who wants it, and mentions "Farm and Dairy." Writing will not place you under any obligation whatever and will bring you by an early mail the means of planning out for yourself the best way of securing comfortable and economical warmth in your home.

CLARE BROS. & CO., LIMITED, PRESTON

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From Hired Man to Farm Owner

(Continued from page 6.)

stayed nine years. He increased his herd to 30 cows, raised all his own feed, planned well and then began to think of extending his operations still further. He moved back to Chester, ville on to a 200 acre farm where he milked 40 cows.

When at Morewood, Mr. Bailey had made a change which he regards as important in his financial progress. His Ayrshire cows gave too good milk to be sold on a market where quality was not considered. What he wanted was cows that would produce great quantities of milk. Accordingly Holstein blood was introduced into the grade herd, and pure-bred Holstein sires have been used constantly since then. The herd, as I saw it, contained two or three old Ayrshire cows that are heavy producers, but the great bulk of them have the markings and the scale of pure-bred Holsteins.

Winter Dairying and City Milk.

It was toward the close of Mr. Bailey's career as a tenant farmer, that two more changes were made which practically doubled his income. He began to specialise strongly in winter dairying, and to ship milk to the city of Montreal. "The majority of my cows now come in in October," he told me. "This is the month that the price goes up and from then on till spring there are no ties to bother, and more time to milk. I cannot say that I made any money until I went into winter dairying, and began to take advantage of milk at six cents a quart for the Montreal trade."

It is just four years this August since Mr. Bailey started to ship milk to Montreal. Then he began to realize on the breeding side he had been doing for high milk production. His 40 cows averaged him \$100 apiece. The last year that he spent on his rented 800 acres, he paid \$500 rent, \$420 wages to a man who housed himself, \$90 taxes, and saved practically \$3,000 for himself. A good showing!

But already Mr. Bailey had become a land owner. It is commonly affirmed that there is not a farm in Ontario that will rent for six per cent. of its selling price. If this be true it is more profitable to rent farm land than to own it.

Mr. Bailey is inclined to agree with this deduction. "There is something within man, however, which makes him desire the ownership of the soil he works. And the promptings of nature made Mr. Bailey a farm owner, although he might have been more profitable financially. From the days when he worked as a hired man on the Carlyle farm, it had been his ideal to own that farm or another like it; preferably the Carlyle farm itself. Four years previous to the time of my visit to Mr. Bailey, the farm was offered for sale. Mr. Bailey had just \$1,000 in the bank. Mr. Carlyle knew the calibre of the man, however, and he agreed to accept the \$1,100, as a first payment on the purchase price of \$10,000. The details having been arranged, Mr. Bailey then went back to his rented farm for a year, and Mr. Carlyle remained on his farm without interest or rent changing hands. It was during this year that Mr. Bailey this \$3,000 he made as his second payment on his own home, where he has now been for almost four years.

'The Prehnts of Dairying.

Mr. Bailey is farming along the lines that had given his best success—as a winter dairyman and a city milk shipper. Practically his whole income comes from the dairy cows, of which 32 were being milked at the time of my visit. In the four months, December to March, inclusive, careful account was kept of milk receipts and

feed expenses, and it was found that the income over and above feed purchased was \$1,500.

Mr. Bailey does not yet own in full the farm on which he lives, but from the figures which he gave me, and which I have given here, it is evident that the ownership of the farm which he desired when working as a hired man for a mere pittance, is well within his reach.

This article would not be complete without mention of the Bailey home; for success such as Mr. Bailey has achieved is well nigh impossible without the assistance of a good wife and an industrious family. Mr. Bailey has the loyal assistance of both. The house is commodious, comfortable and fitted with such up-to-date conveniences as running water and a bath room. Surely the ownership of such a home and farm is a sufficient reward for industry and thrift.

A Stable Wall Decoration

THE dairy department of the Wisconsin College of Agriculture is urging that the following be pasted up in every dairy barn in the state:

"Practise the following advice and you will make more dollars in dairying. Others have done it. Why can't you?"

"Use purebred dairy sires from "Do not turn cows out to remain cows having large and profitable productions of milk and butter-fat."

"Raise well the heifer calves from cows which for one or more generations have made large and profitable productions of milk and butter-fat."

"Breed heifers at the age of sixteen to twenty months."

"Feed heifers liberally and milk regularly."

In Summer Time

"Do not try to save feed by turning to pasture too early."

"Provide plenty of pure, fresh water, shade, and protection against flies during hot weather."

"Supplement poor pastures with corn silage or green soiling crops like rye, peas, oats, green cow fodder, cabbage and other available feed."

In Winter Time

"Feed cows daily one pound of grain for every three pounds of milk produced, twenty-five to forty pounds of corn silage, and what clover or alfalfa they will eat."

"Allow them to have water which is not colder than that from a deep well twice or three times daily."

"Brush cows daily if you can possibly find the time, for it pays better than does grooming of horses, which as a rule is neglected."

"Keep cows in clean, well-lighted, properly ventilated stables."

At All Times

"Treat cows gently and avoid excitement."

"Weigh the milk of each cow at milking time."

"Get your neighbors to share with you in owning a Babcock milk tester and test the milk of each cow."

"Discard a cow which has failed at the end of the year to pay market price for all the feed she has consumed."

"Give cows six to eight weeks' rest between lactating periods."

"Belong to a dairy cattle breeders' association, a cow-testing association and every organization that will help to keep you posted and in touch with the best up-to-date methods of managing your dairy herd."

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Preserves Roads - Prevents Dusts -

Tarvia makes possible Good Roads at Low Cost

Every taxpayer should be vitally interested in good roads. Good roads in the community mean reduced taxes, increased property values, reduced transportation costs. They are a great factor in the promotion of general prosperity.

From the standpoint of service and low cost the most satisfactory road to-day is a Tarvia-macadam.

Tarvia is a coal tar material of great bonding power and is made in several grades to meet varying road conditions.

Under heavy loads a tarviated road is somewhat elastic—not brittle—and traffic wears it smoother.

Such a road is dustless, mudless and automobile-proof.

The Tarvia also has the effect of making the road surface water-proof and preventing ravelling by rain torrents.

Of importance to taxpayers, its cost is more than repaid by the saving in maintenance expenses.

Thousands of miles of Tarvia roads are giving satisfactory service to-day and hundreds of towns are using Tarvia regularly. In fact, many up-to-date towns build every new road with Tarvia and find that they save money.

If you want better roads and lower taxes, our Special Service Department can greatly assist you. Write to nearest office regarding road conditions or problems in your vicinity and the matter will have the prompt attention of experienced engineers. This service is free.

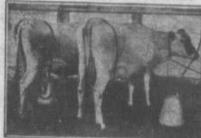
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The Makers Corner

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.

