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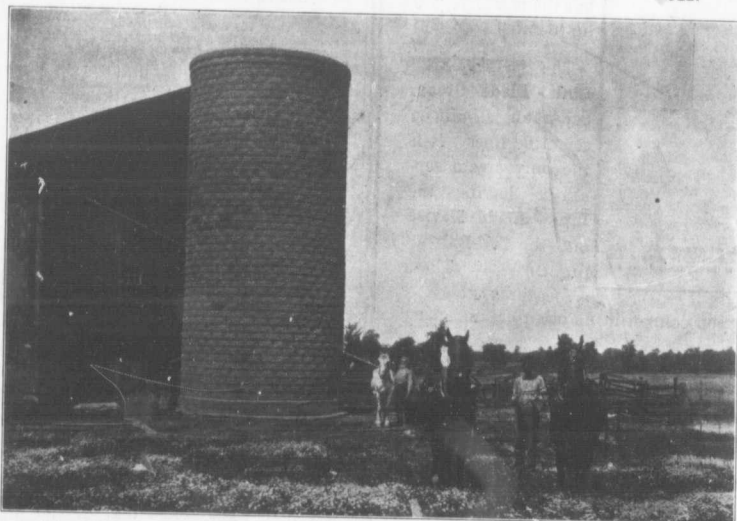
FARM AND DAIRY

RURAL HOME

PETERBORO, ONT.

MAY 18,

1911.



SUCCESSFUL DAIRYMEN CLAIM THE SILO TO BE AN ABSOLUTE NECESSITY

Corn fed as ensilage will produce 15 per cent. more milk than will the same amount fed as dry fodder. Corn as ensilage can be stored in much smaller space, can be fed with much less labor, and is equally good for winter feeding or for summer soiling. The silo has been a mortgage-lifter on many farms. No one who has given the silo a fair trial would go back to the old method of feeding corn. Determine to have a silo. Put your corn in now to fill it next fall. The concrete block silo here shown is on the farm of Mr. D. Brownlee, Lambton Co., Ont.

DEVOTED TO
BETTER FARMING AND
CANADIAN COUNTRY LIFE

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Each Week

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FOR WEEK ENDING MAY 18, 1911.

No. 20

SUPPLEMENTARY FODDER CROPS—MERITS OF SEVERAL DISCUSSED

Prof. C. A. Zavits, Ontario Agricultural College, Guelph, Ont.

Crops to Supplement the Pasture are Necessary. Alfalfa a Splendid Supplementary Crop. Some Good Mixtures. Fodder Corn for Late Feeding.

THESE are but few farmers in Ontario who can afford to neglect the raising of fodder crops to supplement the pasture lands. While I claim strongly that our pasture lands should be greatly improved in this province, I also wish to emphasize emphatically the importance of supplementing those pastures with the best kinds of fodder crops. We frequently have hot, dry periods during the summer seasons that greatly reduce the amount of animal food produced from the pasture fields. If provision is not made, there is often a great loss in the flow of milk of the dairy herd, in the vigorous growth of young stock, and in the satisfactory increase in the weights of the fattening animals. A wise farmer will make careful provision to supplement his pastures either by the growing of summer fodders or by furnishing a supply of silage which can be used when required in the summer season. There are a number of supplementary feeds that can be used to advantage, a few of which are as follows: (1) Alfalfa, (2) A mixture of oats and peas, (3) Millet, (4) Corn.

ALFALFA AS A GREEN FODDER CROP

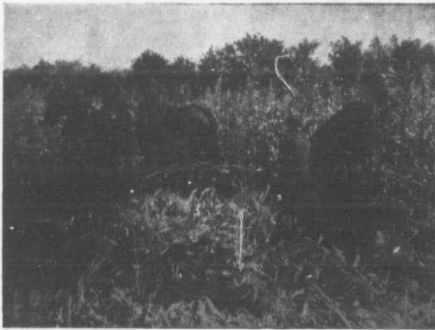
The growth of alfalfa in Ontario has been increasing during the past few years. It can be used to excellent advantage for the production of hay, of green fodder, and of seed. As a green fodder crop to supplement the pasture lands, it is one of the very best. The growth is usually large and is continuous throughout the season; its stolon properties are excellent; it will stand two, three, or four cuttings in one year; and it furnishes a large amount of feed which is both palatable and nutritious. As alfalfa is a perennial crop it possesses a great advantage in furnishing green fodder for several years in succession without re-seeding. It is exceedingly easy on the land, as so much of its valuable mineral matter is obtained from the subsoil, and of its nitrogen from the atmosphere. As a green fodder, it is relished by practically all kinds of farm stock. The fodder is so rich in flesh forming constituents that it becomes particularly valuable as a feed in the summer when the pasture lands are comparatively light in productiveness.

A MIXED CROP AS A GREEN FODDER

Numerous experiments have been conducted at the Ontario Agricultural College in testing the comparative yields of oats, barley, spring wheat, and peas both separately and in combination for the production of green fodder. Very satisfactory results have been obtained from the mixture as compared with the same grains grown

separately. Of the different mixtures used, a combination of oats and peas has given the best satisfaction.

Of the different proportions of oats and peas that have been tested, it has been found that two bushels of oats and one bushel of peas has given a large yield of crop that is of excellent quality. It is important, however, to select those varieties most suitable for the desired results. Such varieties as the Siberian or the Banner oats, and the Prussian Blue or the Golden Vine peas work nicely together. The oats are of good length of straw and are quite productive. The peas pro-



One Reason Why Dairying Should Be Profitable in Manitoba

Corn ensilage and alfalfa hay constitute the cheapest ration possible for getting results from dairy cows. Both of these crops can be grown in Manitoba. The illustration shows the corn binder at work at the Brandon Experimental Farm. —Courtesy O.A.C. Review.

duce long slender vines which are not so apt to lodge as some of the other varieties. All these peas are ready for cutting as green fodder at about the same time. In the six experiments conducted in duplicate in each of six years, it was found that the mixture here referred to produced a crop, 96 per cent. of which was standing at the time it was ready to cut for green fodder.

PEAS AND OATS MAKE GOOD FEED

Not only is the mixture referred to abundant in growth, but it is of good feeding quality. The oats furnish a large amount of carbohydrates, or the heat and fat forming constituents, and the peas a large quantity of protein, or the flesh forming constituents; hence a combination of these two crops forms a food ration in which the different constituents are very well balanced. This mixture can be sown at two or three times in the spring, allowing from 10 days to two weeks between each two seedings, and the season in

which the crop is available is thereby considerably lengthened.

One great advantage in growing a crop of this kind is the fact that it can be used in so many different ways. If the weather conditions are favorable and the growth of pasture is abundant and the green fodder is not required, the crop can be cut and cured as hay and fed in the winter season. If it is not required for either the production of green fodder or of hay, it can be allowed to ripen and can then be threshed in the winter, and the grain of the oats and the peas can be ground together and used in the form of meal.

In some sections, Common Spring vetches have been used in the place of the peas. In the experiments at Guelph we have obtained rather better results, however, from oats and peas than we have from oats and vetches. Those desiring to use the vetches could sow either one bushel of the vetches or one-half bushel of peas and one-half bushel of vetches with the two bushels of oats per acre.

MILLET AS A GREEN FODDER CROP

Millet does not, as a rule, thrive well when sown in the early spring and its growth is not as rapid as either that of alfalfa or of the mixture of oats and peas. As a green fodder crop, I consider millet of minor importance. Of the various varieties grown at Guelph, the greatest yield per acre of green fodder has been obtained from the Japanese Panicole variety. The plants are tall and upright in their growth, produce an abundance of leaves, and furnish a large yield per acre.

As a supplementary green fodder crop, corn is sometimes used to good advantage in the latter part of the season. Owing to the late time of planting corn, however, and to its slow growth during the earlier parts of its existence it is usually not a very valuable crop to supplement the pasture lands. In Ontario, it is frequently in the months of June or July that the hot, dry weather occurs and that the pasture lands become deficient in growth. Occasionally however, a drought occurs in the latter part of the season, especially in August or the beginning of September, and it is well to have a good supply of fodder corn which could be used for feeding the stock, if required at that season of the year. As in the case of all of the other crops here referred to, if it is not required to supplement the pasture, it can be devoted to other purposes to excellent advantage.

I would not want to separate milk when it had reached a temperature under 90 degrees. The best results are obtained at 97, although 94 degrees and 95 degrees will give satisfactory results. —Geo. H. Barr, Chief, Dairy Division, Ottawa, Ont.

Alfalfa in Quebec Province

G. P. England, Missisquoi Co., Que.

The popularizing of alfalfa through the articles in Farm and Dairy will result in great profit to the Canadian farmer. This forage plant offers the best means of redeeming the abandoned farms in the New England States, and it will put on a paying basis many farms in the Eastern Townships of Quebec that are not at present paying three per cent. on the investment.

I have been experimenting with alfalfa for the past nine years. The first plot that I seeded was seeded with a nurse crop. It was an absolute failure. I know several farmers in this section that have tried growing it without success. (I give you this information in reply to Mr. Marsh's query in Farm and Dairy, April 13th). I have had more alfalfa killed during the second winter than any other time. Is this the experience of anyone else?

WHEN INOCULATION IS UNNECESSARY

I have usually inoculated the greater part of my alfalfa with soil and have used the culture also. I am convinced, however, that a field well manured the previous year with a hoed crop will

failure in mixing alfalfa with other seeds.

Much can be done with alfalfa in the careful selection of the seed. I have had best success with Grimm alfalfa. I have a plot seeded in 1909. On a part of it, a side hill, I used the Grimm seed. This has invariably been my experience. Three years ago I gave my order early in January for seeds to one of the best seed houses in Canada. I ordered alfalfa seed among the rest, stating that I intended to use the alfalfa seed alongside of some supplied me by the Bureau of Plant Industry of the United States, and that I wished the best seed possible. Mr. Clark, the seed commissioner, reported on this seed as follows: "This sample is Turkestan alfalfa, easily recognized by its dull appearance. Its sale is not prohibited, but it can not be sold as No. 1." I sowed just double of this Turkestan alfalfa to the acre that I did of that supplied by the U. S. Bureau, and this spring I have over twice as many plants to the square foot of the Grimm and Sand Luerece, furnished by them, as I have from the seed purchased from the Canadian house.

Given a well drained field of corn stubble that has been well manured on the sod and fairly free

Sore Shoulders—How to Treat Them

N. C. Campbell, Brant Co., Ont.

Where reasonable precautions have been exercised there will be no sore shoulders or sore necks on horses necessitating treatment or requiring that the horses be given rest from their usual work. So many people, however, do not seem to know how to fit a collar and the harness to a horse; so many horses are allowed to become thin in condition, while the harness remains the same as before; and on account of accidents and working horses not previously conditioned for spring work, there are a great number of horses at this season of the year that must work at a decided disadvantage through having sores, which cause them discomfort and pain far and beyond what their drivers realize.

A good horseman in sympathy with his animals and who grooms and cares for them properly will rarely have sore shoulders on his horses. He will have a collar and the harness adjusted to a nicety on each horse. Some of the best horsemen of my acquaintance, and I follow this practice myself, remove the collars at noon in bad weather when the horses are working hard. It is well to bathe the shoulders at noon and each evening with water to which salt has been added. Then should sores threaten to appear sweat-pads may be used, these being hollowed out to relieve the pressure over the injured spots and give them a chance to heal.

After sores have appeared some treatment is required. There are many ointments of various kinds on the market, some of which give excellent cures. Most every farmer has his own favorite remedy for sores on horses and on that account I hesitate to prescribe a recipe as being better than others. However, I find that the following is very effective and it is cheap and may be obtained at any drug store. Get ¼ ounce of zinc sulphate and ¼ ounce lead of acetate (sugar of lead). Dissolve these in one pint of soft water. Apply this solution to sores with a swab attached to the end of a stick. This solution and swab can conveniently be kept in an ordinary quart jam jar.

Jottings from Farmers

If all farmers could be induced to grow alfalfa it would mean millions of dollars to us not only in added returns but in labor saved.—Annes Groh, Waterloo Co., Ont.

When seed is the object, alsike should be sown on clean ground and at the rate of six pounds an acre. Clay soil is best for alsike seed if it contains lime enough. The honey bee is useful for fertilization purposes. Alsike should be cut on the green side to prevent excessive shading.—T. G. Raynor, B.S.A., Seed Branch, Ottawa.

It was especially difficult to procure good seed corn last season as there were early frosts in the corn producing districts and the fall weather was generally unfavorable for maturing. This applied to the states as well as to Ontario; if anything, to an even greater extent. So that if the results last year were not everything that might be desired from Ontario grown corn, it is almost certain that they would have been no better and perhaps considerably worse if imported corn had been used.—E. D. Eddy, Ottawa.

I treat all seed potatoes for scab with formalin. Lower the cut potatoes into a solution of formalin, one to 30, and let them stay there while you are cutting another lot to take their place.—J. W. Clark, Brant Co., Ont.

Alfalfa hay is great for horses, and the idle cows will fatten upon it. For working horses, one cannot feed enough of it to keep them up, and must feed some grain along with the alfalfa if they are to be kept in condition. There is nothing like alfalfa for colts and calves.—Geo. Schuyler, Brant Co., Ont.

The Silo

C. F. Whiteley, Ill.

My idea of siloing short pasturage is to work can be done and putting it into following year. If vision in this way August, and let the before turning the pasture from serve part of my if I had to feed cattle will do fairly but they will not eat. It should not be the cows of ensilage raise plenty for both about raising corn, the ground in proper the cultivation is at least one that is good or 10-third more cattle than better than w

Experience

Edward S.

Before tile drains a threshing machine had started tile drains the crops on tiled fieldity and gave larger yields. When I saw the good getting from their than I put on mining tiling also an let them. I borrowed \$1,000 draw the tile and go in my outlet that fafield and as soon as corn. The next five also. By the time working it, it was Lora not being able ever, as it was too to help me and plan That was on Thursd to help my neighbor ground was still quic corn, however, and I tiled fields with their

RESUME

In the fall I hired \$3 I knew how much From field No. 1 we No. 2 yielded 75 bush offered 90c a bushel neighbors secured for bus. an acre, and 400 corn. The year 1909 corn, and untiled land time. If the reader labour saved, and the quantity of corn he of the value of tiling

The land in this case with black ash and clay land costs us about 10¢ the cost \$10 a thousand rods apart and two red for digging and lay \$2 a day for laying have since advanced er tile in comparison

CASE II

It is very important put in. To insure the left uncovered until Every day I look at struction and if I not a stone from the bottom tile to see if they are



Striking Proof of the Benefits of Nitro-Bacteria Inoculation on Alfalfa Seed

This illustration shows the result of experiments conducted in triplicate at the Illinois experiment station with alfalfa seed sowed without and with alfalfa bacteria. All the pots at the outset were filled with the same kind of soil, were kept on the same table in the greenhouse, watered at the same times with exactly the same kind of water; and in every way treated exactly alike, except that three were inoculated with alfalfa bacteria while the other three were not. On another page we reproduce a photograph showing the nodules on alfalfa roots in order that all Farm and Dairy readers may know and recognize these nodules when they look for them on alfalfa roots.

be sufficiently inoculated of itself. The system here in vogue of growing hoed crops with little or no manure but using a commercial fertilizer as a stimulant and using the green manure as a dressing with the grain crop when seeding down, is the greatest deterrent to getting a catch of alfalfa. Mr. Grisdale has been advising each year that farmers in this section use their manure on the hoed crops and to seed down the following year without manuring. What surprises me is that this advice is not usually followed. The only other crop for mixed farming that can compare with alfalfa is corn. Dairying will only become truly profitable in this hilly country—ideal corn land—when manure instead of a commercial fertilizer is used to grow corn. The year following corn I seed down to alfalfa as our new agricultural director has been pointing out to farmers for the past decade. If a nurse crop be used three pecks of barley is sufficient. If the ground is suitable for alfalfa we will get just as much grain from three pecks of good seed barley as if we used two or three times that amount.

Alfalfa is a very tender plant for the first year or two and the field should be fairly free from weeds or it will be choked out. For this reason I am surprised that Mr. Marsh advises sowing red clover and timothy with the alfalfa. If we get a catch of alfalfa we have a better forage than the red clover or timothy. The only reason for sowing them together is that a failure of the alfalfa is expected. We surely are bidding for

from weeds and a first quality of alfalfa seed of a hardy strain (Grimm, Canadian, Montana, or Sand Luerece), and anyone can grow alfalfa even without inoculation. I do not however, wish to depreciate the value of inoculation, as it is well worth the trouble and expense.