A Live Alberta Creamery

W. Mod. Tait, Alberta.

This year 1916 has been a most successful one for the Cardston Creamery Company, a live organization operating a cooperative creamery in Southern Alberta. Of the 65 creameries operating in the province, Cardston is the largest outside of those in the cities of Calgary and Edmonton.

In 1914 the butter output of Cardston Creamery reached 166,000 lbs., while 1915 shows a record of 206,000 lbs., an increase of some 100,000 lbs. In 1914 \$36,000 was paid out to patrons for butter fat; in 1915 \$68,000 was distributed among the farmers of Cardston district. This means an average of \$5,000 paid to farmers each month for cream delivered to Cardston Creamery. Nothing is shipped in to the town from railroad points, so that the money paid out is paid to farmers, which will, all probability, spend it in the town.

With the exception of small amounts sold to wholesale houses in Lethbridge city, this butter is sold by the Department of Agriculture for the province, and the bulk has gone to the Pacific Coast, where it has successfully competed with butter from New Zealand. In fact, Alberta butter has captured the trade of the Pacific Coast, which was generally conceded to have been "clinched" by New Zealand. Between Many and September last, 161,000 lbs. were sold by the manager of Cardston Creamery to the Department at an average price of 27.7 cents a pound.

The capacity of the creamery has just been doubled, making a total now of 1,400 lbs. a day. A new system of cream ripening has just been adopted, an ice house built, and an office and testing room equipped.

Cardston district is one of the best dairying districts in the south country, and the farmers have caught on to the "winter dairying" idea. Of the three silos built in the whole province last fall, two of these are in Cardston district, one on the farm of C. E. Osborn, President of the Creamery Company; the other on the farm of E. J. Wood, President of the Mormon Church.

It was this creamery that a few years ago raised its grades from nothing to 88.4. This splendid record has been consistently maintained ever since, and the butter maker, Harry McIntosh, has won the distinction of a place second to none in the province. It is largely through his untiring efforts as maker and manager that the creamery has had the success credited to it.

Shrinkage in Print Butter

AN act passed by the New York State legislature in 1912 requires that print butter shall be stamped with its correct weight. The maximum variation allowed on a pound print is three-eighths of an ounce on an individual print, providing that the average error on 12 prints taken at random shall not be over one-quarter of an ounce per pound. The maximum variation allowed on two-pound prints is one-half an ounce and on 12 prints not more than three-eighths of an ounce for two pounds. The passing of this law immediately brought to the front the question of variation in weight caused by shrinkage. The subject has been investigated at Cornell

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Here lines may be used. No experience required.
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Years from now the Blazed Silo will be giving good service. It is built of selected lumber, treated with wood preservative, that prevent decay. It has strong rigid walls, air-tight doors and hoops of heavy steel. Therefore it lasts, simply because it can't very well do anything else. Our folder explains more fully—write Dept. R.
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It may be many years before fence is as cheap as it is now. If you need fence within the next two or three years, we advise purchasing at once.

We are for the present selling Page Perfect Fences, all No. 9 full gauge, locks also No. 9 gauge, at following prices, which are the lowest that anyone can name you for good quality. In buying Page goods you are assured of getting what you pay for.

PRICE LIST

No. of bars.	Height.	Stays ins. apart.	Spacings of horizontal.	Price in Old Ontario.
6	40	22	6 1/2, 7, 8 1/2, 9, 9	29 1/2
7	40	22	6, 6 1/2, 7, 7 1/2, 8	33
7	48	22	6, 6 1/2, 7, 8, 8 1/2, 9	34
8	48	16 1/2	6, 6, 6, 6, 6, 6, 6	41
8	47	22	4, 5, 5 1/2, 7, 8 1/2, 9, 9	40
8	47	16 1/2	4, 5, 5 1/2, 7, 8 1/2, 9, 9	42 1/2
9	48	22	6, 6, 6, 6, 6, 6, 6	46
9	45	16 1/2	6, 6, 6, 6, 6, 6, 6	46
9	62	22	4, 4, 5, 5 1/2, 7, 8 1/2, 9, 9	43
10	48	16 1/2	4, 4, 5, 5 1/2, 7, 8 1/2, 9, 9	46
10	45	16 1/2	4, 4, 5, 5 1/2, 7, 8 1/2, 9, 9	49
10	45	12	2, 3, 3, 4, 4 1/2, 7, 7 1/2, 8	54
10	52	12 1/2	2, 3, 3, 4, 4 1/2, 7, 8, 9	49
11	55	16 1/2	5, 5, 5, 5, 5, 5, 5, 9	54

New Ontario prices on request. All full No. 9 gauge.

Freight paid on orders amounting to \$10 or over. Send us direct, or if you prefer to have your dealer order for you, we will allow him a small discount for his trouble.

Let us send you our "Direct to You" complete price list.

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Special Poultry Fence

2-inch spools set bottom, increasing to 4 inches at top.	29 1/2
Uprights 2 inches apart. Top and bottom No. 9, balance No. 13 gauge.	34
18 Bar, 48-inch ... 55c	
25 Bar, 48-inch ... 61c	
Barbed wire, 48-rood wood. \$3.80	
Barbed wire, small lots ... 5c lb.	
No. 9 wire, small lots ... 4c lb.	
Coiled wire, per 100 lbs. ... \$3.85	

GATES.

10 ft. \$4.50
12 ft. 4.75
14 ft. 5.30

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Refines Paper
Envelopes, makes
them smooth, and
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Three Times Faster Than the Old Way

Farmers' prosperity started when they discovered the value of time. When you woke up to the fact that your own time and your help's time was the most valuable thing on the farm, you demanded labour saving devices for nearly every job on the place.

Here is an improvement in farm fence building that ranks in importance with the cream separator, the gas engine, and other indispensable farm helps.

No longer need you dig a fence post hole three times too big, plant a wooden post in it, fill up the hole, and then have the post rot to pieces in the course of a few years. With a boy to help you, and a barrowful of these light, strong fence posts, you can cover three times as much ground as in the old way.

You save money three ways. First: Standard Posts cost less by three. Second: You cut the labour cost of erecting them to one-third or less as compared with wooden posts. Third: You never have to replace them. They never rot, and they cannot burn.

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Frost cannot lift them, worms cannot destroy them. Adopt this modern economy when building your next fence.

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STANDARD WIRE FENCING is full Government Standard No. 9 Gauge, accurately and thoroughly galvanized. Our exclusive knot, "the tie that binds," is a still further improvement over our original knot for which has been copied the device used on nearly all other farm fences. By this improvement we secure a gradual curve which does not break nor injure the galvanizing. We guarantee them rust-proof. Write us today or send the coupon for our special folder and price-list. You cannot afford to overlook either our product or our prices.

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Gentlemen, Please send me your catalogue price list, and special folder on Standard Tube Posts.