A farmer asked my opinion this spring as to the suitability of a hill for growing alfalfa upon which roots had been grown last year. The land was fertile and well drained naturally, but I noticed still the residue of a rank growth of weeds where the rows of corn had been, and consequently I could not guarantee a catch of alfalfa. I advise experiments on small fields until one learns the idiosyncrasies of the plant and land. I have known farmers to keep at alfalfa growing for eight years before getting a really good catch. Even these failures are valuable experience, as the farmer is learning all the time and has acclimatized a valuable forage plant.

I should like to find where in Canada one can be sure of purchasing alfalfa seed of a hardy strain and good quality. Possibly you or some of your correspondents can supply this information.

I am thoroughly convinced that alfalfa can be grown in this part of Canada if one is systematic and persevering, and dairy farming in these Eastern Townships of Quebec will be much more profitable when our rolling land and well drained hills are green with corn and alfalfa.

The Silo for Summer Feeding

C. F. Whitely, in Charge of Records, Ottawa

My idea of soiling cows during the months of short pasturage is the silo. There is no way the work can be done as profitably as raising corn and putting it into a silo for summer feed the following year. If dairymen would make provision in this way for feed through July and August, and let the after grass get a good start before turning the cattle on, we would get double the pasture from our after grass. I would reserve part of my ensilage for the summer, even if I had to feed more hay during the winter. Cattle will do fairly well on dry feed in winter, but they will not eat it in the summer.

It should not be necessary, however, to stint the cows on ensilage through the winter. We raise plenty for both seasons. There is no risk about raising corn. If we have good seed, and the ground in proper shape and give the crop the cultivation it should have, nine times out of 10 we get a good crop. In this way we can keep one-third more cattle on the same land, and keep them better than we could without the silo.

Experience in Tile Draining

Edward Sykes, Kent Co. (nt)

Before tile drains were laid in my district I ran a threshing machine for 15 years. When farmers had started tile draining, however, I noticed that the crops on tiled fields were of much better quality and gave larger yields than on fields not tiled. When I saw the good results my neighbors were getting from their tiled land with less labour than I put on mine I decided in 1902 to begin tiling also an let threshing go.

I borrowed \$1,600 and started three teams to draw the tile and got them home in time to put in my outlet that fall. In 1903 I tilled a 12 acre field and as soon as we had finished I planted corn. The next field to this one was 12 acres also. By the time we had finished tiling and working it, it was late to plant corn. My neighbors not being able to get on their ground, however, as it was too wet, came over the next day to help me and planted the 12 acres with corn. That was on Thursday. When I sent my teams to help my neighbors on the next Monday their ground was still quite wet. They planted their corn, however, and I will compare my yields from tiled fields with their untiled ones.

RESULTS OF TILING

In the fall I hired my corn husked by the bushel so I knew how much it turned out in the fields. From field No. 1 we harvested 110 bus. per acre; No. 2 yielded 75 bus., all good hard corn. I was offered 80c a bushel for seed of this corn. My neighbors secured from their fields only 55 to 60 bus. an acre, and quite a lot of that was soft corn. The year 1903 was a very poor year for corn, and untiled land was very wet at planting time. If the reader therefore, will figure the labour saved, and the increased quality and quantity of corn he will be able to form an idea of the value of tiling to us.

The land in this section is clay chiefly timbered with black ash and elm and lies very flat. Tiling land costs us about \$2. an acre. The three inch tile cost \$10 a thousand. They are laid three rods apart and two feet deep. It costs us 20c a rod for digging and laying them. The outlet costs \$2 a day for laying them. The three inch tile have since advanced to \$119 a thousand and larger tile in comparison.

CARE IN LAYING TILE

It is very important that the tiles are properly put in. To insure that they are I have all drains left uncovered until I thoroughly inspect them. Every day I look at all drains in process of construction and if I notice that the digger has taken a stone from the bottom of the trench I step on the tile to see if they are solid for the dirt must be

packed thoroughly in the hollow or the tile will sink out of place.

I have 175 acres of tiled land and should judge from experience that we can get on our land from six to 10 days sooner than our neighbors on untiled land. We get more and better crops with a great deal less work.

Plenty of Time Yet to Sow Alfalfa

Geo. Marsh, Peterboro Co., Ont.

Although personally I prefer sowing alfalfa in the spring with a grain crop, as being more economical, I have seen a large number of successful fields of alfalfa that had been sown in June without a nurse crop. These gave a good cutting of hay about the first of September. Because of



Alfalfa Roots Showing Nodules

Nitrogen-accumulating bacteria are necessary to the well-being and successful growth of alfalfa. Make certain that your alfalfa plants have these nodules. If they are lacking provide the bacteria that forms these nodules in the manner as has been explained on several occasions of late in Farm and Dairy.

these later splendid crops that I have seen I confess that I am sometimes in doubt as to which is the best time to sow alfalfa.

If any of the Farm and Dairy readers have not sown alfalfa this spring there is still lots of time to sow it and those who have sown alfalfa this spring may yet sow a few more acres.

One may to advantage plow up a few acres of an old pasture field or a part of a hay field which has suffered from the frosts of last winter. Such a field plowed and rolled down firmly and cultivated thoroughly and harrowed every week until the end of May or beginning of June to kill all the weeds will be in good shape for alfalfa. Have the soil rolled firmly then sow 20 lbs. of good seed to the acre harrowing it in with a light harrow. Either treat the seed with nitro-culture from Guelph or what I like better, apply 200 lbs. per acre of soil from an old successful alfalfa field and should the season be favorable you should cut a good crop of alfalfa about the end of August or early September.

Rural free mail delivery costs money, but our Government should supply the service even if it does cost money. I would willingly pay \$4 or \$5 a year to have my mail delivered at my farm gate.—Alfred Smith, Brant Co., Ont.

The Net Profit per Cow

C. F. Whitely, in charge of Records, Ottawa

What is profit, and how can dairy profits be increased? Profit is the excess of receipts over expenditure; true profit in dairying is the value of those cow products, milk, calf and manure, which are produced over and above what is necessary to satisfy legitimate charges against the cows. There is often considerable discussion as to what should constitute such charges. For example, dairying presupposes a certain sum, often a very large sum, of money invested in land, buildings, implements, and cows. That investment is worth interest, which is a charge against receipts; but for simplicity, profit is generally reckoned as the excess of cash received for milk over the estimated cost of feed, produced or purchased.

One point needs to be clearly understood; the total cash received for milk is very different indeed from the profit made. A business may be very extensive and the daily cash receipts very large, but unless profit is made bankruptcy is certain. The expense side of the account must be considered; as regards dairying particularly the lower the expense the greater the profit.

The price received for the product is fairly steady, no general or local shortage forces up milk prices materially, neither do bargain sales compel the producer to accept any absurd figure.

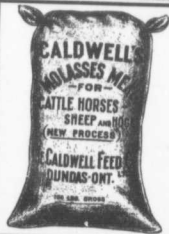
POOR COWS COURT RUIN

To keep poor cows is to court ruin. A poor cow is a heavy expense and can make no profit; a good cow, though she may cost more originally, costs only a trifle more for her feed; consequently the profit she earns is vastly superior. Net profit is increased in rapid ratio as the heavy dead wood of the herd is lopped off; cows that consume a greater value of feed than the value of the milk they produce are a double drag and burden, they incur a loss individually and lower the average net profit of the whole herd. Frequently such losing propositions are believed to be fairly good. The only way to detect them is to weigh and test each individual. Conversion of such calamities into blessings, of loss into profit, is comparatively simple when once cow testing is commenced. Large profit with good cows is a higher return than savings bank interest where the bank is just borrowing farmers' good money at three per cent. and loaning it out at seven per cent. Some dairymen make 20 per cent. on their investment. If we concede that there is of recent years an increase in the price of grain, of hired help, of living expenses, if we cannot escape an occasional drought and shortage of feed, then how emphatic the necessity of keeping only such cows as do return a large profit! Cow testing provides a simple, effective and cheap method of determining which to keep, which to beef.

REAL DAIRY BUSINESS

A farmer's future income depends on selecting his best cows. The vital point is to ascertain the difference in yield, and whether Bess or Spot returns \$5 or \$30 net profit, whether for every dollar's worth of feed consumed she gives a return of 90 cents or \$2.50, whether the milk costs 60 cents per 100 pounds, or \$1.40. That is the essence of real dairy business.

Study of each cow will lower expenses through the use of scales and test in eliminating the poor cow, and thus increasing the net profit. What we need is to get at it, and to keep at it. The streets of by and by lead to nowhere. Procrastination in cow testing retards general progress and development. Farmers who have achieved success in increasing the yield of milk and fat per cow, all invariably date the commencement of the improvement to the time they began weighing and sampling. This is no chance occurrence; cow testing is necessary—it is foundation work.



Caldwell's Molasses Meal

No stock man or dairy man should be without it. With the meal forming part of the daily food your stock will rapidly take on flesh, and grow glossy coats, your young animals will keep free from coughs and colds; your milk cows will give more milk, worms will be eradicated and all the nutriment contained in the entire feed. Costs nothing extra to use, as it is substituted for an equal quantity of the ordinary food. A ton will last 20 head of stock a month. Ask your feed store or write

The Caldwell Feed Company, Ltd.
DUNDAS, ONTARIO

FARM MANAGEMENT

Distance Apart to Seed Corn

When sowing corn in a drill what distance apart should the seeds be drilled for snailing? For husking? Which is the preferable row for sowing corn in silage, in drills or in hills?—J.H.H., Essex Co.

The most conclusive experiments ever carried on as to the distance apart that corn should be dropped in the drill were those conducted at the Illinois Experiment Station some years ago. The average results are tabulated as follows:

Distance between kernels in row	Yield per acre of corn, bus.	Digestible substance per acre
3 inches	59	5,218
6 "	50	5,900
9 "	47	6,529
12 "	39	5,293
15 "	35	5,000
18 "	31	4,877

It will be noticed that when corn was planted three inches apart in the drill, the largest amount of digestible substance was obtained. The snailage is "stronger," however, and makes better food when the kernels are six inches apart.

For husking, seed corn, to produce the largest number of good ears, should be dropped 12 inches apart in the drill.

Planting in hills three to three and a half feet apart each way has the advantage in that by cultivating both ways, little hand work is needed in the weeded ground. Experiments carried on by Professor Zavitz at the O.A.C. would indicate also that larger crops are obtained from corn so planted.—Professor Zavitz obtaining 33 per cent. more of both ears and total weight for snailage.

Information Re Alfalfa

I have a field of sandy loam with a gravelly sub-soil situated near a creek 25 feet above the field being about 20 feet deep. Would this soil be suitable for alfalfa? What kind of grain would I sow as a nurse crop and how much? Would you inoculate the seed? How do I use the inoculator? Will you advise before plowing.—H.A.M., Northumberland Co., Ont.

A field such as you describe should be well suited to alfalfa. If manured and plowed this spring, well worked and 20 lbs. of good seed used per acre with inoculation, a good crop should be obtained. Barley is preferable to other grains for a nurse crop in that it does not stool greatly and can be taken off early. All alfalfa seed should be inoculated before sowing. A bottle sufficient to inoculate one bushel of seed, with directions for using the same, can be obtained from the Ontario Agricultural College for 25 cents.

A Rotation for Southern Alberta

We bought a quarter section of land last spring with fall wheat last summer. This we are assured is good wheat grass. We are anxious to start a small dairy business. Would it be good practice to pasture grasses this spring over that fall wheat? Are Ayrshire cattle as good without corn? Are Ayrshire cattle as good as Holsteins and are they as heavy for milk?—R. J. McLeod, Alta.

If land cannot be irrigated it will be found difficult to get a good catch of grass, western ryegrass is probably the most likely to succeed. Timothy will do well on irrigated land in your district, but if land can be irrigated alfalfa is certainly the best crop to grow. I would suggest introducing a rotation similar to the following on non-irrigated land: First year, fall wheat; second year, fall wheat; third year, grass; fourth year, seed down to grass,—15 lbs. western ryegrass, 6 lbs. alfalfa, 2 lbs. red clover per acre. Sow the grass seed early in the season, using no nurse crop. Do not cut the first

year. Fifth year, hay; sixth year, hay; seventh and eighth years, pasture. Break up the soil for fall plowing in June or July, to be sown the same season. Very little is known as to best rotations to be followed in Southern Alberta. Experiments are being conducted at Lethbridge, but information available is as yet very limited. Ayrshires are good dairy cattle, but not such heavy milkers as are Holsteins. The Ayrshire gives probably a better carcass of beef than does the Holstein and, on foot, usually sells at a somewhat higher price to the butcher or than will the latter, although the meat from either the Holstein or Ayrshire is quite as good as from any other animal of the bovine species when properly fattened.—J.H.G.

Sugar Beet Queries

What kind of a sugar beet would you consider best to grow on sandy loam? I have read in Farm and Dairy of sowing the seed before sowing. How do you sow deep? Would you advise sowing on the level or on a shallow ridge and using a large roller after sowing?—J.E. Brant Co.

Sugar beets will not do very well on sandy soil. The best kind of roots to grow on heavy soil or light soil is the turnip. Sugar beets can, however, be grown on light soil provided the season be fairly favorable and the roots be handled in the proper way. Well rotted and very fine manure should be used. It should be applied at the rate of about 20 to 25 tons an acre, worked in on the surface with a disc harrow or cultivator, the land well rolled and the seed sown on the flat. Seed should be sown at the rate of about 10 lbs. an acre. Danish sugar beets, and Kleinewants Leber are the varieties likely to give the best satisfaction for forage.

If the seed is allowed to stand in water for about 12 hours it will germinate with considerable more certainty. After taking out of the water it should be spread thinly on a table or floor to allow of partial drying out, when it may be sown from one of the regular machines. Seed should be sown in rows about 28 inches apart and the land well rolled after sowing as well as before.—J.H.G.

His Alfalfa Killed Out

Last year I cut a field of alfalfa which gave me good returns. I cut it three times, the third cutting on September 17th. I got about four tons to the acre in the three cuttings. I did not pasture it or allow anything to go on it. This spring I find it killed out by the frost. The field is a heavy clay loam. What would you advise to be done with it? I feel annoyed at it being killed out, as I have about 25 acres sown.—G. G. Peterboro Co., Ont.

The answer to this question was given in Farm and Dairy last week but we will repeat. You do not say whether the alfalfa was thoroughly inoculated. The absence of winter-killing is lack of inoculation, but about once in six or eight years we get a season like last winter, when I have seen particularly disastrous to some old fields that are thoroughly inoculated.

The only thing to do in such cases is the same as when fall wheat or red clover is killed out—sow it over again. If the alfalfa is entirely killed out the only thing to do is to plow the field and seed over again, which is rather poor comfort with seed at \$15 a bushel.

If, as is likely the case, there is quite a sprinkling of living plants, I would cut it up thoroughly with a springtooth cultivator and sow more alfalfa seed in the row between the living plants, and if no nodules are found on them, either treat the seed with culture obtained from the O. A. C., Guelph, or what I like better, sow 200 lbs. of soil from a good successful alfalfa field to the acre and harrow it in well.—Geo. F. Marsh.

Questions

How is soil prepared for sowing alfalfa? Directions for sowing alfalfa, 30, Ont.

Land to be sown to alfalfa should be plowed and thoroughly worked a little time before sowing this crop. Any excess in the seed bed should be dislodged. If it is for use before the alfalfa has had a chance to be plowed soon as possible, then before seeding to rapeseed. It may be sown in rows or in drills from 20 in. apart. If sown broadcast require from six to six per acre; sowing in rows from four to four and a half as crop results are almost the same.—J.H.G.

Alfalfa on Soil

I have five acres of soil of this spring. Would alfalfa? What time to sow?—A. L.

On your field the would be to work the

One of the first farmington being conducted in Agincourt, Ont., which standing in the company

to the first of June then sow alfalfa without using 20 lbs. of good seed inoculated with nitrogen from the O. A. C. Ont.

Re Benefits of

Is it considered advisable to sow one bushel of alfalfa seed to the acre, would it injure the wheat? I do not doubt that it is just when and how would be rolled. It depends on many conditions, which need to be entirely favorable for a definite answer can be given.

Our editors have never use of the roller on loam in the ordinary course. On lighter land the roller is compacting the soil firm.

In so far as your alfalfa field, seeded this year, the roller would likely to do it any harm is would it do it any time would be there are stones or clods in the soil. On your heavy soil the roller is likely that you won't your time in using the there was a heavy crust in which case it might tag to roll. There

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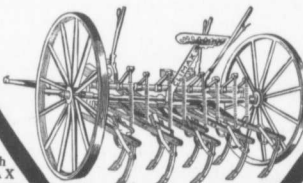
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Questions on Rape

How is soil prepared for rape? Please give directions for sowing.—D. P. MOX., Essex Co., Ont.

Land to be sown to rape should be plowed and thoroughly worked some little time before seeding down to this crop. Any openness or looseness in the seed bed is sure to result disastrously. If it is desired to sow for use before the end of July, the land should be plowed and worked as soon as possible, then left for a time before seeding to rape.

It may be sown either broadcast or in drills from 20 inches to 28 inches apart. If sown broadcast it would require from six to eight lbs. of seed per acre; sowing in drills from three to four lbs. would be sufficient. So far as crop results are concerned the methods are almost equally satisfactory.—J.H.G.

Alfalfa on Sod Land

I have seen acres of land plowed from sod this spring. Would it be suitable for alfalfa? What time should I sow it?—A. L.

On your field the best practice would be to work the land thoroughly

probably result some injury to the young alfalfa plants that have sprouted and are showing above the surface. This may be determined experimentally as you try a strip with the roller.

A New Way of Inoculating

I tried spraying a second year's crop of alfalfa with nitro-culture, obtained from Prof. Botnamby of London. I used on a quarter of an acre what was recommended for one acre so as to be sure of results. I saw no difference between the portion sprayed and that not so treated. Why is this?—C. F. B., Tenbonne Co., Que.

Our correspondent does not state whether or not the nodules were present on the alfalfa roots. If they were he could not expect to see an improvement.

Personally, for alfalfa inoculation, I prefer sowing a couple of bags of soil to the acre from an old alfalfa field and harrowing thoroughly; but I see no reason, if the bacteria have not been weakened by keeping and if plenty of water is used, or if a rain should follow immediately after the spraying, why this system from Lon-

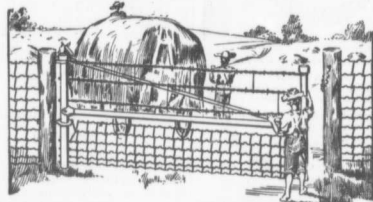
The OLD

Hard to Open



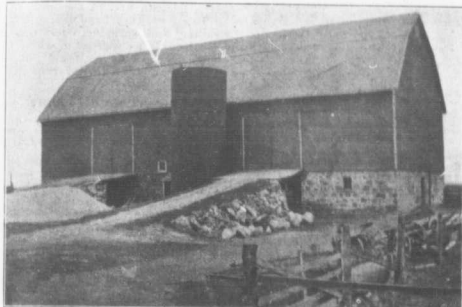
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A Barn of a Desirable and Popular Type

One of the first farms to be entered in the Interprovincial Prize Farms Competition being conducted by Farm and Dairy this year was that of Chas. Watson, Agincourt, Ont., whose barn is here shown. This farm should take a good standing in the competition.—Photo by an editor of Farm and Dairy.

to the first of June or even later, then sow alfalfa without a nurse crop, using 20 lbs. of good seed to the acre inoculated with nitro-culture obtained from the O. A. College, Guelph, Ont.

Re Benefits of Rolling

It is considered advisable to roll land when sown one bushel of barley to the acre, seeded with 20 lbs. of alfalfa, or would it include the young alfalfa?—G. W. Lincoln Co.

It is a debatable question as to just when and how much land should be rolled. It depends much upon varying conditions, which one would need to be entirely familiar with before a definite and satisfactory answer can be given.

Our editors have never favored the use of the roller on loam or clay land in the ordinary course of husbandry. On lighter land the roller is useful in compacting the soil and making the firm.

In so far as your barley and alfalfa field, seeded this spring, is concerned, the roller would scarcely be likely to do it any harm. The problem is would it do it any good? and your time would be wasted unless there are stones or corn roots to be fattened out of this way of the binder. On your heavy soil at Beamsville it is likely that you would be wasting your time in using the roller unless there was a heavy crust on the field, in which case it might be an advantage to roll. There would in all

don should not give results. The danger is that the bacteria would stick to the leaves or stalks and the hot sun and wind would destroy them before they would come in contact with the roots.—Geo. F. Marsh.

Cows Require to be Respected

A dairy cow is a lady. She is refined, sensitive almost to a degree of delicacy. She is gentle, a gentle woman in all of her taste and niceties. She chews the cud of reflection with a poise and innate dignity, attributable to her consciousness of her unquestionable position as a lady, born from a long line of ancestors who belonged to the same rank in society, which she inherits.

And so a good dairy cow is to be recognized in polite circles as being an altogether superior personage. No mere man who fails to accord her the respect due her ladyship has any right to enter her boudoir or sit at her feet upon a three-legged or one-legged stool.

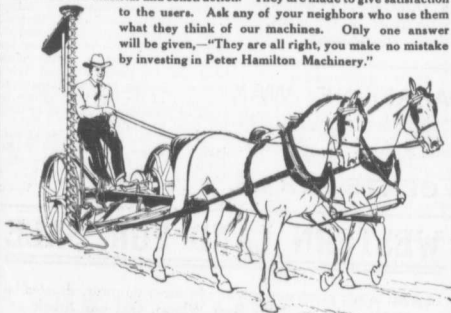
A man may swear and rage at the hogs, all he needs to, in order to show his manliness, and the hogs only snort in disgust and let it go at that. We have seen many a hog turn up its nose and even wiggle its snout violently when a man or boy began ranting and "cussing" in a truly human style, perhaps because some festive swine were holding a feast in the cornfield, but that is as far as the hog goes in its disapproval.

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HORTICULTURE
Now We Must Spray
The farmers of Peterboro Co., Ont., as well as elsewhere, are taking a new interest in their orchards this year. This interest is typified in the case of Mr. John Elliott, a local farmer some miles out from Peterboro. He has but 80 trees. Recently while in the office of Farm and Dairy he told our editors that he had pruned them thoroughly and will spray them this season with the commercial lime-sulphur.

Speaking of spraying Mr. Elliott said: "We have simply got to spray or the fruit will be no good. It will be small, scabby and wormy. I have never sprayed before; but this year I have purchased a new sprayer to do the work. I have concluded that I must spray if we want to get anything out of our orchards."

Free Entry of Fruit to U.S. Markets

Elmer Lick, Ontario Co., Ont.
Discussion along the lines of tariffs and reciprocity with the United States naturally gives rise to the question, "What would free entry to the United States market mean to Ontario apple growers?" Ontario has as good men, able to care for apple trees and with experience in marketing as any part of America. We have the soil and climate suited for the production of high class apples of the very best quality. We have Fameuse, McIntosh Red, Gravenstein, Spy, and other high class apples that cannot be excelled in any part of the world.

Now with the men, the soil and varieties such as indicated, why should we be closed or almost closed out of the large United States markets? Before the heavy duties were placed on apples entering the United States a large share of our apples was shipped there. In spite of the 75 cent duty even now some are shipped every year. It would appear that with that duty off that we would find ourselves close to one of the best markets for the varieties already named, and also for Belleflower and Talman Sweet. To-day we can place apples on most of the Old Country markets and in Winnipeg as cheaply or cheaper than in Buffalo.

If there was a high range of mountains between Oshawa and Buffalo, every pressure would be brought to bear on the Government to have the mountain range tunneled through

that traffic should be hindered as little as possible. But we have a tariff wall that is equally obstructive of trade. I can remember when the duties came on apples that we had sold to a United States buyer. He cancelled the bargain. We sold to England.

We want the widest market possible.



Before Pruning
Young apple trees that tend to grow large, upright heads, difficult to spray and harvest a crop, should be severely headed back and made to conform to the shape desired. All varieties require some pruning to shape the head properly.

It would appear that the enlargement of the market would encourage producers, and especially stimulate careless growers to improve their varieties and thus eventually lead to further development of apple growing in this country.

Experience in Spraying
Hamilton Fleming, Lincoln Co., Ont.
I have always used the home-made lime and sulphur mixture in almost equal proportions, and applied while warm. My spraying outfit consists of an ordinary 40 gallon barrel with hand pump, hose rod and a double nozzle.

In an orchard of 1,100 peach trees, I applied 24 barrels of spray at a cost of 90 cents a barrel. The trees were sprayed very thoroughly. The direction of the spray was carefully watched. The lime in the mixture made it possible to see where branches had been missed, and so made a final touching up an easy task.

I had very little cup leaf, except on fifty "Triumph" trees which, however, yielded an average of nine 11-quart baskets a tree. No thinning was necessary. From 600 acres in bearing, I marketed 7,200 quart baskets, chiefly "selects" or No. 1. My trees appear clean and in a healthy condition.

Horticultural Notes
R. E. Reeves of Guelph, and W. E. Smith of Chatham, Ont., will assist Mr. A. D. Campbell, district representative in Dundas Co., Ont., in his orchard demonstration work.

Mr. R. S. Duncan, district representative in Northumberland and Durham counties, has gone into orchard demonstration work this season on a large scale. Mr. H. S. Fry, of Vineland, Ont., will assist Mr. Duncan in this work.

Thirty thousand apple trees are now under lease to the English Syndicate operating in Prince Edward Co., Ont.

Many Orchards Leased
Some idea of the extent of the operations of the company that is leasing orchards throughout Ontario and part of Quebec may be gained from the fact that already it has 140,000 trees, representing about 4,500 acres of orchard under lease.

Upwards of 1,000 acres of additional land is being purchased outright. Most of the orchards have been leased for periods of 10 years. The majority of them are located in the counties of Prince Edward, Grey and Huron, although operations are being conducted in some 18 counties all told. Interests have been secured also in two of the largest orchards in the province of Quebec.

Mr. I. F. Metcalf, B.S.A., formerly the district representative of the Department of Agriculture at Collingwood, is in charge of the operations. The company has appointed representatives in the different districts. Mr. J. E. Anderson, of Melville, being its representative in the county of Prince Edward. Mr. Anderson has at work under his direction several parties of three or four men, each in charge of a foreman. These parties report both to Mr. Anderson and to the head office in Toronto. They have charge of the pruning and spraying operations in the orchards as well as of all of the work required to maintain the orchards in a good thrifty condition.

"Three Pound Pickers"

In Farm and Dairy's market reports I notice the expression "three pound pickers." What does this mean?—C. E. S. Hastings Co., Ont.

The expression "three pound pickers" in relation to the bean market is used for a class of beans that in determining the price of a bushel of which allowance is made for three pounds of deteriorated stock. "Three pound pickers" are the lowest grade of beans in the market and are in contrast to the hand-picked variety, which are of the highest grade and price.



After Pruning
This may seem to the inexperienced to be the best time for the young tree. Many orchardists would take off more than this. Both photos by an editor of Farm and Dairy in an orchard on R. E. Nixon's farm, Bram Co., Ont.

Manure the Orchard—To maintain the fertility of the soil we draw manure from town in the winter, spreading about 10 tons to the acre. We get over the orchard every three years. In this way we do not leave the rest of the farm to keep up the orchard. We have no scruples about putting town manure in the orchard, as extra cultivation gets rid of any foul weeds that may come from seeds in the manure.—John Watson, Ontario Co., Ont.

POULTRY

Now For Free

Canadian eggs direct from the farms of first quality summer that fresh egg manna, that crimson white, continually troubled with the ailments of inferior Grey and those of us who take eggs are subjected to loss unless some special kiting is adopted. For estimate that taking you out, 17 per cent. of the egg on consignment are fit for use and have to be sold.

We poultry keepers select to take special collect eggs daily and not least twice a week during weather of summer. The eggs are collected, graded and marketed in the village market to the wholesaler and fit for sale to the cold storage through the hands of the middlemen before the summer, the chances are percentage of them will be they are finally sold. get returns for the market the eggs so to reach the consumer as sale.

It is not possible for farmers to market eggs advantage, but several other on the cooperative let eggs regularly in w titles to the big dealer are marketed in the local creamery man to the marketing of eggs turns to his patrons. That 17 per cent. of the eggs are sold, I am sorry. The way to get through cooperation an in the marketing of our

Care of the Brood

C. E. Brown, University of Guelph, Ontario, writes: "The rules for feeding hatched chicks are the for feeding hatched chicks the little fellow mother to teach them to attract bad habits. Sometimes I found it a good plan older chicken with the start them off and it how quickly they will be to distinguish between a not a food. They will the litter and sand on preference to the food reason. We sometimes use the floor for a few days, or wheat chaff is given, dust or anything that injurious to them if it it would prove to used. We feed the young bro five times a day for three weeks. After that if out on nice, clean grass a good range, three times sufficient. When hours old we give them feed, which is usually being taken not to over- is given that they will in minutes. After a cracked grains may be increasing the quantity of cracked grain and two given. Water and grit should be at all times.

When we have very from feeding the mash on the beginning, but an able box or hopper is used will waste the food. When the chickens are weeks old we give them and feed them from hoppers

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During 1910 we sold over 133,400 acres; during the past four years we have sold over 400,000.

POULTRY YARD

Now For Fresh Eggs

Canadian eggs direct from the producer in the winter months are practically all of first quality. It is in summer that fresh eggs are at a premium, that commission merchants are continually troubled with large consignments of inferior eggs, and that those of us who take proper care of eggs are subjected to the greatest loss unless some special means of marketing is adopted. Produce dealers estimate that taking year in and year out, 17 per cent. of the eggs received on consignment are altogether unfit for use and have to be thrown away. We poultry keepers owe it to ourselves to take special precautions to collect eggs daily and market them at least twice a week during the warm weather of summer. Even where the eggs are collected regularly if they are not marketed in the usual way, that is to the village merchant, from him to the wholesaler and from the wholesaler to the cold storage man and so on through the hands of four or five middlemen before they reach the consumer, the chances are that a large percentage of them will be bad when they are finally sold. If we are to get extra for the usual way, we must market the eggs so that they will reach the consumer as soon as possible.

It is not possible for all individual farmers to market eggs to the best advantage, but several working together on the cooperative plan can market eggs regularly in wholesale quantities to the big dealers at our large cities. In this way the farmer and the local creamery man takes charge of the marketing of eggs with good returns to his patrons. That 17 per cent. of loss (which is not a figure that is not necessary) is the way to get around it is through cooperation among ourselves in the marketing of our produce.

Care of the Brooder Chicks

C. E. Brown, University of Minnesota The rules for feeding incubator-hatched chicks are the same as those for feeding be-hatched chicks. Of course the little fellows without a mother to teach them are apt to contract bad habits. Sometimes we have found it a good plan to put in an older chicken with the young ones to start them off and it is surprising how quickly they will learn from it quite sufficient. It is not a good plan to use a mother hen as a teacher for a few days. If the chick is not a food. They will often eat the litter and sand on the floor in preference to the food and for this reason we sometimes use paper on the floor for a few days. If the chick is not a food. They will often eat the litter and sand on the floor in preference to the food and for this reason we sometimes use paper on the floor for a few days. If the chick is not a food. They will often eat the litter and sand on the floor in preference to the food and for this reason we sometimes use paper on the floor for a few days.

We need the young brooder chicks five times a day for the first three weeks. After that if they can get out on nice, clean grass and are given a good range, three times a day is quite sufficient. When they are 48 hours old we give them their first feed, which is usually a mash, care being taken not to over-feed. No more is given than they will eat up clean in 10 minutes. After a day or two cracked grains may be gradually increasing the quantity till the feeds of cracked grain and two of mash are given. Water and grit are before them at all times.

We are having very good results from feeding the mash dry, right from the beginning, but unless a suitable box or hopper is used the chickens will waste the food considerably.

When the chickens are eight to ten weeks old we give them a free range and feed them from hoppers which are

filled once a week. These hoppers have two compartments, one for the meal mixture and the other for the cracked grains. Some poultrymen even water their chicks once a week. They use a good-sized barrel, fill it with water and hang it to a shady place where it will keep cool. The barrel is fitted with a tap which is open enough to let the water drop into a pan just fast enough to prevent wasting. This plan followed till the time comes for rounding up the chicks for winter.

Water Glass For Preserving

Now is the season when eggs are most plentiful on the farm and prices are at their lowest. Later in the season the hens may not be laying enough eggs to supply the family; hence the advisability of packing eggs now. A satisfactory means of carrying eggs over from this season of large production to the month of scarcity later on will be found in the use of water glass. Eggs can be kept in water glass solution for a whole year and are almost as good for cooking purposes at the end of that time as fresh eggs.

Water glass, or sodium silicate, can be bought at drug stores for \$1 to \$1.25 a gallon. This is sufficient to make 10 gallons of preserving fluid which will suffice for 300 dozen eggs. In selecting the eggs for storage clean eggs with strong shells that are not more than two or three days old should be selected.

The water with which the sodium silicate is mixed should be first boiled. A most thorough mixing of the water glass and the eggs is to be necessary. When the eggs are to be preserved in several receptacles the water glass and water should be mixed in each receptacle separately. If mixed in one receptacle the water poured into the others there is a liability of getting different percentages of water glass in each receptacle.

The mixture should be covered to prevent evaporation. A cool cellar is the best place in which to keep the eggs. The preserving mixture can be made in any quantity, but the percentage should be nine parts of water to one part of water glass.