..... Name
..... Address

If I Were Starting on a Farm With \$2,000

Geo. Lathwaite, Huron Co., Ont.

LOOKING back over the years we have spent in dairying and with the dairy breeds, it has not been all sunshine. We have had our rainy days of trouble, also our fine days. Mrs. Lathwaite and I started our farm life by renting a farm for three years and with \$1,000 to stock and equip it. To some young people this would be a poor start, but my father was strongly of the opinion that every person should start at the bottom rung. He used to say that "you get used to the height as you go up." This is a Welsh expression. Young men starting at the top run usually get a swelled head and fall down.

In outlining a plan to follow in dairying, first we must decide what breed we wish to feature, then lay out a system and live with the idea of making a success of our work. Too many people start wrong and it takes them ten years to right themselves. Too many of us are like a cat with nine lives; that is, we get into politics, belong to three or four societies, are interested in institute work, church work, nation taken up with these things we try to stock a farm with horses, pigs, sheep, cattle, hens, etc. Then we sometimes wonder why our farm does not pay interest on the money invested. The true reason is neglect. A man can oversee a great many things, giving orders and making plans if he has none of the work to do, but it is better not to get too many trons in the fire if we wish to be successful.

There are several different types of dairy farming—dairying and mixed farming, specializing in pure bred

stock; selling milk or cream to the nearby town or city; sending milk to cheese or butter factory, etc.

A Start With \$2,000.

Suppose the young man starting has \$2,000 to invest. The location, size of farm and amount of plant food in land, must be considered. If one intends to go in for growing and selling grain I would advise renting a farm, but buy a farm for dairying where all feed is a farm for dairying. An 80 acre farm for dairying and mixed farming, could be secured for \$4,000 with fish buildings. One might pay \$300 down and take out a mortgage for the balance. Then I would use \$1,200 for equipping the farm, divided as follows: Live stock, \$865; for machinery and implements, \$140; for building silo and seed for one year, \$195. In buying machinery the best plan is to secure it at auction as often as it can be purchased at a reasonable price, thus cutting down expenses.

The man who wishes to specialize in pure bred stock is wiser to start share in a stock bull from ancestors with good records. Give him one pure bred cow to start with, and if he wishes show type, let him get it. He will be a poor man all the rest of his days if he follows that type. If it is production he is after, do not buy a \$500 cow for \$250 if she will not stand the tuberculosis test. I knew a man who paid \$300 for a \$1,000 cow, her owner saying she was out of condition. In five years her condition lost health came first, breeding next dollars last. We should not devote the day of small beginnings. Neither

should we be covetous and aim to make world's record producers. They please the eye, but spoil the pocket. When wanting a young stock bull, we can exchange our \$1,000 bull calf with a brother breeder and thus both will have made a good bargain.

The Retail Trade.

I have had a little experience in the field of supplying milk to customers. If in this business, however, one must be familiar with what the market Holsteina will make the most money, as other dairy breeds will give the customers too much for their money. When all the produce is sold as whole milk our calves are not worth raising, unless we use a beef bred bull, as stock farmers will then pay more for them and we will be helping along the meat supply.

I believe it would be a hard proposition to lay out \$2,000 to equip a plant to deliver 100 cts. a day, but less than this would not pay. Two or three young men with small means might cooperate and form a company. If they have some knowledge of the business, success would likely follow. It is not lack of capital that puts people at a disadvantage in farm life. It is lack of experience, lack of business ability, lack of system and not reckoning the real profits. For instance, the other day a man invited me to have a treat, another friend came along and we each spent 25 cts. That 75c went into the other man's pocket, for which we had no value.

Some will criticize me for recommending cheap farm equipment. The farmer on the small farm-to-day is up against it paying notes on farm implements. How much real profit does the cost of a binder lick up? You may sell 10 bags at seven cents a pound, weighing 200 lbs. each, which will amount to \$140. It costs you five cents

a pound to feed them, leaving you a profit of \$4 each. If a binder costs you \$120 that will amount to the profit from 30 pigs.

My Success With Jerseys.

The suggestions that I have given herewith are all gleaned from my own practical experience, gained since Mrs. Lathwaite and I made our own humble start. One of our chief efforts has been made toward the development of a producing herd of pure bred Jersey cattle. I would like to give something of the work done by our Goderich Jersey herd of 11 head. Last year the total production of the herd was 65,052 lbs. of milk, from which we made 4,463 lbs. of butter, bringing us \$1,160.58.

The feed cost us \$595. This leaves us a profit over and above feed of \$565.53. In addition to this we had 60,589 lbs. of skim milk, which is worth at least 30 cts a cwt., compared with the prices on other foodstuffs nowadays. This is the kind of a herd to which one may work, but which would be expensive to start in with at the first.

Flax Expert Appointed

M R. G. G. BRAMHILL, a graduate of the Ontario Agricultural College, has been appointed as a special flax expert under the Agricultural Department, at a salary of \$1,500 per annum. His duties will be to familiarize himself with the whole flax question in Canada, and carry on investigations in connection with flax production and the utilization of flax straw for industrial purposes. Mr. Bramhill has been the representative of the Ontario Department of Agriculture in Lambton county, and has had considerable experience with flax production in Canada.

Mr. Burke Gets a Pound More Butter Per Week

FOR some years we have been laying emphasis on the great skimming records of the Standard Cream separator at Government Dairy Schools and on the farm. We have printed many of these records. We intend to keep on printing them, because they prove the superiority of the Standard beyond any question.

In Nova Scotia, for example, the Standard Cream separator has achieved great fame for close skimming. A letter on our files from H. D. Burke, of Prince Albert, N. S., dated October 2d, 1915, shows what a Standard has done for him. He says:—

"I am very pleased to say that the Standard cream separator, size 4, that I have been using since the 1st of September, is giving me perfect satisfaction. We have used two other kinds of separators and can truly say that we can make a pound more butter a week with the Standard than with either of the others. We will be pleased to correspond with intending separator buyers."

Another man, this time from Sprucedale, Ontario, writes: "We are well pleased with the Standard cream separator. We made more butter of four cows last year with the separator than we did in 1912 of six cows without the separator. The four cows were the same ones milked in 1912 and 1913. (Signed) Thos. J. Smith."

American dairymen have also learned about the close

The Renfrew Machinery Co., Limited Head Office and Works, RENFREW, ONT.

AGENCIES ALMOST EVERYWHERE IN CANADA.

skimming records of the Standard cream separator, and we are sending larger numbers of this Canadian-made machine across the line every year. Last year we shipped 47 per cent. more separators to the United States than the previous year. This is merely mentioned to show you that the Standard cream separator can successfully compete with foreign machines right in their own field.