Our Veterinary Adviser

HORSE CANT SWALLOW—Old horse chews hay, but appears unable to swallow it. He can swallow apples.—A. McK.

The trouble is with the teeth. He can't masticate the hay sufficiently to swallow it. Apples require very little mastication. If he has the eyes one or more long molars that require clipping, at all events his teeth require dressing by a veterinarian.

RECURRENT OPHTHALMIA—Dog has recurrent trouble with his eyes. They become sore and itchy and discharge matter. It is a kind of nose when it comes itchy, and he rubs it until raw. Then a scab forms. After a time he gets all right, but the trouble recurs. It is not possible to rub anything on his nose.—A. McK.

These attacks cannot be prevented and it is possible that the dog will eventually go blind. When he is suffering from an attack, bathe the eyes frequently with hot water and put a few drops of the following lotion into each eye twice daily, five grains atropine to one oz. distilled water. He must be controlled so as to allow a little oxide of zinc ointment to be rubbed on his nose three times daily.

Enclosed find \$1.00 for my renewal subscription to Farm and Dairy for 1911. I am well pleased with Farm and Dairy, and think it is a great benefit to the farmer and dairymen in general.—B. Laycock, Hastings Co., Ont.

ANENT RECIPROACITY

Determined Fight by Grangers

Unexpected strength in opposition to the Canadian reciprocity bill has developed in Washington due to the determined battle being waged by the Grangers. The staff correspondent of the Globe in Washington reported last week that the Grangers are working in cooperation with the protected interests of the cities.

It is reported that the Grangers have undertaken a systematic campaign and have gone so far as to solicit subscriptions from manufacturers to carry on the propaganda against the bill. The farmer delegates are camping in the city with head quarters and rooms at the Willard, the most expensive hotel in the city—and that means something in Washington—and are bringing every pressure possible to bear on the Senate. A highly paid counsel from New York is advising them with the knowledge and experience of an expert, and every move they make is carefully directed.

The manner of this United States Grange campaign, while it is not of so much importance as its effect will be, is nevertheless interesting. It goes to show the effective way in which farmers are making themselves heard once they are thoroughly organized in one body such as the Grange.

Red and White Holsteins

Holstein cow was bred to pure bred Holstein bull, she produced a calf marked red and white. Can you tell us the cause? Both cow and bull are registered.—D. McD., Hastings Co., Ont.

Red and white Holsteins on rare occasions are produced by what are the purest of registered stock. It is said that red and white Holsteins are common in their home country and that a herd book is there kept for them.

The cause of your calf being marked red and white may be set down to it having "barked" back to some of its ancestry, probably many generations back, in which were red and white markings.

The Silo in Lambton

Editor, Farm and Dairy—We have had a few wooden silos here in our district for the past 20 years. They have not been altogether satisfactory, as they soon decay and become very open and shabby. Some of them have been taken down and the staves turned end for end. Some of the newer ones have been blown down several times, although well braced.

As lumber became higher in price some of our more progressive farmers began to turn their attention to cement and a few solid cement silos were built. There is a lot of labor about building these, and some claim that the ensilage in them freezes badly.

About three years ago Mr. D. Brownlee began to make enquiries about cement block silos. He went to look at some of these at a distance and the result of his investigations was that he built a cement block silo, the first one in our district. (Mr. Brownlee's silo is shown on the front cover of Farm and Dairy this week.)

Some of the advantages of the cement block silo are that the blocks can be made in the early spring, or in slack times. There is no heavy iron form required to build it by and

Eggs for Hatching

Rose Comb Brown Leghorns, \$1.50 per 15; Single Comb Black Minorcas, \$2.00 per 15; Silver Grey Dorkings, \$2 per 15.

J. H. RUTHERFORD, Box 62

the blocks being dry are lighter to handle than the heavy wet cement used in solid cement silos. The cement block silo may be taken down and rebuilt if most desired. The ensilage keeps better since in the wall there is an air space which prevents freezing. The silo has a fine appearance and may be built higher at any time should one desire it. Mr. Brownlee is well pleased with his investment in this silo.—D. N. Anderson, Lambton Co., Ont.

ABSORBINE

Will reduce inflamed, strained, swollen tendons, ligaments, muscles or bruises, cure the sprains, strains and sore pain from a Spinal, Side Bone or Bone Spavin. No blister, no hair gone. Horse can be used. Horse Shoe 2 D Free. \$2.00 a bottle at dealers or delivered. Mc. & Dixon, Kilmbridge, Ont., writes, January 16, 1910, "I have used ABSORBINE with success on a curb."

W. F. YOUNG, P.O., 123 TEMPLE ST., SPRINGFIELD MASS
LYMANS LAD, Montreal, Canada Agents

AUCTION SALE OF FIFTEEN IMPORTED GYLOSEDALE FILLIES

AT ORMSBY GRANGE STOCK FARM, ORMSBY TOWN, N.B. On the second day of the great spring show, 21st May. They are by Baron's Best Lad Derwent and the Lothians. Sir Geoffrey A Silver Cup. This is a rare opportunity to buy pure blood at low prices.

D. McEACHRAN

FOR SALE AND WANT ADVERTISING

TWO CENTS A WORD CASH WITH ORDER

PURE BRED FOWLS GIVEN AWAY Free in return for new yearly sub. If written to Farm and Dairy. A club of four new subscribers will win a pair of pure bred standard fowls. Write Circulation Manager, Farm and Dairy, Peterboro, Ont.

BARRED ROCKS and Single Comb White Leghorns. Eggs \$1.00 and \$1.50 per 15. Incubator lots a specialty. J. J. Latour, Brighton.

BUFF ORPINGTONS, PURE BRED COCKERELS, Pouter and Eggs for sale. Prices reasonable.—James J. Cullen, Oshawa, Ont.

P. E. ISLAND SEED OATS

The best in the world Farmers sowing our selected, separated seed oats will make more by extra yield than will pay for seed twice over. All seed prepared by special Power Brush Clipper Separator. Only the large, plump, white grain, put up in new three bush bags. Price per one acre, offered White-Banner, Lidgove, Sensation, Big Four, Jewel, Waver, or Swedish Select, Danish, Gotland and Black Beauty (Black). Refer by permission to Agricultural Department, Oshawa, Ontario, and (or) Maritime Dominion Seed Company, P. E. I.

BUFF ORPINGTONS

EXCLUSIVELY FOR 10 YEARS Eggs That Will Hatch

8 chicks guaranteed. One selected pen, \$3 per 15—all large birds. Utility pens, \$1 per 15—extra heavy layers.

Hugh A. Scott, Caledonia, Ont.

Black Langshan Eggs

From Imported Croads \$5.00 a dozen

GLENOACH FARM

Office 402 Yonge Street TORONTO, ONTARIO

Mammoth Bronze Turkeys, \$2.00 per 6. \$3.50 per 9. \$5.00 per 12. \$7.00 per 15. \$8.00 per 18. \$9.00 per 21. Single Comb Black Minorcas, \$2.00 per 15.

Another Reply to Mr. Carlyle

G. A. Brethen Peterboro Co., Ont. Editor, Farm and Dairy.—In a recent issue of Farm and Dairy I was quite amused by Mr. Carlyle's comparison of the great dairy breeds, Ayrshires and Holstein-Friesians. Under ordinary circumstances you know the old adage says "Comparisons are odious," but I do not think this holds good in this particular case, because Holstein breeders the country over have enough confidence in the merits of their cattle to welcome comparison from any source, and with any breed.

Now, Mr. Editor, I am not acquainted with Mr. Carlyle, but as I have been doing quite a lot of that extra work he speaks of, namely, milking three times a day, I have had quite a good opportunity to get pretty familiar with the Holstein cow and odd as it may seem in this case, "Friendship does not breed contempt." There is just enough cow man about me to get right under that cow one in every eight hours and take her milk away if she is willing to do her part in putting it up, and I have found her willing.

AYRSHIRES PREFERABLE SOMETIMES
I have no quarrel with the man who is favorable to the Ayrshire cow, not the slightest—nor with the cow. I candidly acknowledge that in some

respects (well developed for udder, for instance) she is quite superior to the Holstein as they have been bred in recent years. As a forager on hill, rocky pasturage, I would suppose her to be able to show better results than her heavier rival, and that man is wise who in choosing a breed, be it in cattle, horses, or poultry, takes into consideration the uses to which they will be subjected.

Granted that each dairy breed has some one quality at least superior to the others, and we can truthfully say regarding these prominent qualities in the different breeds—

"All are needed by each one."
"None are pure and good alone;"
I think the time will come when one breed will combine all or nearly all of the excellencies of the different breeds existing at present, and that breed that first reaches this ideal will be the one with men behind it who have confidence in the merits of their cattle, and are enthusiastic and united in the advancement of their varieties.

Mr. Carlyle asks, "Why do Holstein cattle sell so much higher than any other breed of cattle?" I would answer just simply the old question of big demand, small supply; same as \$10 cow, pigs and \$7 beef.

EVERYTHING IN BLACK AND WHITE
"If farmers will get down to business and keep records of what the

cow consumes, milk, etc., they would not be running after the breed so I am afraid, Mr. Carlyle, \$14,445.48. The largest receipt was the grant of \$7,500.00 from the Ontario Legislature.

The next show will open at Ottawa, on Tuesday, Jan. 16th and close on Friday, Jan. 19th, 1911. Several large increases in the prize list will be made as the Legislative grant has been increased to \$8,500.00, while further increased grants have also been made by several of the Associations, including the Clydesdale Horse Association, the Dominion Shorthorn Association and the Canadian Ayrshire and Holstein Associations.

The Financial Statement shows that receipts for the past year amount to \$14,044.77 while the expenditures were \$14,445.48. The largest receipt was the grant of \$7,500.00 from the Ontario Legislature.

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Registering a Clyde Mare

I have a Clyde mare with six top crosses of Clydesdale blood. I know the owner of the dam, grand dam, and—grand dam. What steps should be taken to have her registered?

A mare can be considered pure bred and is eligible for registration in the Clydesdale Stud Book of Canada that has four top crosses by sires recorded in the original Stud Book of the Clydesdale. Before your mare can be registered it will be necessary to have her dam and grand dam recorded.—J. Brant, Accountant, Live Stock Records, Ottawa, Ont.

Cement Tile Experiments

The readers of Farm and Dairy who contemplate installing underground drainage will find information of prime interest to them in that section of the 1910 report of the Ontario Agricultural College and Experimental Farm dealing with cement tile experiments conducted by Prof. Wm. H. Day at the College.

The experiments go to show that cement tiles are quite durable. The cost of making cement tile by hand with one of the hand machines now on the market is estimated at \$10.64 per 1,000. The cost varies, depending upon the strength of the mixture, the cost of hauling sand and the price of cement (and, of course, the men who run the machine.)

Concluding his report upon these experiments in tile making Prof. Day publishes the following warning: "There is, we think, an element of grave danger in the cement tile situation, in that in some cases the tile made by inexperienced men will be of very inferior quality. To show how easy it is for this to occur we might note that if cement tile just made are exposed to strong sun and drying wind or both so that they dry in a few hours the 'first set' of the tile is interfered with and the quality permanently injured. So that any one who may think of making cement tile should take every precaution that no inferior tile are made, and if perchance any should be, they should be discarded rather than placed in the drains. It takes only one defective tile to render a whole drain useless."

The College report may be had free on application to the Department of Agriculture, Toronto. Members of Farmers' Institutes will have received the report free this, or will receive it shortly. Others wishing to inform themselves upon this new and important subject should avail themselves of this opportunity to get the information.

Interest and Profit.—Just noticed in reading my Farm and Dairy yesterday (May 5th) that the label said my substitute was due in April. Kindly pardon this oversight on my part. While I am not a farmer still every article in Farm and Dairy appeals to me, for they are all written with good common sense and in a practical style that one cannot help reading them other than with great interest and profit.—S. Way Kent, Paris, Ont.

SWINE DE
Our readers
ment. You ar
offer helpful in
the general in

Notes on Swine

The following notes from the results of a report by Prof. O. A. Colfort on the annual report of 1910

The average of 1910 weeks old, omitted labor and manure average is structure that raised 72 pigs. In 1906 with 12 weeks old cost the year higher than for food than in of \$2.45 for a pig per record than improvement is due to the sows raised 1910

POOR RESULTS

Feeding on past economical of 1910 a surprise to the money with previous turing hogs at tation.

Feeding green a hogs in pens gave Skim milk and turns, but the corn milk, alfalfa and get returns.

One pound of meal equal to 4.2 lbs. of as one pound of strated to be equal milk. This is a alfalfa and the possibilities for the of reducing the pork when fed with

Green alfalfa can large quantities skimmed milk, but cheaply that it can better advantage for pigs over three for the skim milk can cents a cwt.

The alfalfa used Guelph was second of good quality, was able for pigs than

RETURNS

In the Collage re is a table showing for food consumed value of the selling weight for the hog that if the hogs wa

(a) 5c a lb., they a ton for meal, 20 and 10c a bushel (b) 6c a lb.; \$3 for milk, and 10c (c) 7c a lb.; \$3 for milk, and 10c

Regarding the 1910 test taking the value as set forth following shows would be realized if these hogs had 5c a lb., 6c a lb., live weight: (a) 5c a lb., \$20 a cwt. for milk green alfalfa. (b) 6c a lb., \$21 a cwt. (c) 7c a lb., \$31 a cwt. (d) 8c a lb., \$52 a cwt. for skim milk in each case.

It is of interest, results agree fairly reported in 1907. show that the hog good account of a sum when it is a lb.

SOME HISTORY about Typewriters



Modern and Ancient

CHAPTER ONE

TYPEWRITER history is making fast. Real action commenced 14 years ago—with the Underwood.

FOR 20 years the typewriter has been evolving and finding its place in business.

THE Underwood was the first present-day typewriter. It was radical. It violated all old-time ideas about typewriter construction.

IN the face of sneers, jibes, ridicule and opposition from other makers it gave to the public the first writing-in-sight typewriter.

THE public applauded—and bought. Naturally they preferred to be able to see what they wrote as they wrote it.

HERETOFORE typewriters had been built on the simplest plan mechanically, but upside down with the writing out of sight. It was time for something better.

UNITED TYPEWRITER CO.
TORONTO Limited

As the question of profit over feed consumed has been quite frequently advanced of late, when comparing the relative qualities of the different breeds I would just like to ask Mr. Carlyle this question: In the light of the fact that the Holstein breeders of Canada at a recent meeting announced their readiness to compete in dairy tests at winter fairs on the basis of profit over feed consumed with the one condition that all money be divided among different breeds, if Mr. Carlyle wishes to boost the Ayrshire cow, one good big record like the one made by R. R. Ness at the recent Winter Fair, Ottawa, would do more to boom his favorite than 1,000 letters on breed comparison.

All honor to men like "Bobbie" Ness, who are big and broad enough (in mind) to see good qualities in other cattle than their own. I have every Holstein breeder in Canada, even the general Bobbie a world of gratitude for providing the exception necessary for proving the rule "That the Holstein sinners are the Dairy Test winners."

Eastern Show Had Successful Year

The report of the Board of Directors of the Eastern Ontario Live Stock and Poultry Show on the past year shows that a wonderful increase in exhibits and attendance has taken place in the last few years while the last show was by far the best yet held. The farmers of Eastern Ontario and Western Quebec are realizing the educational possibilities of the show and are becoming most enthusiastic in their support of it. The attendance last year totalled about 18,000 as compared with 10,000 the year previous.

The following is a comparative statement of exhibits and prizes for the Shows of 1910 and 1911:

	1910	1911
Number of exhibits.....	2722	3028
Prize money offered \$800.00	\$3000.00	
Prize money paid \$6428.50	\$7078.25	

SWINE DEPARTMENT

Our readers are invited to ask questions in regard to swine. These will be answered in this Department. You are also invited to offer helpful suggestions or relate experiences through these columns.

Notes on Swine Experiments

The following notes are gleaned from the results of swine experiments at the O. A. College, Guelph, as set forth by Prof. Geo. E. Day in the annual report of his Department.

The average cost of one pig, 11 weeks old, omitting risk, interest, labor and manure is \$2.46. This average is struck from nine sows that raised 72 pigs.

In 1906 with 12 sows Professor Day found that on an average a pig six weeks old cost the Department \$1.27. Last year higher prices were charged for food than in 1906, so that a cost of \$2.45 for a pig 11 weeks is the better record than in 1906. The improvement is due mainly to the fact that the sows raised larger litters in 1910.

FOOD RESULTS FROM PASTURE

Feeding on pasture proved the least economical of the methods used in the experiments of 1910. While this will be a surprise to many it is in harmony with previous results from pasturing hogs at the Guelph Institution.

Feeding green alfalfa with meal to hogs again gave excellent results.

Skim milk and meal gave large returns, but the combination of skim milk, alfalfa and meal gave the largest returns.