Besides being the closest of skimmers the Standard cream separator is of the most modern construction, has the most thorough self-feeding system, and it does not drip oil on to the floor or over the machine. It has interchangeable capacity

Standard

—years ahead of other separators in this respect. The capacity of a Standard machine can be increased at any time by merely changing the size of the bowl. You do not have to buy an entirely new machine if you should happen to increase the size of your herd any time.

Compared with other machines, the Standard gives you the utmost dollar for dollar value. You cannot find a machine constructed of better materials, or more accurately built, or more up-to-date. You cannot find one that will make more money for you. In fact, the Standard gives its money to its superiority as a cream getter and money earner. If it is MORE cream profits you want, the Standard will get them for you. We guarantee it.



Made in Canada

Have you read the latest Standard cream separator catalogue? It's free. Send us your name and address.

B. C. Farmers' Institute Convention

THE 17th Annual Farmers' Institute Convention was held in Victoria, B. C., with an attendance of 90 delegates, representing about 9,000 members. Superintendent Scott stated that although the number of institutes have increased during the year from 114 to 140, the actual membership had decreased owing to the large number of farm hands who had joined the expeditionary forces. The agricultural production in 1915 for the Province, amounted to \$31,000,000, while the imports had decreased from \$24,000,000 in 1914 to \$16,000,000 in 1915.

Information regarding the proposed Government loans to farmers was given by Alex. Lucas, one of the members of the Agricultural Royal Commission, who stated that the B. C. Agricultural Credits Act was based on New Zealand legislation. It would be administered by a non-partisan commission. Before securing a loan, an applicant would require to have two well-known reliable men from his district give evidence as to his reliability and capability. It was expected that the act would be in operation within the next few weeks and they were trying to get about \$15,000,000 for the purpose at the lowest interest rates.

It was the opinion of the convention that the owners of land held for speculative purposes, should be subjected to a special tax, sufficient to cover the expenses of destroying grasses on such land. Since this would require special legislation, however, the matter was left in the hands of the Government to decide a quick and effective method of meeting the situation. The question of local markets was opened and W. E. Smith, of Revelstoke, gave the experience of the farmers in his district in combating the competition of Chinese gardeners who peddled their produce from door to door. They had found the city council perfectly will-

ing to pass a by-law prohibiting such peddling and requiring farm produce to be sold on the market, with the result that things were now on a more satisfactory basis.

A representative of the Canadian Expositions, Ltd., explained that the high price of stamping powder was due to the increase in the price of raw material, which amounted in some cases to 300 per cent., while some of the ingredients were not now obtainable. The result would be that upon the exhaustion of the present stock on hand, stamping powder would be unavailable. There was also the probability that the government would commandeer the factory for war purposes.

It was felt that the farmers' institutes should have a permanent body of bona fide farmers at their head, and an advisory board consisting of 25 members was in consequence elected. Superintendent Scott announced that a monthly magazine relating to institute work was now available to institute members at the price of 25 cents a year.

O. A. C. Drainage Surveys

THE O. A. C. faced with such problems as "Where shall we place our drains?" "How deep shall we put them?" "What size of tiles shall we use?" and so forth, can receive assistance from the O. A. C. College, Guelph, which is conducting this year their policy of assisting farmers to solve their drainage problems. Anyone uncertain about these points may secure the services of a drainage surveyor, who will, if necessary, prepare a map of the farm, showing location of drains, the size of tile to use, and the grades and depths of drains.

The cost for the services of the surveyor will be his travelling expenses, and as several surveys are made on one trip, the charge is seldom over \$5 for each survey made. Those who have had their farms surveyed and have installed part, or all of their drains, may have a new plan

prepared free of charge. On the same terms as those for surveys, the College will send a man to give a farmer a start in the installation of his drains if he has had no previous experience. The man will show how to set grade stakes, grade the ditch bottom, make the junctions and lay the tile. For information write the Department of Physics, O. A. C., Guelph, or make application to the nearest district representative.

A Paper Farm

A correspondent of Hearst's Dairyman asks: "How much capital would one need to start in with dairying with 15 cows on 60 to 80 acres of land? How many cows would 80 acres support, all feeds grown on the farm?" The Editor's reply is as follows:

There are so many factors that enter in the consideration of a problem of this kind that it is impossible to do more than generalize or assume some condition and work from that. The soil, climate, location, markets and greater than all else, the man, are all factors which have to be taken into account.

The owner of an 80-acre farm will have to keep, besides cows, the young stock, horses, hogs, and chickens.

Fraser of Illinois says that corn silage and alfalfa will furnish all the feed necessary for a cow giving up to 3,000 lbs. of milk per year. He states that on the dairy farm belonging to the University of Illinois he grows these crops in about equal acreage and feeds 40 lbs. of good corn silage that would make 60 bu. of corn per acre and 16 lbs. of alfalfa hay per cow. The average yields then will enable him to keep one cow for each 1.77 acres. From two to 10 acres of the 80 will be given over for house, barns, yards, garden, orchard and paddocks.

If the farmer pastures his cows he will have to buy not less than one acre per cow for about 75 to 80 days' feed, or nearly two acres for the season. On high priced land this would

be better to feed the alfalfa and silage throughout the year rather than to utilize so much land in pasture.

On an 80-acre farm one could probably keep from 20 to 30 cows and enough of the heifer calves to keep up his herd, a bull, six or eight head of horses, a few brood sows and chickens. The profits will vary according to the kind of cows kept and the skill of the farmer.

According to Fraser, a cow will have to give 4,000 lbs. of milk in a year before she pays for more than her feed and the labor, interest, taxes, depreciation and other items of expense. A 5,000-lb. cow will pay \$10 profit above these expenses; a 4,000-lb. cow, \$20; a 3,000-lb. cow, \$30; a 2,000-lb. cow, \$40; and a 1,500-lb. cow, \$128.

Grade cows of this character will cost all the way from \$75 to \$200 each, and it is difficult to find cows giving 5,000 lbs. or more at any price. Horses will cost from \$300 to \$500 per team. Machinery and tools will cost from \$750 up to as high as \$2,000, depending on local conditions and whether the farmer can hire such tools as silage cutter and power is operated them.

An 80-acre farm would represent an investment of anywhere between \$12,000 and \$25,000 depending on the price of land, the character of buildings and the completeness of equipment. For example:

30 acres land at \$150	.....	\$12,000
Machinery and equipment	.....	1,000
30 cows at \$100	.....	3,000
1 bull	.....	500
4 horses	.....	800
10 brood sows	.....	300
300 chickens	.....	500
Cash	.....	500
Total capital	.....	\$17,100

If the 80 acres of land could be purchased for 47¢ per acre, it would reduce the investment to \$12,850; if the other hand, if the land cost \$250 per acre, the prevailing price in some sections, would increase the investment to \$35,250.

I HAVE an mummy of What is Diet. Ont. I have had a tasium (the urine been probably all equal parts iron, potassium and give him times daily

WIS down a habit as she is poor and give the winter she came in for trouble.—E. R.