One pound of meal was shown to be equal to 4.2 lbs. green alfalfa, whereas one pound of meal was demonstrated to be equal to 6.79 lbs. skim milk. This is a remarkable showing for alfalfa, and indicates great possibilities for this crop as a means of reducing the cost of producing pork when fed with a meal ration.

Green alfalfa cannot be used in as large quantities in the ration as skimmed milk, but it can be grown so cheaply that it can be used to much better advantage than the skim milk for pigs over three months old, even if skim milk can be bought at 10 cents a cwt.

The alfalfa used in the tests at Guelph was second and third growth of good quality, which is more suitable for pigs than the first cutting.

RETURNS FOR FEED

In the College report for 1907 there is a table showing the prices yielded for food consumed by 297 hogs at various selling prices per lb. live weight for the hog. The table shows that if the hogs were sold at:

- (a) 5c a lb., they would give \$23.87 a ton for meal, 20c a cwt. for milk, and 10c a bushel for roots.
- (b) 6c a lb., \$30.71 for meal, 20c for milk, and 10c for roots.
- (c) 7c a lb., \$37.55 for meal, 20c for milk, and 10c for roots.

Regarding the hogs used in the 1910 test taking things into consideration as set forth in the report the following shows the prices which would be realized for foods consumed by 100 hogs sold for roots, sold at 5c a lb., 6c a lb., 7c a lb., and 8c a lb. live weight:

- (a) 5c a lb., \$20.45 a ton for meal, 20c a cwt. for milk, and \$3 a ton for green alfalfa.
- (b) 6c a lb., \$31.30 for meal.
- (c) 7c a lb., \$42.16 for meal.
- (d) 8c a lb., \$53.00 for meal and 20c for skim milk and \$3 for green alfalfa, in each case.

It is of interest to note that the results agree fairly well with those reported in 1907. These results also show that the hog is able to give a good account of the food he consumes when it is sold at 6c or more a lb.

Alfalfa For Sows

Alfalfa will give better results for hog raising purposes than any other forage known. It is a nitrogenous forage, rich in protein and calcium, and therefore furnishes the necessary protein and mineral matter for the highest development of bone and muscle. It is a very excellent early forage, since it begins growth early in spring. When supplemented with corn to the extent of one-half of a full ration or to the extent of two per cent. of the weight of the hogs, the best results are obtained. When alfalfa is fed alone it is about equal to a maintenance ration; so when corn is fed with it every pound fed will be used for the production of gain.

Under ordinary conditions alfalfa will forage from 10 to 20 shoats an acre. A new seeding should be pastured very lightly the first season. No larger number than 10 shoats per acre or one sow and her litter should be used. After the first season as high as 20 head an acre or two sows and their litters may be pastured on it throughout the season. In any event, it should not be pastured so closely that no woody growth will take place. A very good rule to go by is not to pasture it so closely that one cutting of hay may be taken off in the fore part of the season.

One year's experiment with alfalfa for hog forage has been completed at the Columbia Missouri Experiment station and very satisfactory results have been obtained. In July of 1909 the ground intended for alfalfa was

plowed and worked until a firm bottom with a fine seed bed on top was obtained. This was then worked once each week thereafter until August 16th, when two bushels of soil, taken from a field growing successfully a crop of alfalfa, and six barrels of lime were sown, and then the plot seeded to alfalfa at the rate of 30 pounds an acre. A very thick, heavy stand was obtained, which was pastured for the first season in 1910. The experiment was begun with the number of hogs at the rate of 12 an acre; but on May 24 it was thought best for the sake of the alfalfa, to reduce the number to 10 an acre; at which rate it was pastured throughout the remainder of the season. The hogs used were purchased of a local farmer and were crossbred Poland Chittanons. They were farrowed in early winter, and were in thin to

medium condition of flesh at the beginning of the experiment. The average initial weight was 63.5 lbs., and the average final weight was 181.0 lbs. The forage was supplemented with corn meal in sufficient quantity to produce the standard gain of three-fourths of a pound per hundred weight a day. The alfalfa was six inches high at the beginning of the experiment.

The average amount of grain required to produce a pound gain was 3.07 pounds. The amount of pork that could be accredited to the alfalfa forage was 596.8 pounds an acre. With pork at six cents the return per acre was \$35.71; with pork at seven cents, \$41.68; and with pork at eight cents, \$47.64.

Nine new subscribers to Farm and Dairy will win you a pure bred pig.

MOLASSINE MEAL

(Made in England)

Holds the World's Record as a food for Horses, Cattle, Sheep, Pigs, and Poultry

IMPORTED BY

ANDREW WATSON

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AN INTERPROVINCIAL PRIZE DAIRY FARMS COMPETITION

Another dairy farms competition, similar to the one held so far after the entries have been received to facilitate the judging of the farms.

These districts (except No. 1) are subject to receive the judging of the farms.

JUDGING THE FARMS, THE POINTS OFFERED

The farms will be judged in July, (1911), by two judges. Where competition is close for some of the leading prizes in any or all of the districts, the judges will have the privilege of visiting such farms again next winter, before making their final awards.

All departments of the farm will be included in the competition. A total of 1050 points will be offered, subdivided as follows:

- House, 155, viz., plan, finish and approaches, 25, lawn 20, garden and orchard 35, arrangement of house 25, sanitation 15, ice and water supply 15, education, including books and periodicals, 20; total, 155.
- Buildings, 175, viz., provision and size 25; location 25, condition 30, neatness 20, convenience 25, light and ventilation 35, water supply 25, yard, 10; total, 175.
- Live stock, 210, number 40, quality and condition 40, breeding 40, feeding 20, horses 30, swine 25, poultry 15; total, 210.
- Crops, 215, viz., suitability for milk production 50, yields and condition 75, freedom from weeds 70, pastures and shade 15; total, 215.

- Management, 140, viz., arrangement of fields 20, rotation 25, fences, gates, ditches and roads, 20, workmanship and neatness 25, preservation of manure 20, bookkeeping and records 20, summer water supply 10; total, 140.
- Machinery 75, viz., supply 25, housing 20, condition of repair 20, character 10; total 75.
- Permanent improvement 80, viz., public roads 10, freedom from obstacles 25, drainage 25, beautifying 20, total, 80.
- Grand total, 1050.

The farms in each district scoring the highest number of points will be awarded the prizes. During 1912 the prize winning farms this year will be allowed to compete in a final or semi-final competition to decide the best ten dairy farms in Ontario and in a special competition to determine the best dairy farm in Ontario and Quebec.

FIFTY HANDSOME PRIZES

During 1911 Ontario will be divided into five districts, which with the Beaufarnois District, Que., will make five districts in all. A special competition will be held in each district. Ten handsome prizes will be offered in each of these divisions or 50 in all. Next year (1912) it is proposed to hold a final or semi-final competition between the leading prize winning farms in each of these five districts to decide the best dairy farms in all these districts. A special prize will be offered for the best dairy farm in Ontario and another prize for the farm either in Quebec or Ontario that scores the most points in an inter-provincial contest.

In this year's contest (1911) the first five prize winning farms in the provincial contest held in Ontario during 1910, as well as the four farms that won the first prizes in their districts in 1909, will not be allowed to take part.

THE DISTRICTS

The five districts in which contests will be held this year (1911) will be approximately as follows:

- DISTRICT NO. 1.—The Beaufarnois District, Que., comprising the counties of Beaufarnois, Chateaugay and Huntingdon.
- DISTRICT NO. 2.—That portion of Eastern Ontario lying East of a line running North from Kingston.
- DISTRICT NO. 3.—The counties in Eastern Ontario between Kingston and Yonge St., Toronto.
- DISTRICT NO. 4.—Western Ontario, North of a line running from Hamilton to Goderich.
- DISTRICT NO. 5.—Western Ontario, South of a line running from Hamilton to Goderich.

For further particulars, entry forms, etc., write the Secretary of the Committee, **H. B. COWAN, FARM & DAIRY, - - - PETERBORO, ONT.**

FARM AND DAIRY

AND RURAL HOME

Published by The Rural Publishing Company, Limited.

1. **FARM AND DAIRY** is published every Thursday. It is the official organ of the British Columbia, Manitoba, Eastern and Western Ontario, Eastern Bedford District, Quebec, Dairymen's Associations, and the Canadian Holstein, Ayrshire, and Jersey Cattle Breeders' Associations.

2. **SUBSCRIPTION PRICE, \$1.00 a year**, strictly in advance. **\$2.00** for two years. For all countries, except Canada and Great Britain, add 50c for postage. A year's subscription fees for a new subscriber.

3. **REMITTANCES** should be made by Post Office or Money Order, or Registered Letter. Postage stamps accepted for amounts less than \$1.00. On all checks add 20c for exchange fee required at the bank.

4. **CHANGE OF ADDRESS.**—When a change of address is ordered, both the old and new address must be given.

5. **ADVERTISING RATES** quoted on application. Copy received up to the Friday preceding the following week's issue.

6. **WE INVITE FARMERS** to write us on any agricultural topic. We are always pleased to receive practical articles.

CIRCULATION STATEMENT

The paid subscriptions to Farm and Dairy exceed 5,500. The circulation of each issue, including copies of the paper sent subscribers who are not slightly in arrears, and some copies, varies from 5,500 to 11,000 copies. No subscriptions are accepted at a rate less than the subscription rates. Thus our mailing lists do not contain any dead circulation.

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

OUR PROTECTIVE POLICY

We want the readers of Farm and Dairy to feel that they can deal with our advertisers with our assurance of our advertisers' reliability. We try to admit to our columns only the most reliable advertisers. Should any subscriber have cause to be dissatisfied with the treatment he receives from any of our advertisers, we will investigate the circumstances fully. Should we find reason to believe that any of our advertisers are unreliable, even in the slightest degree, we will discontinue immediately the publication of their advertisements. Should the circumstances warrant, we will expose them through the columns of the paper. Thus we will not only protect our readers, but our reputable advertisers, in the order to be entitled to the benefits of our Protective Policy, you need only to include in all letters to advertisers the words, "I saw your advertisement in Farm and Dairy." Complaints must be made in order to be sent within one week from the date of any unsatisfactory transaction, with proofs thereof, and within one month from the date that the advertisement appears, in order to take advantage of the guarantee. We do not undertake to adjust trifling differences between readers and responsible advertisers.

FARM AND DAIRY

PETERBORO, ONT.

FACTS ABOUT ALFALFA BACTERIA

Experiments conducted at the Geneva, (N.Y.) Experiment Station to determine whether or not inoculation is a necessary factor in the successful growing of alfalfa prove that it is well worth while to provide the Lactera for the alfalfa. The conclusion was drawn that inoculated soil taken from an old successful alfalfa field (plenty of nodules being present on the alfalfa roots) and sown on the new seeding at the rate of 500 to 300 lbs. per acre, raised the chance of success of the new crop to about 60 per cent. over and above the uninoculated fields.

Last year from the Ontario Agricultural College, Guelph, there were sent out 3,875 cultures of nitrogen-accumulating bacteria for inoculating the seeds of alfalfa and from these 65.7 per cent. of the farmers claimed the cultures to have been an aid in securing a better crop.

One should need no further evidence than this to be convinced that it pays to inoculate for alfalfa. Those who have neglected to make such provision for the alfalfa seed they have sown may yet provide inoculation by sowing at least 200 lbs. per acre of soil from a successful field in the soil of which alfalfa roots with plenty of nodules thereon have been growing.

THE PEOPLE AND THE "WITNESS"

The competition of a less scrupulously conducted paper is reported to have embarrassed financially the Montreal Witness. Owing to its policy of refusing to publish liquor and questionable forms of advertising the Witness has lost large sums of money during the last few years and on this account it has been published at a loss. An appeal to its readers has been made and unless the Witness can double its circulation it will have to suspend publication.

Friends of the Witness all over Canada have been asked to forward their subscriptions to the Montreal Witness at the rate of \$1 a year and to get their friends to subscribe at the same rate.

The Montreal Witness is to be commended for its high editorial standard and as another has said: "If there is one paper in the whole Dominion worthy of the sincere support and esteem of the Canadian people it is the Montreal Witness." We urge the friends of good clean journalism to send their subscriptions and support the paper in the present, its hour of need.

WHERE ARE THE PROFITS?

"The weakest point in farm management to-day is the carelessness of our farmers in the matter of keeping accounts," said Mr. B. J. Case, president of the New York State Fruit Growers' Association, at the annual meeting of the Ontario Fruit Growers' Association in Toronto last fall. The judges in Farm and Dairy's recent Prize Farms Competition reported the same carelessness even on the part of the prize farmers. On one of the farms visited was an adequate system of keeping accounts found.

For the farmer who is engaged in three or four lines of farming, as most of us are, some system of keeping accounts whereby we can tell what lines are yielding a profit and what lines we would be better off without from a business point of view, is necessary. If we do not keep accounts, how can we tell whether the profits of the farm are coming from the dairy herd, the swine, the poultry or the crops marketed directly? Perhaps one of these branches is unprofitable, and is therefore drawing on one of the profitable branches of the farm to keep it going. A proper system of bookkeeping would show us where the profit comes and we would be enabled to go in more extensively for certain profitable lines and drop others which we have proved to be unprofitable.

Bookkeeping has not been adopted more extensively by farmers because

most of us regard it as too much bother. A simple method of keeping accounts of the various departments of the farm, however, could easily be worked out which would not require more than four or five minutes a day, and would be just as satisfactory as a most elaborate system of bookkeeping. A cash book noting the receipts and expenditures is a lot better than accounts at all. With very little trouble separate accounts could be kept with the farm proper, the dairy department, horses, swine, poultry and so forth. A few minutes each day could be spent to better advantage than in keeping such a set of accounts.

WHY CONSERVE SOIL MOISTURE?

The total rainfall in Ontario in the summer months is much short of sufficient to supply the moisture demands of growing crops. The moisture stored in the soil during fall and winter is the great supply on which crops must depend. The greater facilities we give the soil for storing this moisture and for holding it to be used gradually by the plants the more certain are we of good crops, be the season dry or wet.

The incorporation with the soil of organic matter, or humus, and the tilling of wet soil, increases the porosity of the soil and therefore its water holding capacity. Thorough cultivation of the soil as early in the spring as possible, the early seeding of crops and in the case of hogs crops, thorough cultivation to maintain a dust mulch, are the best methods of conserving soil moisture from evaporation during summer.

Proper attention to these two factors in the conservation of soil moisture will place our crops practically independent of summer rains. These principles underlie the dry farming that is practised in countries where there is little rainfall and these same principles applied to farming in the more favored sections of eastern Canada will result in larger and better crops.

THEY KNOW TOO MUCH

The source from which comes the opposition to the rural phone and to the information that is disseminated by farm papers should convince us farmers of the value of both of these agencies for the improvement of country life. A hog buyer speaking to an editor of Farm and Dairy recently said that he would like to see every rural phone and every farm paper in Canada put out of business. "When you go to buy hogs from a farmer now-a-days," said the irate buyer, "he knows as much about prices as you do and there is nothing like the money in buying hogs that there used to be."

In the good old days, of which we have heard so much, when we farmers had no ready means of following the market we were practically at the mercy of the buyer and had to take just whatever was offered. Competition between buyers was the only factor that ensured us a fair price for produce and as we well know the com-

petition as well as the price was regulated. Those were the good old days all right—but from the buyer's point of view only.

A farmer who for several years has had a phone in his house recently informed Farm and Dairy that the first year he had it he saved the cost of the phone on a single deal. A buyer came to the house and offered him what he supposed was a good price for hogs. He stepped to the phone and ascertained in a few minutes that the price he was offered was half a cent a pound below the prevailing market price.

Valuable market information is given in the market pages of the agricultural journals. The rural phone and the market page of the farm papers enable us farmers to market produce to the best advantage. We cannot afford to be without either.

Prof. Geo. E. Day, in the report of the Ontario Agricultural College for 1910, again respectfully urges

A Dairy building a new dairy stable.

The present dairy stable is antiquated and unsanitary, and it is high time that steps were being taken to improve the accommodation for the College Dairy herd.

Of the many things yet needed at the College a new dairy stable is one of the most pressing. It is to be hoped that the authorities that will take the necessary steps to provide this much needed building at the Guelph institution.

A farms competition affords incentive to all competitors therein to greatly improve their farms. This was most noticeable in

You and Both of the two Dairy Your Farm. Farms' Competitions that have in years gone by been conducted by Farm and Dairy. Competitors found the necessary time to make improvements and to clean away piles of rubbish and obstacles that, once they were disposed of, considerable value thereby was added to the farm. And then the splendid trophies awarded the winning competitors and the lessons they learned from the scoring of the judges compensated them times over for having entered the competition. A big list of valuable prizes is offered again this year in the interprovincial competition. The other advantages will be available as before. You should take advantage of them. Enter your farm and induce a neighbor to do likewise with his farm. So may you truly prosper yourself and your community.