This cow is some chronic glands. The whether she has tested will flourish. All (toxic symptoms of sulphate of and mix vomit spoonful three tubercular, try effect.

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COULD you have just in case. I also and they, too, are doing all the sight is all could be diseas to another in the care—W. W.

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W H AVE a cow in summer as bathed it with vinegar, etc., after bathing. An udder became an but we could only at a time. Cow to fresh. May will come all right in my treatment but for the cause of quarter?

Another cow year, as large as her back. It has two years and seen what she burts it. In the same growth caused from. How should W. R. Almona Dist. (1) The udder may be on acco tion that existed the vinegar. It the udder will after she calves allow her to go d. (2) It is not pr on the hip has the wart on her neck, should be off and the three times daily

OUR CELEBRATED Real Live Premiums

We have lately made arrangements with a progressive Holstein breeder by which he is to supply us with

Two Pure Bred Holstein Bull Calves

This breeder has, during the past few years, supplied us with most of the pure-bred calves which have been so popular with our subscribers to whom we gave them free for clubs of subscribers to Farm and Dairy. They are big, strong type fellows of good breeding, and are from high producing cows. Their breeding is guaranteed, and pedigree papers will be furnished with each one.

Do
You
Want
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He
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This is an opportunity for you to get a start as a breeder of pure-bred live stock. To become a breeder will add zest to all your farming operations. The best farmers keep pure-bred live stock. If you want to become one of the leading farmers in your district you must get into pure live stock breeding. You will find it intensely interesting and profitable as well. Begin by winning one of these excellent calves. You can secure one by sending us a club of

TWENTY-FIVE NEW SUBSCRIBERS TO FARM & DAIRY

at \$1.00 each. Write to-day for full information, literature and supplies. You will be surprised to find how easy it is to win one of these calves.

We have also made arrangements with several well known breeders to supply us with



Pure Bred Pigs

We can supply you with a pure-bred pig of any breed for only a few hours' work. Do you want to secure one of these popular premiums? If so, just pick out the breed you want and write for full particulars. We shall be delighted to send you full information and supplies with which to secure the small club of subscribers necessary. As soon as you send the subscriptions to us we will order your pig from a reliable breeder, who will ship direct to you, sending the pedigree papers. Within a very few months you will have a full grown, pure-bred pig that will be the envy of all your neighbors. He will soon become a SOURCE OF CONSTANT REVENUE.

Scores of our boy readers have secured pigs from us, and the letters which they write indicate to us how popular these Premiums are. Here is what one of them says: "Just a line to let you know that I received my pure-bred Berkshire Sow, and that I am well pleased with her. She is indeed an excellent pig." Another writes: "I am well pleased with the pig, and am sure that he is getting along well. Those who have seen him say he is a dandy, and wish they had one like him." For only

NINE NEW SUBSCRIBERS TO FARM & DAIRY

we will send a pure-bred pig, either sex, and of any of the common breeds. Write to-day for full particulars.

CIRCULATION DEPARTMENT

Farm & Dairy Peterboro, Ont.

Orchard and Garden Notes

An Orchard Hint

A FARMER whose apple crop was invariably good, was asked if he gave his orchard any special treatment, for, whether his neighbors had a crop or not, he always had. His reply was that every spring, usually in March, he hauled manure to his orchard, spreading it around each tree as far as the spread of the roots. This kept the frost in the ground longer, and danger from frost was ever before the trees blossomed. The hens usually scattered the manure later on. A farmer who knows this, tried it, and had a greater crop of fruit than the orchard had previously produced, and this last year had more apples off one tree in his own lot, than most of us with large orchards had altogether. —A. A. F.

The Farmer's Orchard

Peter Reid, Chateaugay Co., Que.

THERE are few farms but have a spot suitable for an apple orchard. Such ground planted with apple trees would amply repay the owner. In planting an orchard the ground should be thoroughly cleaned by the growing of hood crops. If ground is low and springy, underdrain. In planting, the holes should be made sufficiently large so that the trees may be moved either way to insure straight rows. Put the best soil about the roots, and make the ground around the trees firm with the feet. Plant well grown trees of two year old growth from the graft, and cut back the last year's growth to three or four buds.

Thorough cultivation insures growth, but little buckwheat or crimson clover sown in July, will retard the growth, ripen the wood and make the trees more hardy for the winter. Shallow cultivation of the orchard as the trees grow larger and the sowing of 15 to 20 lb. of crimson clover in July, left on the ground and plowed in the spring, fosters the growth of the tree, and at the same time ripens the wood and thus the tree becomes more hardy. Pruning is important; the tree should be cut back so as to have a low headed tree, somewhat heavier on the side of the prevailing wind. Fertilization should not be neglected; 8 to 10 tons per acre of barnyard manure, with 500 to 600 lbs. of good fertilizer, will give good results. Wood ashes are beneficial, especially in bearing years.

Apples cannot be successfully grown if spraying is omitted. The mixtures recommended, applied by a large hand or power sprayer, three or four times, during the season, and at proper times, will give excellent results. There is no reason why, in the Province of Quebec, the growing of apples should not be made a more prominent feature of agriculture. We have a splendid market, and Quebec apples should be sold in large quantities, instead of apples from the States of Washington and Idaho.

Extensive Potato Culture

I N a district where stock and grain farming are the principal lines, with potatoes a small money crop on the side, Marshall Haynes, of Hutton County, Ont., on his own farm has given potatoes the place of first importance. One spring, Mr. Haynes planted 40 acres to potatoes, and had an average crop, taking one year with another, is 15 to 20 acres. In 1914, 12 acres of the total crop were planted to early varieties, such as the Ohio and the Cobler. In fact, early varieties are considered more profitable than late varieties, and more of them are grown. They have another advantage in that being gotten out of the

land early, the fields can then be prepared for winter wheat. The principal late varieties grown are the Carman and Boston.

"Our best potatoes are grown on a sod turned under," Mr. Haynes told a Farm and Dairy representative who called on him recently. "We top dress the sod with manure, and at the time of planting add Stone's Complete Fertilizer at the rate of 400 lbs. to the acre. We put the commercial fertilizer right in the dirt."

"With such an acreage as ours, proper mechanical equipment is necessary. We plant the potatoes with a potato planter and take them up with a potato digger.

"We spray for bugs principally. We have used Bordeaux mixture, but as a usual rule the early potatoes do not blight."

"Cultivation is the most important factor in growing potatoes. We aim to cultivate after every rain and oftener if the rains do not come regularly. As an instance of the value of cultivation, I might mention one year when we had a terrible drought, and we made a little fortune out of potatoes. The lowest price we received for our early potatoes was 40 cents a basket. Only one of our neighbors had a good crop and he got it by irrigating his patch. We cultivated continuously, and to this cultivation we attribute the crop that we got. Our soil, I might state, is a sandy loam."

Another interesting feature about Mr. Haynes' handling of his potato crop is the marketing. Quite a large proportion of the early potatoes are carried to market in a Ford automobile, two or three trips a day having been made to Guelph, 17 miles distant.

Good and Bad Intercrops

A. H. MacLennan, Macdonald College, Que.

THERE are certain characteristics of a good intercrop which we must consider. It must be profitable; it must not crowd; it should not be a crop which requires stirring of the soil during the months of August and September, as we wish the young growth to be well hardened before winter; it should have different food requirements; it should have a different season of growth. There is not enough moisture in the spring for two crops, so let the tree have the use of the soil in spring; it is best to be an annual crop.

Bearing these points in mind, I would like to give a table of crops as they may be planted in three groups—good, bad, indifferent.

Good—Beans, cabbage, tobacco, potatoes, onions, squash, tomatoes, corn, buckwheat, carrots, peas, chickens.

Bad—Raspberries, blackberries, hay, grains.

Indifferent—Currants, gooseberries, strawberries.

"Fruit Tree Diseases of Southern Ontario" is the title of a bulletin issued from the Publications Branch, Ottawa, and written by W. A. McCubbin, M.A. The bulletin deals with 14 diseases of apple trees, five of the pear tree, four of the quince, seven of the apricot, five of the cherry, seven of the plum and 13 of the peach. The value of the discussion of these diseases is greatly enhanced by numerous illustrations. Methods of prevention and treatment are also entered into exhaustively.

The foundation for the milk flow this coming season has already been laid. Are the cows in good flesh? What is the condition of the grass the must first cow goes on to graze? Only for the balance of the season can she work for us.

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The Small-Top Milking Pail

ABOUT the most common-sense way of protecting milk from contamination after reasonable precautions have been taken to have the surroundings clean is to use a small-top milking pail. The ordinary milking pail is commonly 14 inches wide across the top, and it is necessary to hold it in a position to catch most of the dirt and dust that is unavoidably stirred from the cow's udder and flanks during milking. It receives also countless particles of dust, which are always floating in the air of a cow barn. If the diameter of the opening is reduced to seven inches, then the opening is just one-fourth as large as before and the advantage is obvious.

Many object that it is not convenient to use a small-top pail, but they would soon find that its difficulties are overestimated. No milkster could complain of object to having the opening of his pail only 8 or 10 inches in diameter. The size should be governed by the desire to produce clean milk and the patience of the milkers. In some dairies openings of the milking pails are only five inches in diameter. As suggested by Dr. Rowland G. Freeman, an expert on the upper side of the opening is a further protection against dirt and dust.—R. A. Pearson, U. S. D. A.

Pails. Which is the More Cleanly? being forced through them by pressure.

When passing through the strainer

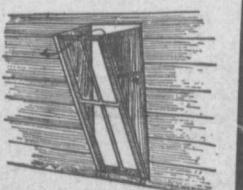


Fig. 2—Strainer in which milk is rising as it passes through guard.

large surfaces of the milk are exposed; hence it is important to do this work in a pure atmosphere.

Simple Stable Ventilator

L. K. Shaw, Welland Co., Ont. ONE of our neighbors, who lacks capital to make his farm and buildings all he would like to have them, is, nevertheless, so well



supplied with ideas that he usually "gets there" without spending much money. For instance, the ventilating system that he installed in his old stable is simplicity itself. The diagram herewith explains it in full. The "A" shaped sashels on either side of the window were cut out from old lumber and nailed in an apex. The sashes were hinged at the bottom. With this system, the cold air comes in at the top of the stable, but there is no direct draft on to the animals. The air in the centre of the stable carries away the foul air. This is the best method of window ventilation of which I know.

Types of Strainers

THE common strainer used over cans has flaring sides and a concave bottom, the wire gauze being in the centre of the bottom. This is only partially service. Its purpose is to remove coarse materials, but holds the milk in the milk stream, and the soft curdles which are easily broken up by shaking and settling may be forced through the small openings by the constant current of milk.

Numerous improved forms of strainers are now made, and some of them are very simple and effectively overcome the objection to the old type. In the pyramidal form (Fig. 1), the centre of the metal gauze is raised so the straining surface is much increased; impurities striking against it sink down until out of the current.



Fig. 1—The Pyramidal Strainer.

There is so arranged that the milk rising when it passes through the gauze (Fig. 2), and dirt held back falls to the bottom of a settling chamber. Layers of cotton between two pieces of wire to keep it in place. These cheese cloth and pieces of wire remove fine particles which escape other strainers. Cotton is cheap, and when used in a hand one can easily add sand gravel and throw it away. Sifters, but special care must be taken to thoroughly clean and sterilize them. Filters are also used, the milk

Leucorrhoea

I DOUBT if a Holstein cow (pure breed and therefore valuable) on the 12th of Nov. last, at a sale. She was three years old and had been fresh one month. Ever since we purchased her we have noticed a discharge from the womb, at such a copious or so two or three times a day. It is like slimy milk mixed with giva about 1 gallon of milk at a milking. She eats well and seems hearty enough, four months now since she calved. We feed hay, turnips, bran and shorts. We irrigated with warm water and creolin several times, but it did not do any real good.—I. O. M., New Westminster, B. C.

This is called leucorrhoea or whites, and is very difficult and tedious to treat. In many cases oestrus does not occur during the continuance of the disease. Flush the womb out once daily with about a gallon of a warm one per cent. solution of creolin and give her about 50 drops of carbolic acid in a pint of cold water as a drench or sprinkled on her food, three times daily, until the discharge ceases.



The weed bed doesn't grow that can resist the F. & W. "Climax" Cultivators

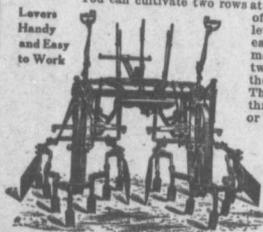
For summer fallow the "Climax" cultivator is indispensable. Its slogan is "death to the weeds," and it digs them out root and branch for the hot sun to do the rest. Its interchangeable teeth fit it for any work—never a weed can escape—and its immense strength, yet light draft, enables you to go right ahead and clean up the work in short order. Many farmers use it for field cultivation, too, getting double value out of their "Climax."

Each tooth has a double drawbar connecting it to the frame, the axle itself being of heavy angle steel. Each tooth has a safety spring trip, saving breakages when heavy obstructions are met. The whole construction has simplicity in detail, ease of operation, light-draft to save on horse-flesh and tremendous strength to cope with years of hardest work.

Several new features make the "Climax Cultivator" specially interesting this year. Read more about it in our Catalogue.