The management of an apifary for honey must be approached in the same business-like manner as the management of a dairy herd for milk. There is no more "luck" or "chance" in the one than in the other. Scientific principles govern both. Failure in either is due to some definite cause that must be discovered and mastered before success can be attained.

Pure Bred Livestock

W. W. Hubbard, Fredericton

The province possesses natural raising unexcelled

W. W. Hubbard

wealth producing pedigree that the a great increase

provement in quality of herds and flocks. There is urgent stock in New Brunswick today great street excellent pasturing Westmorland, and counties and along of the various roads dueing no wealth to consume the surplus of hay are exported valuable fodder like while not marketable feed for stock. As well, thousands of hay are exported and sheep might that is now practised the same time, the ung, horses in the feed, butter, and duets to the value year. Dairy product.

SOME who is not the of however, to give nothing is being some good stock of the province. If where in America better herds of A are kept in the v a few elsewhere. Jersey and Guernseys. A few and one herd each and French Cana be found. Indifferently pure bred stock ally is responsible man upon breeders in the past the r stock has not been option nor has the call for importation

There are, how change. Many fact to realize that the stock is what the them to utilize the past year the portions of Clyds from Scotland, Shorthorn and A Great Britain and coming in from v ported by private have been quite in distributed by auc

The Department been and is trying mand for good st value upon the p the formation of a is and also assist brought into the p 1910 there were no Societies receiving There were on 88 ving in 1910, \$1 million treasury. most of these socie stock of their disc are to be considered for the purchase of and the bonusing forth.

Pure Bred Live Stock in N.B.
*H. W. Hubbard, Sec. for Agriculture,
 Fredericton, N. B.*

The province of New Brunswick possesses natural advantages for stock raising unequalled by any portion of the American continent. The breeding of horses, cattle, sheep and swine, however, has received but scant attention from her people. This is unfortunate for New Brunswick agriculture. There are, however, signs of an awakening to the importance of live stock as a wealth producing asset. It is expected that the next decade will see a great increase in numbers and improvement in quality in the studs, herds and flocks.

There is urgent necessity for more stock in New Brunswick. There are to-day great stretches of haylands and excellent pasturage on the marshes of Westmorland, Albert and St. John counties and along the bottom lands of the various rivers that are producing no wealth for lack of stock to consume their annual growth of hay. To be sure thousands of tons of hay are exported but there is much valuable fodder left to lie down that, while not marketable, will afford good feed stock. On the upland farms as well, thousands of horses, cattle and sheep might be kept upon land that is now practically unused. At the same time the province is importing horses in considerable numbers and beef, mutton, pork and pork products to the value of over \$1,000,000 a year. Dairy products also are largely imported.

SOME GOOD HERDS

It is not the object of this article, however, to give the impression that nothing is being done for there are some good stockmen and breeders in the province. It is doubtful if anywhere in America there can be found better herds of Ayrshire cattle than are kept in the vicinity of Sussex and a few elsewhere. There are also a few scattering herds of Holsteins and Jerseys and here and there some Guernseys. A few Shorthorn herds and one herd each of Dutch Belted and French Canadian cattle are to be found. Indifference to the value of pure bred sires by farmers generally is responsible for a lack of demand upon breeders and consequently in the past the raising of pure bred stock has not been an attractive proposition nor has there been any great call for importations.

There are, however, signs of a change. Many farmers are beginning to realize that more stock and better stock is what they need to enable them to utilize their lands. During the past year there have been importations of Clydesdale stallions and sires from Scotland and Ontario, of Shorthorn and Ayrshire cattle from Great Britain and always a few head coming in from various sources, imported by private individuals. Sheep have been quite largely imported and distributed by auction sales.

The Department of Agriculture has been and is trying to stimulate a demand for good stock, by urging its value upon the people, encouraging the formation of Agricultural Societies and also assisting to have stock brought into the province for sale. In 1908 there were only 57 Agricultural Societies, receiving \$8,000 in grants. There are now 88 such societies receiving in 1910, \$13,000 from the provincial treasury. It is the policy of most of these societies to improve the stock of their districts and their funds are to a considerable extent available for the purchase of pure bred stock and the bonusing of stallions and so forth.

In response to a very general request from Agricultural Societies and individual farmers, the Department of Agriculture has under consideration the making of an importation of milking type Shorthorns before next spring. In support of this type of animal the argument is advanced and with good foundation that there are thousands of farms in the province where there is a good opportunity for stock raising and where the owners do not wish to follow dairying exclusively. In many districts local conditions are such that farmers can make the most out of their opportunities by raising steers, while milking a small number of cows. It is urged that the English milking Shorthorn with her well known milking capacity of from 5,000 to 10,000 lbs. of milk a year is the best type of cow for their purpose, as her calves will be growthy thrifer fellows that will turn off profitable beef carcasses.

In the early days in New Brunswick the Shorthorn grade was the cow generally kept. The subversion of the dairy traits of this breed to the beef type by Canadian importers and breeders has so spoiled the Shorthorn grade for milk production that to-day for dairy performance that many men changed off to the special dairy breeds. While they did not improve their stock over the old Shorthorn grade for milk production they absolutely ruined it for beef and many men for this reason have sold off all their cattle down to one or two cows and depend upon commercial fertilizers to keep up their crop yields.

SPECIAL PURPOSE COWS

Theoretically the special purpose cow should be the most profitable but practically in New Brunswick she has only been a success when she had the special purpose man behind her. There should perhaps be an exception to the condemnation of the steer raising farmer as Ayrshires have shown that they will tick in with the Shorthorn grade and improve the stock greatly from the standpoint of milk production, without altogether destroying any young stock for beef.

It may be urged that the men who wish to raise beef should specialize on beef breeds and thus make more money. Perhaps this might be true in some localities at least but we have to take conditions as we find them. It would be difficult to make the New Brunswick farmer believe that it would be as profitable for him to keep a cow a year simply to raise a calf even though that calf might sell for \$15 to \$20 more per head for beef than to keep cows that will give him from 4,000 to 5,000 lbs. milk or more, thus giving him a yearly revenue of \$40 to \$50 per cow in addition to a calf, which, if well reared, makes a good beef carcass. A small importation of Shorthorn bulls from the North of England sold last June at about 12 months of age at from \$75 to \$175 each and are highly prized by their purchasers.

THE DEMAND FOR DAIRY STOCK

For special dairy stock there is also a demand and it is growing. Our Maritime breeders should be able to largely supply this demand. They in turn will import privately, choice animals with which to replenish their herds and there will be places here for some of the choicest individuals of leading breeders, both in Britain and Canada.

There cannot be any very great demand for special dairy stock, however, until the business of dairying is more seriously taken up in the past 10 years labour has been so scarce both on the farm and in the household that dairying has not increased. Now, however, that the provincial government has organized a system of bringing labour to the province conditions are easier in this regard and farmers may be induced to increase their dairy operations.



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FARM AND DAIRY
PETERBORO, ONT.

Creamery Department

Butter makers are invited to send contributions to this department, to ask questions on matters relating to butter making and to suggest subjects for discussion. Address letters to Creamery Department.

Dairy Regulations in Illinois

F. A. Jorgensen, Dept. of Dairying, University of Illinois.

The great majority of creameries and cheese factories in Illinois are individual concerns. We have very few cooperative or farmer's creameries, though the majority started as such. Cream is always bought on butter fat basis and fat per cent. determined by the Babcock test. The laws of this state compel creamery operators to use scales in cream testing, though the few who used to test cream by pipette as well as applying other slovenly methods, were nearly all put out of business by competitors adopting honest solid-fat methods. There has never been any need of administering the law. Adopting up-to-date methods has also been the case of individuals succeeding where formerly farmers' concerns failed.

In cheese factories and condenseries as well as for the city trade, milk is either bought by the cwt., and sold on contract and must contain a certain per cent., generally 3.5 or 3.6 per cent. Besides the dairy interests are protected by law in that milk offered for sale below three per cent. fat and 11.5 per cent. solids is considered adulterated and punishable under the law.

TIME OF PAYMENT

In cheese factories, condenseries, bottling plants, and some creameries, settlements are generally made monthly or semi-monthly and the composite system of taking samples used. Most of the butter factories are operated on the centralizer system; the majority testing each delivery of cream and in many instances, especially where shippers are mostly depended on, payment is made for each delivery of cream and in some instances payment is made weekly.

Inasmuch as I am not familiar with conditions in Ontario, I am unable to say whether the methods in vogue there are used here. In some of our farmers' creameries they charge so much per pound for making of the butter from which the creamery pays running expenses and dividends, and the rest is divided among the patrons according to the amount of butter fat delivered. But in nearly all individual plants butter fat is paid for on the basis of some market quotation and the operator keeps the over-run, and competition has also compelled most

farmers' concerns to adopt this method of dividing proceeds, as it seems to give the best satisfaction.

Test Acid Before Using

Editor, Farm and Dairy.—There is more or less difficulty in getting sulphuric acid of the proper strength for making a Babcock test. The inventor of the test allowed a limit in specific gravity of 1.82 to 1.83 and most of the manufacturers are able to get their sulphuric acid within this limit. Good results can be got with even a wide variation by using a little more or less acid according to the specific gravity of the acid used in testing.

There is room for improvement however in the methods of obtaining sulphuric acid for this work. In our own experience, we have usually had some difficulty when changing from one firm to another, as we have been obliged to do on one or two occasions. After the new firm understanding the strength of acid required we have little or no difficulty.

Dairymen will do well to test a new carboy or new bottle of acid, using the test on 17.5 c.c. and also a little less than full quantity in order to see which amount of acid gives the best reading. Where the fat is yellow in color, no curdy matter and no churning water in the fat, the tester may be reasonably sure that his acid is of correct strength. Sometimes an acid hydrometer is recommended but I do not consider these instruments very reliable.—Prof. H. H. Dean, O.A.C., Guelph.

Experiments in Butter Making

Experiments on the effect of culture (starter) on raw and pasteurized cream for butter making as carried on at the dairy department of the Ontario Agricultural College are detailed in the 1910 report by Prof. H. H. Dean as follows:

Four experiments were made during May to see the effects of a culture varying in amount from 10 to 20 per cent., on similar cream raw and pasteurized. In each experiment a given weight of cream was divided into two lots, one of which was ripened naturally; the other lot with culture; one lot of pasteurized cream was allowed to ripen naturally; to the other, a culture was added. The percentage of fat in the cream varied from 24.5 to 30; the acidity of the raw cream varied from .35 to .46; and of the ripened cream from .44 to .63, being in every case highest in the raw cream lots, and which culture had been added, and lowest in the pasteurized lots without culture—in fact, these lots usually showed slightly less acid at the time of churning than the corresponding pasteurization "look places." The lots were churned at temperatures ranging from 49 degrees F. to 54 degrees F.; the time required for churning ranged from 37 to 115 minutes, being always least for the pasteurized lots and greatest for the raw cream lots; the percentage of fat in the butter milk varied from .08 to .33, the highest test being found in a lot of raw cream without culture, churned at 52 degrees F., in 20 minutes. The average tests of butter milk fat of the raw, raw with culture, pasteurized, and pasteurized with culture lots, being, respectively, .205, .16, .202, and .177 per cent.

When we come to consider the quality of the butter, we find the order of merit, first, pasteurized with culture; second, raw cream without culture; third, pasteurized with culture; fourth, raw cream with culture added; and fifth, raw cream without culture, 38.33.

The average total scores are also

in the same order, being 93.33, 38, 88.66 and 87, respectively.

1. Pasteurization of sour cream at 182 degrees stopped the further development of lactic acid, unless culture was added afterwards.

2. The lots of cream pasteurized, both with and without culture, churned in less time than did the raw cream lots.

3. In these experiments there was a little difference in the fat loss in the butter milk, by churning raw cream or pasteurized lots.

4. The quality of the butter made from the pasteurized cream was superior.

Iced Butter Car Service

Commencing Tuesday, May 16th, and until further notice, an iced refrigerator car service will be established for the carriage of butter only to Toronto and Montreal also shipments for export forwarded via Montreal or Quebec; the intention being to have the car arrive at Outremont (Montreal) Friday so that the contents may be delivered on Friday afternoon or Saturday morning.

The service will be four cars weekly as follows:

1. From Windsor iced car every Tuesday on "Way-Freight Extra." This car will leave London by "Freight Extra" Wednesday a.m., and Toronto by No. 62 Thursday a.m. Shipments from intermediate main line stations near Toronto will be loaded in this car. Shipments from Port Burwell, Ingersoll, and St. Mary's subdivisions should be way-freighted to Woodstock for transportation to ice car from Windsor.

2. From Goderich, iced car every Wednesday on "Way-Freight Extra," connecting with Train 56 at Guelph Junction. Shipments from Listowel Subdivision should be way-freighted to Linwood Junction for transportation to ice car from Goderich.

3. From Owen Sound iced car every Wednesday on "Way-Freight Extra" for Toronto, whenever possible to cars from Windsor. Shipments from Walkerton Subdivision iced car every Tuesday on "Way-Freight Extra" to be consigned at Owen Sound. Shipments from Muskoka Subdivision should be way-freighted to Bolton for transportation to ice car from Owen Sound.

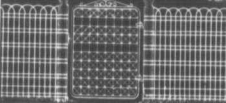
4. From Teeswater, iced car every Wednesday on "Way-Freight Extra," running via Orangeville and Streetsville Junction for connection at Toronto, whenever possible, with car from Windsor.

Shippers from Owen Sound and Teeswater, should fail to arrive in Toronto in time to allow transfer of butter to car on arrival in Toronto, they may be consolidated, and sent east in Toronto on first "brought freight train." Current less-than-carload rates will be without any charge for icing.

This service will be operated for the transportation of Lutter shipments only. Cheese and other dairy products must not be accepted for shipment in these iced cars.

Good Cream.—Everything is kept sweet and clean around our milking and separator utensils. We have good ventilation and good lighting in order to keep it sweet. The cream is set on the cold cellar floor in a granite pail. It is left there from one milking to another and then emptied into a cream can which is hanging on the cellar floor. We never employ warm cream into the sold cream. I find a 30 or 37 per cent. cream is far easier to handle than a 30 per cent. cream. We never make a practice of covering the cream tight until it is thoroughly cold.—Ed. Burton, Victoria Co., Ont.

The two essentials to good cream are cleanliness and—E. J. Eaton, Colchester Co., N.S.



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Tomb, Ont.
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Cheese D

Makers are invited to this department, to ask questions on matters relating to cheese making and to suggest subjects for discussion. Address letters to the Cheese D.

Mr. Ruddick Ans

Editor, Farm and Dairy of this "ordinary" cheese maker will cure than the same cheese," then I say have such a statement there must be a lot of cheese business, water, considering about the improvement curing.

The cool curing of these Irish September make, or have always expressed. The conditions which cheese in a cool curing, but possibly the finest E. cheddars are cured that there is no curing room and to retain cool cured cheddars should cool curing, but to the manufacturer of paraffined too soon made as more apt.

A few years ago in Britain were concerned about "heated" cheese with good reason to feet threatened the our cheese trade.

transportation facilities the increase in the cured cheese we have defaced.

If a low temperature advantage will be obtained "iced" cheese? If cost-tionable, why ask cars for cheese shipment. Editor, it is rather in the evidence on this question any further want to be inasmuch as minimizing the is a serious defect. I am to some extent of cool curing, and ledge of the subject. I cannot think on this without a pro-

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Hard Separators, 1800 capacity, 1000 capacity, and 600 capacity.

HARD SEPARATOR—G. A. Farm and Dairy.

Cheese Department

Makers are invited to send contributions to this department, to ask questions on the art of making cheese, to suggest subjects for discussion. Address letters to The Cheese Maker's Department.

Mr. Ruddick Answers "Importer"

Editor, Farm and Dairy.—If "Importer," whose letter appeared in Farm and Dairy of April 27, means that "ordinary" cured cheese is hot weather will give better satisfaction than the same cheese would if "cool cured," then I say that I do not believe such a statement. If that is so, there must be a lot of diffusers in the cheese business on both sides of the water, considering all we have heard about the improvements due to cool curing.

The cool curing of July and August cheese gives it the quality of September make, for which importers have always expressed a preference. The conditions which surround the cheese in a cool curing room are as nearly as possible like those under which the finest English and Scotch cheddars are cured. It is not true that there is no evaporation from cheese in a properly regulated cool curing room, and the fact that certain cool cured cheese have shown "wet ends" should not be blamed to cool curing, but to improper conditions in some cases to mistakes in manufacture. Cheese which are paraffined too soon after they are made are more apt to show wet ends.

A few years ago importers in Great Britain were complaining bitterly about "heated" cheese, and claimed, with good reason too, that this defect threatened the very existence of our cheese trade. By improving our transportation facilities, with the increase in the quantity of cool cured cheese we have eliminated that defect.

If a low temperature is not an adequate remedy for the "heated" cheese? If cool curing is objectionable, why ask for refrigerator cars for cheese shipment? Really, Mr. Editor, it is rather absurd in face of the evidence to wish to discuss this question any further. If I do not want to be misunderstood, however, as minimizing the importance of the defect referred to by "Importer," it is a serious defect, but responsible as I am to some extent for the adoption of cool curing, and with my knowledge of the subject from actual experience, I cannot allow anyone to cast a doubt on the value of cool curing without a protest.

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HAND SEPARATOR—600 lbs. for \$40. Box A. Farm and Dairy.

I wish to assure "Importer" that the trouble he mentions is not to be attributed to cool curing.—**J. A. Ruddick**, Dairy Commissioner, Ottawa.

Short Weight Canadian Cheese

The inspector of imported cheese at Glasgow has published a severe indictment of Canadian cheese makers and shippers as inexcusably careless if not criminally dishonest, in the matter of weight. The Scottish inspectors find it absolutely necessary to test thoroughly the weights of each shipment for shortage, particularly during the summer months. He adds that "it is a serious matter to importers, who have contracted to take a factory's weekly output, to find the cheese arrive showing from one-half to two or three pounds short weight per box, not to speak of odd boxes turning up five to ten pounds lighter than the marked weight."

In some way or other this grievance of British importers must be faced and remedied by the Canadian cheese makers, under pressure, if need be,



Home and Factory of a Peterboro County Cheese Maker

Mr. J. P. Flood, maker and proprietor of the Myrtle Cheese Factory, believes in enjoying the comforts of life as he goes along. His residence, as here shown, has all the modern conveniences—a complete water system, bathroom, gas lighting, and is heated by a hot air furnace.

The factory may be seen to the right. From the Canadian Government. An equally annoying grievance existed a few years ago in relation to the grading and labelling of apples put up in barrels and boxes. The law was amended to meet that kind of fraud, and it is diminishing every year. So it will be with short-weight cheeses if equally drastic enactments and equally severe penalties are promulgated by Parliament and applied by Canadian inspectors.

The British market for Canadian cheese is of too much importance to be lost or even imperiled through the carelessness or the dishonesty of some makers or shippers of cheese. Such men imperil their own industry and devaluable damage to the whole Dominion. It should always be borne in mind that Canadian cheese has won its high place in the British market in the face of keen and continuous competition, and that such a place is much harder to regain after being lost than it was to secure in the first place.—**The Globe.**

Anent the Value of Casein

Interesting experiments in regard to the value of casein in milk for cheese making and its relation to the fat content in milk have been carried on for the past three years by the Dairy Department of the Ontario Agricultural College. Professor Dean comments upon these experiments in considerable detail in the 1910 annual report of the Ontario Agricultural College and Experimental Farm. His conclusions are summarized as follows:

1. The milk containing the higher percentage of casein (.2 per cent.) produced over 4½ lbs. (4.64) less cheese per 100 lbs. milk and required over one-half pound (.51) less

milk to make a pound of cheese as the average for the season, when compared with yields from milk testing lower in casein (.2 per cent.) and fat (.3).

2. As casein is the moisture carrying constituent of milk we should naturally expect the curd and cheese from the higher casein lots to have the more moisture, but in the eight lots tested for moisture there was not much difference in the results, what difference there was being a higher moisture content in the curd and cheese made from the milk with a lower percentage of casein. These lots (low casein) also lost more by shrinkage while ripening or curing for one month.

Eastern Ontario Dairy Instructors

The following are the dairy instructors for Eastern Ontario for the season of 1911: Geo. Bencher, Comptrol; H. H. Brintnell, Kingston; Geo. H. Barker, Vankleek Hill; J. Buro, Mills Roches; D. J. Cameron, Peterboro, 646 George Street; S. S. Cheetham, Gananoque; W. W. Dool, Ot-

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Dairy Notes

Mr. Allan McDonald, Dairy Instructor in Hengarty Co., Ont., recently gave a milk testing demonstration to the cheese makers in the employ of K. D. McLeod. Mr. McLeod has concluded to pay for the milk received at his factories by test, and he took this means of familiarizing his makers with the practice.

Mr. M. K. Everests of Smiths Falls recently demonstrated his faith in reciprocity with the United States in a novel way. Mr. A. J. Brice, of Montreal, in addressing the Brockville cheese board, claimed that reciprocity would be of no benefit to the dairy farmer. Mr. Everests offered to sell Mr. Brice his cheese at the price that would rule on the United States market on July 15th. Mr. Brice accepted the offer.

I am enclosing my renewal subscription to Farm and Dairy. I like Farm and Dairy very much; there is a lot of good things in it.—**R. D. Cheney**, Dundas Co., Ont.



ANGER and worry are like echoes; they do not exist until we call for them; and the louder we call the louder is the response.—Horace Fletcher.

The Road to Providence

(Copyrighted)

MARIA THOMPSON DAVIES

(Continued from last week.)

SYNOPSIS OF "THE ROAD TO PROVIDENCE."

Mrs. Mayberry, a country physician's widow, has taken into her home Elinora Wingate, a famous singer, who has mysteriously lost her voice. Mrs. Mayberry is much loved throughout the countryside. Her son, Tom, is a rising doctor in the city, but among the home neighbors there is a humorous preference for "Mother" Mayberry's remedies. Miss Wingate becomes happier than she has been at any time since the loss of her voice. Mother Mayberry takes into her home a young man who is coming to care for Tom Mayberry, and he realizes that his strong-set desire is to be able to restore her power to sing. Dr. Mayberry is told by Miss Wingate upon one occasion that she is so happy, it does not matter if she should never sing again; and upon hearing this Dr. Mayberry tells her that although he does not know why he knows, he is going to give her back her voice. Many calls for Mother Mayberry's remedies are made, but she is always up and ready to respond. The sewing circle meets with Mother Mayberry, whose table and philosophic kindness are as usual bountifully served to her guests. Miss Wingate tells Tom the story of her early years. Tom goes off to the Providence neighborhood attends the wedding of pretty Bessie Pratt, the preparations for which were supervised by Mother Mayberry.

"Yes'm, and it were all about them two beautiful boxes of sweet-smelling soap that he bought in town and have had in the store window for a week. Buck bought one to send to Pattie for a birthday present, and he wrote 'When this you see, remember me,' on a card and put it in the box. I carried it over to her for him, and Mr. Hoover jest laughed, and said Buck meant Pattie didn't keep her face clean. But Mis' Hoover hugged Pattie and whispered something to her, and told Mr. Hoover to shut up, and see how many children he could get to come in and be washed up for dinner. Buck was a-waiting for me around the corner of the store, and when I told him how pleased Mis' Hoover and Pattie were, he—"

"But wait a minute," "Liza," interrupted Mother Mayberry with a laugh, "them love jinks twixt Buck and Pattie is most interesting, but I'm waiting to hear about your Aunt Prissy and Mr. Petway. It's liable to be serious when two folks as old as they is—but go on with your tale, honey."

"Well, Buck wrote two of them beautiful 'Remember me' verses on nice pieces of white paper, in them curly-cues the Deacon taught him, before he got one to suit him, and he left one on the counter, right by the cheese box. While we was gone, along come 'Lias and Bud and Henry and disgraced Aunt Prissy."

"Why, what did them scamps do?" demanded Mother Mayberry, looking over her glasses in some perturbation as the end of the involved narration began to dawn upon her.

"They tooked the other box of soap outen the window and put the verse in it, and carried it down to Aunt Prissy, and told her Mr. Petway sent it to her. It was a joke they said, but they was good about your Aunt home then, and I seen 'em and Aunt laughing about it, and Aunt Prissy was just as pink and pleased and loving looking as Pattie were, and Maw was a-joking of her like Mis' Pratt—"



"She laid one of her strong hands on her son's arm."

I was so skeered I couldn't swallow something in my throat 'cause I thought maybe Aunt Prissy would jump offen Bee Rock when she found she were so disgraced with Mr. Petway. I woulder done it myself, for I got right red in my own face thinking about it." And the blush that was a dawn of the eternal feminine again rose to the little bud-woman's face. "It were awful, Eliza child, and don't blame you for being mortified over it," said Mother Mayberry with a quick appreciation of the wound in-

licted on the delicacy of the child, and the tale began to assume serious proportions in her mind as she thought of the probable result to the incipient had been a subject of prayerful hope to her for some time past. "What did you do?"

"I prayed," answered Eliza in a perfectly practical tone of voice, "and as I prayed I ran to Mr. Petway as fast as I could. He was filling molasses cans at the barrel when I got there, and they wasn't nobody in the store, only I seen Bud and Henry peeping from behind the blacksmith shop and they was right white, they was so skeered by that time. Then I told him all about it, and begged him to let Aunt Prissy have the box of soap and think he sent it, so her feelings would not get hurt. I told her I would give him my seventy-five cents from picking peas to pay for it, and that Aunt Prissy cried so when her feelings was hurt, and she thought so much of him that she kept her frizzes rolled up all day when she hoped he might be coming that night to see her and Aunt Prissy bake tea-cakes to pass him out on the front porch and he might let her have just that one little box of soap."

"What did he say, child?" asked Mother Mayberry in a voice that was positively weak from anxiety and suppressed mirth at Eliza's own account of her management of the outraged lover.

"He didn't say a thing, but he sat down on a cracker box and jest cried all over my dress, and I hugged back and laughed too, but I didn't know what at. Then he told me that he didn't ever want Aunt Prissy to know about them bad boys' foolish joke, 'cause he wanted to marry Aunt Prissy and didn't want her to find out that three young scallawags had to begin his co'ting for him."

"Did he say all that to you, 'Liza honey, are you sure?" asked Mother Mayberry, beginning to beam with de-

light of her secret chambers after having quartered the troublesome seed of confidence on the ranges of Mother Mayberry's conscience.

"Well, 'Liza, a secret oughter always be wrapped up tight and dropped down the well inside a person, and I propose you and me do it and I do. And, child, I want to tell you that you and I were the right thing all along this time, and it were rather you rather you, right notion in your heart of what to do."

"Yes'm, I believe He did, and He got hold of Mr. Petway some time, to make him kind about wanting to marry Aunt Prissy. He are a-going to ask her to-night and I promised to keep Paw outen the way for him, 'cause Paw will get away from him and come talk crops with him sometimes on the front porch. May I go to the kitchen and get Cindy to make a little chicken soup for Mis' Bostick now? I can't get her to eat much to-day."

"Yes, and welcome, Sister Pike," answered Mother Mayberry heartily, and she shook with laughter as the end of the blue calico skirt disappeared in the hall. "The little raven have actually begun to sprout crude wings," she said to herself as she went around the corner of the house toward the Doctor's office. "Co'ting are a bomb-shell that explodes in the big Road further and look out who it hits," she paused to train up a shoot of the rambler over the office door.

The Doctor had just come from over his Ridge, put up his horse and hall into his office, and he found his Mother sitting in his chair by the table. He smiled in a dejected way and seated himself opposite her, leaned his elbow on the table and dropped his chin into his hands.

"Now, what's your trouble, Tom Mayberry?" demanded his Mother, as she gazed at him with anxiety and tenderness striving in glance and tone. "You've been a-going around like a dropped-wing young rooster with a touch of malaria for a week. If it's just moon-gaps you can keep 'em and welcome, but if it's trouble, I claim my share, son."

"I meant to tell you to-day, Mother," he answered slowly. "After a moment's silence he looked up and said steadily, 'I've failed with Miss Wingate, and I'm too much of a coward to tell her. I feel sure now that she'll never be able to use her voice any more than she can in the speaking tones and she—she will never sing again.'" As he spoke he buried his face in his hands and his arms shook the table they rested upon.

"For a moment Mother Mayberry sat perfectly still and from the whispered words on her lips her son knew she was praying. "The Lord's will be done," she said at last, in a deep, quiet voice, and she laid one of her strong hands on her son's arm. "Tell me about it, Tom. You ain't done no operation yet?"

"Yes, Mother, I have," he answered quietly. "All the different surgical treatments she had tried under the greatest specialists. Her one hope was to be built up to the point of standing the bloodless operation with the galvanic shock, but she tried it three times in the last week to release the muscles and start life in the nerves that control the vocal chords. In the other two cases with which I have succeeded the first operation was immediate after the first operation. Now I dare not risk another tear of the muscles. One reason I did not tell her is that her throat is now losing the fear that she wouldn't gain the control. You know she thinks they have been only preliminary treatments and you have heard her laugh as I held her while through her mind's (To be concluded next week.)

The Upwa

The Broad

No.

My kingdom is No. St. John 18, 38.

Think about the play to my advantage any give the millions of angels? But the scriptures be fulfilled be—St. Ma

One of the saddest is to see men and standing Christ truly to comprehend Him. With the multitude attracts more attention even among protesters there are too many towards God. Having for Christ they appreciate that is about all hoped of them and continue once more on earth rather than en. In this respect to forget that faith that works for God (2, 20).

What then is true-ness for which each of us is to accomplish life. And what is it to do the will of us in His word, of us so poor and i



The Upward Look

The Broader Vision
No. 8

My kingdom is not of this world.—
St. John 18, 38.

Thinkest thou that I cannot now
pray to my Father, and are small
things give me more than twelve legions
of angels? But how can small
things be fulfilled that thus
it must be?—St. Matthew 26, 53, 54.

One of the saddest sights of life
is to see men and women misunderstanding
Christ through their inability
to comprehend His true greatness.
With the multitudes the millionaire
attracts more attention than the mis-
sionary, the politician than the priest,
even among professing Christians
there are too many who lack in zeal
towards God. Having taken a stand
for Christ they appear to think that
that is about all that should be ex-
pected of them and forthwith they
continue once more to lay up riches
on earth rather than riches in Heav-
en. In this respect we are all prone
to forget that faith without works,
that is works for God, is dead. (James
2, 20).

What then is true success, the suc-
cess for which each of us should strive?
It is to accomplish our mission in
life. And what is our mission? It
is to do the will of God as revealed
to us in His word. There are none
of us so poor and insignificant that

we have not got a special mission of
our own that no one else can fill.

God does not require nor desire
that we shall all be missionaries or
ordained as ministers of the gospel.
We are not all fitted for such duties.
Were we to ask to be permitted to
undertake such work the message
would be the same for us as it was
for the man that had been possessed
with the devil who prayed earnestly
that he might go with Him but Christ
replied: "Go home to thy friends, and
tell them how great things the Lord
hath done for thee and hath had
compassion on thee." (St. Mark 5, 18,
19).

Our gifts differ "according to the
grace that is given to us." (Romans
12, 6). For this reason, like Paul,
we must ask: "Lord, what wilt thou
have me to do?" (Acts 9, 6) and
having received our answer we must
put our hands to the plow and never
look back. (St. Luke 9, 62).

When we feel in our hearts that
the work in which we are engaged is
the work which God would have
us to do then we should expect with
absolute confidence that God will bless
that work. It may be that we have
been called for service in the kitchen,
on the farm, in the office or the work-
shop. No matter what or where it is,
how humble or how exalted, God will
bless it. We may then well ask: "If
God be for us who can be against
us?"

The only way in which we can
receive the constant inspiration,
strength and blessing we require is
by keeping in close communion with

God. In the words of Dr. Torrey:
"The man or the woman who is shut
away from the public meeting by
sickness can have part in it; the busy
mother; the woman who has to take
in washing for a living can have part
—she can mingle prayers for the
saints, and for her pastor and for
the unsaved, and for foreign mis-
sionaries, with the soap and water as she
bends over the wash tub, and not do
the washing any more poorly on that
account; the hard driven man of busi-
ness can have part in it, praying as
he hurries from duty to duty. But of
course we must, if we would maintain
this spirit of constant prayer, take
time and take plenty of it, when we
shall shut ourselves up in the secret
place alone with God for nothing but
prayer."

This was the secret of Christ's life.
His kingdom was not of this world.
He could have called legions of angels
to his aid and confounded His ene-
mies but by so doing He would have
defeated His own object which was to
teach us how to live. Even death
did not appal Him for He knew that
it would but usher Him into His
Father's kingdom. We need to have
like Christ a vision that comprehends
the things of Eternity as well as of
this world and which holds both in
their right relations to each other.
When we have this we will then un-
derstand something of the grandeur and
sublimity of Christ's life and of the
meaning that it has for us. Until we
have this vision true success can never
be ours for we will not know what
it means.—I.H.N.

Mr. Can't and Mr. Can

Oh, Mr. Can't from Mr. Can
is a very different sort of man.
For Mr. Can he always tries
And Mr. Can't he always cries;
Now Mr. Can gets many a blow,
But he gets the best in the end, you
know.