For row-grown crops the Cocksbutt Cultivator No. 5 will pay you big dividends

You can cultivate two rows at once, meaning a big saving of time, yet the foot and hand levers are so convenient and easy to work that it's no more trouble to manage the two rows than one row with the old style Cultivators. The teeth sections can be thrown to right or left, up or down, as easy as an automobile steering wheel works—allowing for crooked rows and cultivating every inch of ground, level or hollow. Made of finest quality steel throughout—very light in draft and you can't give it too much or too hard work.



Our new catalogue is waiting your request. Write our nearest Branch to-day for it.

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Fleming's Tonic Heave Remedy. The only cure—No matter what has been tried—will relieve, and will return the animal to his former healthy condition. FLEMING BROS., Chemists 73 Church St. Toronto

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keep a binder to harvest crops at the right time, without waiting for others to do it for them when they get to it. It is just an investment for you to see as *Farmer's Choice*. Let us tell you why you should own a—

GILSON

SILO FILLER

Get your green fodder and pack your silo full—at the right time. Save the labor that is lost by delay. The GILSON is simple to use and easy to operate. Constructed to cut and fill silage to top of highest silo, with any power, provided the cutting wheel does not fall below the moderate speed of 60 revolutions a minute.

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Pushing for Profits

E. Kay, York Co., Ont.

ONE of my neighbors is a prince of hog feeders. He grows them so fast that he claims it is a common thing for sowing pigs to slip through a hole in the fence in the morning and come back a few days later so much larger that they can't get through the same hole. I can't grow pigs as fast as this. In fact, none of us attempt to do things that this particular neighbor says he does. I do believe, however, that the only chance of profit lies in forcing pigs right—along from the start, and marketing them at six to seven weeks old.

I aim to keep the pigs always healthy and eating. They always have access to ashes or bone meal. They are fed salt, and their quarters, winter and summer, are kept clean. I find that equal parts of middlings and corn meal make an excellent grain ration, but where this is fed exclusively there

When We Market Our Sheep and Swine*

Some Sound Practical Advice by J. J. Ferguson, of Chicago

ONTARIO is the premier section of North America as far as high grade lambs is concerned. When any of our friends are coming from the United States to Canada they are always told to not forget to go to the King Edward and get a good Ontario mutton chop. There is something about our air or land that gives it a different flavor from anything we can get across the line. You stock men come over to Chicago and win honors in sheep, and I don't think I can tell you anything about the sheep business.

I just want to leave one thing with you: THIS MARKET NO LONGER WANTS HEAVY LAMBS. The most attractive lamb is the one that weighs the best price on the market weighs from 70 to 85 pounds. This year was exceptional, and everything in the shape of lamb realized a good price, but in the main the man who brings in a trim, well finished black faced lamb is the man who is going to top the market. My friends in Toronto said to me, "Bill the people at Guelph to try and get away from the long wool, white faced lamb." They do not kill well, and they are tallow if you finish them too fat. Last year, we had our stock in Toronto, four car loads of overweight lambs. We could not sell it on the Canadian market, and we sent it over to Chicago and we could not sell it there. We had to send it to meat brokers on South Water Street, and they had to peddle it around for five days before they could get rid of it.

If you would acquire the habit of watching the market closely and bring your lambs in before the big rush at reasonable weights, you will get the top price. When your lambs weigh 35 or 40 pounds you may have good grass and nothing else to eat. Then it comes to a question—whether you want to take a lower price or get the greater weight. In Montana, the bulk of the lambs that weigh from 35 to 40 pounds, they run right through the season. So far as ability to get the greater weight, you people of Ontario have the advantage. Across the line we think Ontario is the best sheep land in North America.

Hogs.

When Canada holds such a reputation across the water for choice Canadian bacon, it seems idle for a man from the south to peddle about his bacon. I want to say that I believe for all the unfair markets in the world for hogs, you have the worst right here in Ontario. I am liable to get into trouble with my packer friends for telling you that. In the

is a tendency to go off feed. Occasionally, when the appetite of the pig is not so good as I like to see, I add a little bran to bulk up the mixture. In winter, pulped mangels are fed with the grain. In the cold months, I feed three times a day, twice a day a thin, warm slop of middlings and corn meal, and at noon pulped mangels with a little meal. Towards the end or finishing period, the corn meal in the ration is increased.

first place you have an antiquated system of buying. There are some firms who have buyers of hogs at certain points, or I like to hear of quotations. If the market goes down the man is safe, but he takes a chance of losing if the market goes up. If you are ever going to establish a stable market, your stock should come to that market in competition with stuff of better or lower grades. If the stuff comes to market under contract with the packer, it is simply a hog when it gets there.

For 15 years I have been trying to get a discriminating price in favor of the highest grade bacon hog all over this country. I was on the Toronto market yesterday, and I said, "What about this hog?" And the buyer said, "Well, that is a hog." I said, "There is a very great difference between these two hogs." He said, "We are buying and shipping to packers all over the country and they are not grading their hogs." You people ought to work through your Live Stock Associations and through your various Governments, so as to get a standard grade for marketing your hogs, so that the man who is producing the right kind of hog will get every penny that his hog is worth when it comes on the market.

Best Weight Bacon Hogs.

We find that the idea of the producer does not agree with the packer. I find there is a difference in Ontario as to the weight. I find that one packer will take bacon hogs down to 130 pounds and up to 230 pounds. Our people have reasonable weights from 170 to 225 pounds. So I think it is a fair and reasonable weight for getting No. 1. Willshire side. We still find a large number of men who think it is more profitable for them to finish their hogs at a heavier weight. Now, I am going to say that I do not believe you can produce a 170 pound hog for any less per pound than that other man who is producing a 230 or 240 pound hog per pound. You have to build up the bone and muscle on that hog before he gets ready to put on weight. Therefore, I think it is more expensive for a man to produce the hog weighing 180 pounds, than hogs weighing over that weight.

I want to leave this one point with you, if I leave nothing else: GET TOGETHER AND WORK FOR AN OPEN AND COMPETITIVE MARKET WITH STANDARD AND GRADED WEIGHTS AND PRICES FOR YOUR HOGS OF DIFFERENT KINDS. If I haven't done anything else, my trip from Chicago will have been worth while.

The Farmers' Grain Exchange

Strong, Vigorous Seed is the Start for a Big Yield.

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REGISTERED NO. 72 OATS, \$1.10 PER BUS.
Registered quality, but not inspected, 90c per bus. Bags included. F.O.B. O.T.R. or C.P.R. This seed is of highest standard, pure and clean, and will pay for itself in the resultant crop.
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For Satisfaction and Profit. Leading variety, 14/20 per 1,000. Fifty plants each of fifty bush, \$1.00, variety, early and late. 11. Send for price list.

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O. A. C. No. 72 OATS FOR SALE

Northern grown, good, clean, true to name from very heavy field. Price, 75c. Per bush. Includes Post. JAS. B. MUIR, R. 3, Port Elgin.

O. A. C. No. 72 OATS

Improved seed from registered, silo stock seed, guaranteed to be inspected and tested; germinates 99 per cent, clean and pure. 90c per bus., bags free. Discount on large orders.

R. H. Crosby, Markham, Ont.

O. A. C. No. 72 OATS

FOR SALE—Good Clean Seed, true to name, selected from prize winning field a year ago. Price, 80c per bush. F. O. B. Woodville. Bags free.

R. H. GEORGE, McKeague, Ont.

R. R. No. 4, Woodville, Ont.

FOR SALE Everything

single trees, 100 ft. or a berry plant, shade, nut ornamental and ever-green trees, ornamentals, shrubs and vines, roses, hardy flowering plants, bulbs, apparatus; guaranteed stock at reasonable prices.

Catalogue Free. (Silver Black Boxes) Downham-Bros., Box 3, Strathroy, Ont.

FOR SALE

O. A. C. 21 barley. Postfired free of weed seeds. Gained a prize season 23 cents at Guelph. 90 cents per bushel.

CECIL M. GRAHAM

R. R. No. 4, Peterboro, Ont.

O. A. C. No. 72 OATS

Government Test Report. No noxious weed seeds. Germination 97.7 per cent. To clear out the balance of my stock, I offer f.a.b. Markham or Lockett Hill at 75c per bush, or just as low as 70c on 40 bush bags. This is a great chance to get pure clean seed of the best variety of oats grown.

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FARMERS' CLUB

Correspondence invited.

CAPE BRETON, N. S.

SALMON RIVER, Mar. 25.—Continued cold weather, and snow has been so heavy...

VICTORIA COUNTY, N. B.

TORQUE RIVER, March 27.—Winter has almost gone. Taking it all through, it has been a very mild winter...

Fifty Years Ago—And Now

DID you ever stop to think how dependent you have become on other people for so many necessities...

No longer do we set the milk pans in the middle of the house...

On the larger of our dairy farms hand power has almost given way entirely to the gasoline engine...

It is in the dairy stables, however, that the greatest change has been made...

It is in the dairy stables, however, that the greatest change has been made...

It is in the dairy stables, however, that the greatest change has been made...

RICHMOND CO. QUE.

DANVILLE, Mar. 27.—March set in with heavy snow showers and remained very cold all through until the 25th...

WELLINGTON COUNTY, ONT.

BOJRA, March 25.—The scarcity of beef cattle and pigs in this locality has been a source of complaint...

NORFOLK CO. ONT.

PORT HURLEBUR, March 23.—March weather has not been so favorable...

NEW WESTMINSTER COUNTY, B.C.

CHILLIWACK, March 26.—S. Croaklin, Crook's Creek, has been there even to the farm...

HOWICK-HUNTINGDON AGRICULTURE CLUB.

ABOUT 30 breeders of Canadian cattle living in the Counties of Beaufort, Huntingdon, and...

The following officers were elected: Hon. President, Rob. Ness, Howick; Vice-President, James Cottelham...

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STOP yer kickin' 'bout the times. Get a hustle on you. Kick the dollars when you grab the dimes...

Stop yer kickin' 'bout the times. Get a hustle on you. Kick the dollars when you grab the dimes...

Tuberculosis in Its Relation to the City Milk Supply

Prof. E. C. Hastings, College of Agriculture, University of Wisconsin

ONE of the important problems that presents itself to the milk inspector is the control of the health of the cows supplying milk to his people...

Long before the discovery of the tubercle bacillus, in 1882, by Robert Koch, bovine tuberculosis was considered to be of sanitary significance...

Is Tuberculosis Transferable?

In 1901 Koch announced that he did not believe there was any danger of man acquiring tuberculosis from cattle...

The general conclusion from all of this work seems to be that as far as bovine tuberculosis is concerned, it is practically negligible...

The Children Suffer.

In the case of children the story is far different. It is thought that about 10 per cent of the tuberculosis in children is due to bovine infection...

One from the milk-producing herds, and I believe that they are justified in this view...

From the information obtained on the slaughter floor it is not probable that at any one time over one-fourth of the cows are afflicted with the disease...

Curry Comb Prevention

M. C. McDonald, New Westminster Dist., B. C.

A SUBSCRIBER of Farm and Dairy not long ago asked for treatment for lousy cows...

I would like to ask that subscriber why his cows are lousy. We have never had a lousy cow on our stable...

One additional touch is necessary—the curry comb and brush applied daily, or as frequently as possible...

The farmer who gets up earliest is not necessarily the one who succeeds. It is the man who works on a well defined plan who makes good these days...

Does your harness rust in the stable? If so, look to your ventilation.

What is the use of shooing corn and then leaving it in the field to blow if the wind has blown dirt all through it?

A good currying will do a horse more good than two quarts of oats. Have a regular weekly hair and stick to it. It means dollars and cents in pocket.

If you have first class stock, be assured there is a good market for you. An ad. in Farm and Dairy will find it.

Plows
Disc Harrows
Drag Harrows
Spring Tooth
Harrow
Spring Tooth
Cultivators
Stiff Tooth
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Manure Spreaders

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The Massey-Harris Spring Bulletin

Head Offices

TORONTO

April, 1916

Spring Machinery for the Dairy Farmer

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EVERY Farmer should keep cows. If properly handled, they add very materially to the season's profit.



fect weather conditions are of little help, while, on the other hand, right sowing means a largely increased yield under favorable conditions, and in a bad year may mean the difference between success and failure.

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sds, 18.72 lbs.
2641, 1020 A
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26 lbs. butter
on.
25287, 2y. Am.
lbs. fat, 22.74
0d.; 1804.9 lbs.
s. butter, A.
1921, 2y. 11m.
lbs. fat, 22.51
Hoomfield.
19, 22174, 2y.
17.28 lbs. fat.
0d.; 254.5 lbs.
s. butter, K.
lass.
2277, 2y. 1m.
lbs. fat, 33.63
7d.; 2329.0 lbs.
7 lbs. butter.
2y. Am. 4d.;
fat, 26.02 lbs.
4d.; 252.2 lbs.
s. butter, B.
do 2nd, 24705,
lbs. 16.24 lbs.
Frost & Son,
26716, 2y. Am.
lbs. fat, 20.02
0d.; 817.4 lbs.
s. butter.
21454, 2y. 5m.
lbs. fat, 12.24
Chesterville.
4th, 26182,
lb. 12.31 lbs.
0d.; 847.0 lbs.
butter.
0d.; 1702.3 lbs.
s. butter, D.
lass.
11574, 2y. 2m.
lbs. fat, 21.17
0d.; 855.1 lbs.
s. butter, K.
0d.; 2721,
lb. 14.0 lbs.
0d.; 1847.3 lbs.
butter, A.
06885, 2y. 2m.
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