While Mr. Can't gets nothing at all—
For he's down too low to suffer a fall,
Oh, Mr. Can gets up with a grin,
And he says—"I'm bound in the end
to win."

But Mr. Can't is a pitiful sight,
For he's whipped before he's begun
to fight;

And he says it puzzles him quite a lot
Why some can win and some can not.
Oh, poor Mr. Can't he never knew
The secret I'm going to whisper to
you;

That you can win if you only try,
And you certainly can't if you only
cry;

And that is the reason why Mr. Can
From Mr. Can't is a different man.

Useful Hints

Fresh air and exercise are the best
tonics for young folks, but too much
of the latter will do harm to a child.

Eggs are excellent food for children,
especially those who are nervous.
They are easily digested when lightly
or under-cooked, but only one child
in ten can digest the white of a hard-
boiled egg.

Have you forgotten to renew your
subscription to Farm and Dairy?



Let's make a Jelly Roll—
With FIVE ROSES flour.

Its Strength and Fineness hold your
batter together in the long well-greased
pan.

Bakes evenly.

Smooth Texture—soft, golden Crumb, spongy,
porous, yielding.

No holes, nor lumps to vex you.

And when you turn it out on the damp
napkin hot and savory, and you spread the
under side with "jell"—

It doesn't get soggy nor crumbly.

Roll it gently, carefully.

Not a crack—not a break.

Perfect Smoothness—a Perfect Roll—Yours.

Bake anything, make anything.

Use FIVE ROSES—Bread and pastry.

Melting puff paste—flaky pie crust—crinkly fritters—
tooth some rolls.

FIVE ROSES for anything—everything.

Be flourwise.

Five Roses Flour

Not Bleached



Not Blended

Household Economy

Before putting away winter wools, be sure that they are clean and free from moths. Those that cannot be washed should be well brushed, and may be pressed with a rather warm iron. If carefully done, this will destroy the larvae of moths that may be therein.

Wash wools in two sudsy waters and one rinse water. The first suds loosens the dirt and removes some of it. The second suds removes the dirty suds and any remaining dirt. The rinse water removes the soapy water.

PREVENTING SHRINKAGE

The temperature of the different waters, and of the air in which the garments are dried, should be as near the same as possible. This aids in preventing shrinkage. Use a good mild soap in making the suds, but do not rub soap directly on the wools. Wools should be cleaned by squeezing

and punching in the water, not rubbing on the board. When properly cleaned, wrap the wools carefully in newspaper and tie. Then wrap the package again in newspapers, being sure there are no openings left in either wrapping, and moths will not trouble them. Label each package. This will take only a few moments, and saves time and patience later, and gives the drawers or chest an orderly businesslike air.

Thoroughly brush, clean and repair winter coats, jackets, caps, etc., before hanging them away for the summer. You may be busy, but there will be less time in the fall, when they are needed. Hang them up carefully and in shape. They wear longer and look better if properly cared for.

Wools and furs hung away for the summer should be aired and brushed every two or three weeks, to prevent moths attacking them.

Tacked-down rugs or carpets may

be cleaned on the floor by the following method: Wring mediocrity dry a soft cloth of convenient size (1 yd. square) from hot salt water. Spread this on the carpet, and with a furniture whip, or any light limber whip or stick, beat the surface of the cloth, take it up, rinse and spread on the

however, the house cleaning cyclone will sweep them into glaring beams, scindled by fanatical females, whose sick desire is to remove such "trunk" reports and bulletins containing the quiffence of scientific research. The latest and most advanced views of the foremost authorities of the day

order that it may be used, and to improve and replace some hundred volumes on its shelves, also be made to insure manufacture of fact that some of the scientific literature which has been produced in raised type by the blind.

This library has of free instruction in using tactile print. For those of us who sight to realize fully the value of books, and the blind, it will mean to Canadians who are their days, as well in utter darkness, to appeal for public support ground is eloquent.

When we add to the education of what it should induce generosity to the endowment of it is of paramount importance to make the self-supporting, and this is to educate seeing man without hundreds of acres open to him that are blind brother. Indeed, little normal labor the perform, and none that while in the realm of their own opportunity.

A good circulating library can read is more than is such the people who can see of cheap literature, or small means can be library. For the blind, literature, over (for the sheets can one side) and to the sale. A book printed costs several dollars, work can be owned, a seeing person by few cents.

This library is established Ontario Public Library under government inspection accounts are carefully scriptions towards its are solicited. Remittances to F. W. Hermon, Toronto, St., Toronto, will be received. The library all the blind of Canada to Vancouver. Bmitted free of postage, can promptly mails books catalogue.



A Farm House of Unusual Design
The farm home of Mr. Geo. W. Anderson, Rosemore, Ont., illustrated above was built 50 years ago by Mr. Anderson's father. Mr. Anderson may be one of the successful competitors in Farm and Dairy's Prize Farms Competition this year.
—Photo by an Editor of Farm and Dairy.

floor again. Go over the entire carpet in this way, working at each place until the dust no longer collects on the cloth. In this way all of the dust is taken out of the rug, and little dust is made in the room. The salt in the water tends to brighten and freshen the colors in the carpet; and if there are moths present, they are brought to the surface, where they can be properly dealt with. If moths are present, spread a paper on the carpet, and press with a hot iron. This destroys moths and eggs.

and the hard earned experience of practical and successful farmers: will go up in smoke. A good reliable farmers' library for less than the asking.

How many farmers would appreciate a home library any way? My opinion is one in 50.—"Nephew Frank."

Free Library for the Blind

Of all our public libraries, one of the most interesting and most deserving of public support is the Canadian Free Library for the blind, which was established at the village of Markham in 1906. It is now proposed to move the institution to Toronto, in

The man who took the first prize for Butter, said:

"The purest, richest cream in the world won't make prize butter without Windsor Salt."

Of course, I know how to make good butter and I am careful to use the best cream—but I consider Windsor Dairy Salt the biggest help that we dairymen have.

Practically every butter prize awarded at the Fairs last summer, went to those who like myself, used Windsor Dairy Salt". 40

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Is what yours? Is this house that needs painting yours? Be good to it! Is it your home? Nothing is too good for it. Make it beautiful. How? Use

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OUR HOME CLUB

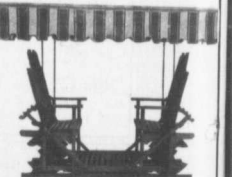
ANOTHER NEW MEMBER
The number of male members of our club has been rather smaller than that of the fair sex, and we have been trying to increase the men members. We have much pleasure in introducing to the other members, a real live man member. He comes to us under the guise of "Nephew Frank," and his first contribution appears in this issue. Judging from what he writes we can expect quite a treat from our new member.

THE FARM HOME LIBRARY

The low cost of good volumes at the present day has enabled many a man of moderate means to acquire a home library. For the small sum of 25 cents per volume one can obtain the very cream of the world's literature from the "Dramas of Aeschylus" to "Gulliver's Travels." Well bound little volumes, in a nice book case they impart an atmosphere of study and culture to a farmer's best room. The mere mention of books, to the average farmer, suggests profound classics or trashy novels. He will perhaps express a liking for good agricultural works and say "but they cost like the deuce." These members, paying two or three dollars for a Yankee stock breeder's book or mutton-in-parade and maybe a dollar or two for "something about nothing" and concludes book collecting to be expensive. Yet out in the wood shed are possibly a number of blue covered books, that cost him nothing directly; well printed and illustrated; bound in neat paper covers and containing more reliable information in 50 pages than the Yankee book in 250. Soon

Health by Resting Out-of-Doors in a STRATFORD LAWN SETTEE

Here is shown one of our Lawn Settees, with canopy. It is made of Hardwood, with slat backs, seats and foot rest.



Our settees are so constructed that gliding level motion is obtained—not that springing motion that makes you dizzy. Like our lawn swings our settees can, in a moment be converted into a couch or bed. They are made in various styles, different finishes, with or without canopy, and different prices.

For detailed description and prices ask us to send you today our illustrated catalogue M. It is free.

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We also make all kinds of Lawn Furniture, and Verandah and Lawn Furniture.

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We've made it easy to put them out.—The "Champ" racket is made of any wood improvement along the lines of a "Down" racket. We have the best. Write for the "Champ" racket or write us for a booklet.
DAVID MAXWELL & CO.,
ST. MARY'S, ONT.
91

order that it may be more easy of access, and to improve its usefulness by placing some hundreds of additional volumes on its shelves. An effort will also be made to install a press for the manufacture of tactile books, in order that some of the gems of Canadian literature which have never been reproduced in raised letters may be enjoyed by the blind.

This library has also a department of free instruction in the art of reading tactile print. While it is difficult for those of us who are blessed with sight to realize fully how much tactile books, and the ability to read them, will mean to our 5,000 fellow-Canadians who are doomed to pass their days, as well as their nights, in utter darkness, this library's appeal for public support on humanitarian ground is eloquent.

When we add to this a consideration of what it means to the State to educate the blind, patriotic motives should induce generous contributions to the endowment of the institution. It is of paramount importance to the State to make the blind population self-supporting, and the way to do this is to educate the blind. The seeing man without education has his hands open to him that are closed to his blind brother. Indeed, there is very little normal labor that the blind can perform, and none that is profitable; while in the realm of intellectual endeavor their opportunities are illimitable.

A good circulating library of books that can read is more important to the blind than is such an institution to people who can see. In these days of cheap literature, even the man of small means can at least own a small library. For the blind there is no cheap literature, owing to its bulk (the sheets can only be printed on one side) and to the necessarily limited sale. A book printed for the blind costs several dollars, while the same work can be owned and enjoyed by a seeing person by the outlay of a few cents.

This library is established under the Ontario Public Libraries Act. It is under government inspection, and its accounts are carefully audited. Subscriptions towards its endowment fund are solicited. Remittances addressed to E. W. Hermon, Treasurer, 37 Balmite St., Toronto, will be gratefully received. The library is available to all the blind of Canada, from Halifax to Vancouver. Books are transmitted free of postage, and the librarian promptly mails books ordered from the catalogue.

MAXWELL'S HIGH SPEED CHAMPION



"We've made it easy to put clothes in and take them out.—The 'Champion' has the best opening of any washer. This one improvement alone is worth the price. There are a dozen others that mean quick, easy washing."

Ask to see the "Champion" and Maxwell's "Favorite" Churn at your dealer's or write us for descriptive literature.

DAVID MAXWELL & SONS,
ST. MARY'S, Ont.

The Sewing Room

Patterns 10 cents each. Order by number and size. If for children, give age; for adults, give bust measure for waists, and waist measure for skirts. Address all orders to the Pattern Department.



CHILD'S DRESS CLOSING AT SIDE
FRONT, 6994

The simple little frock that closes at the side of the front is a favorite one this season. This model especially will be found pretty for all seasonable materials. For a child of 4 years will be required 3 yards of material 27 or 36 inches wide, or 2 1/2 yards 44 inches wide, with 1/2 yard of embroidery to trim as illustrated. This pattern is cut in sizes for children of 2, 4 and 5 years of age.



GIRL'S EMPIRE DRESS, 6973

Empire dresses are to be much worn by little girls this season. This one includes all the latest features. For a girl of ten years will be needed 3 1/2 yards of material 27 inches wide, 2 1/2 yards 36 or 44 inches wide with 2 1/2 yards of banding; or 2 1/2 yards of flouncing 27 inches wide with 3/4 yard 18 for the yoke and sleeves to make as shown in the back view. This pattern, in cut in sizes for girls of 8, 10 and 12 years of age.

CARE IN ORDERING PATTERNS

Be sure and state size, also number of patterns. Do not send illustrations of patterns. Order by number and size only.



FRENCH BLOUSE WITH SAILOR COLLAR, 6988

The French or peasant blouse that is cut in one with the sleeves and finishes with a sailor collar is one of the novelties of the season.

The quantity of material required for the medium size is 3 1/2 yards 27, 3 yards 36 or 2 1/2 yards 44 inches wide. This pattern is cut in sizes M, N, 36 and 40 in.

THE COOK'S CORNER

Recipes for publication are requested. Inquiries regarding cooking, recipes, etc., gladly answered upon request, to the Household Editor, Farm and Dairy, Peterboro, Ont.

COFFEE CAKE

One cup of butter, one cup of sugar, one cup of molasses, one cup of coffee cold, one cup of currants, one teaspoonful of soda, one teaspoonful of mixed spices, two or four eggs, flour to thicken.

COCONUT CAKE

One cup of butter, two cups of white sugar, one cup of milk, three coffee-cups of flour, whites of six eggs, well beaten, three teaspoons Cook's Friend baking powder, one cocoonut grated; do not use the milk of nut.

PLAIN SPONGE CAKE

One egg, one teaspoon of sugar, one cup of sweet milk, two cups and a half of flour, one dessert spoon of butter, two teaspoons cream of tartar, one teaspoon of soda, and a little salt. Bake fifteen minutes in pans size of a breakfast plate.

MOLASSES CAKE

One cup of butter, one cup of brown sugar, one cup of molasses, one cup of sweet milk, three cups of flour, four eggs, one and a half teaspoons of cream tartar, one cocoonut of soda, two pounds of raisins chopped fine, nutmeg; bake in a slow oven.

LEMON PUDDING

Put in a basin one-fourth pound of flour, the same of sugar, same of bread crumbs and chopped suet, the juice of one good sized lemon, and the peel grated; two eggs, and enough milk to make it the consistency of porridge; boil in a basin for one hour; serve with or without sauce.

School of Mining
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Affiliated to Queen's University,
Kingston, Ont.

For Calendar of the School and further information, apply to the Secretary, School of Mining, Kingston, Ont.

TWENTY SIX-FOOTERS

A Startling Example of How Oats Create Height

Archdeacon Sinclair, in advising boys to eat much oatmeal, said this "Among my brothers and my father's brothers and sisters there were 20 six-footers, all brought up on oatmeal."

Oats contain more body-building food, more brain-building food, more nerve-building food than any other grain that grows. No other item in all human diet compares in importance with oats. Nothing else creates so much energy.

But thousands of people buy this food carelessly. They accept oatmeal made from oats as they run—the plump and the small, the rich and the worthless.

Quaker Oats is made from the cream of the oats, selected by 62 sittings. Only ten pounds in a bushel are good enough for use in this food. The result is a richness and flavor that all enjoy, and the maximum value as food.

Yet Quaker Oats, despite its quality, costs but one-half cent per dish. Does it pay to take something inferior?
Made in Canada.

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That ANYONE CAN Use.



HOM DYEING has always been more or less of a difficult undertaking—Not so when you use

DYOLA
ONE FOR ALL KINDS OF GOODS

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GIRLS' WHITE LAWN DRESS OR BLUE Dotted Muslin Dress, two to eight. Post paid 35c. Standard Garment Co., Lon. 420c. Ont.

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THE STICKNEY GASOLINE ENGINE

Will pump water for you and put it just where you want it. It is the simplest engine on the market. It starts easily and never balks. Our booklet No. 57 gives you a complete course in gasoline engineering. Send a post card for it today. IT IS FREE.

The Ontario Wind Engine and Pump Company, Ltd., WINNIPEG TORONTO CALGARY



SYNOPSIS OF CANADIAN NORTH-WEST LAND REGULATIONS

Any person who is the sole holder of a family, or any male over 18 years old, may homestead a quarter section of available Dominion land in Manitoba, Saskatchewan or Alberta. The applicant must appear in person at the Dominion Lands Agency, or sub-Agency, for the District. Entry by proxy may be made at any agency, on certain conditions, by father, mother, son, daughter, brother or sister of intending homesteader.

Duties—Six months residence upon and cultivation of the land in each of three years. A homesteader may live within at least 30 acres solely owned and occupied by him or by his father, mother, son, daughter, brother or sister.

In certain districts, a homesteader in section alongside his homestead. Price \$3 per acre. **Duties—Must reside upon the homestead or pre-emption six months in each of six years from date of homestead entry (including the time required to earn homestead patent) and cultivate fifty acres extra.**

A homesteader who has exhausted his homestead right and cannot obtain a pre-emption may purchase a quarter homestead in certain districts. Price \$3.00 per acre. **Duties—Must reside six months in each of three years, cultivate fifty acres and erect a house worth \$300.**

W. W. CORY.

Deputy of the Minister of the Interior. N.B.—Unauthorized publication of this advertisement will not be paid for.

HOLSTEIN-FRIESIAN NEWS

Farm and Dairy is the official organ of The Canadian Holstein-Friesian Association, all of whose members are readers of the paper. Members of the Association are invited to send items of interest to Holstein breeders for publication in this column.

A BULL WITH A RECORD

A bull that promises to become one of the great Holstein bulls of Canada is Velstra Triumph (imp.) that heads the herd of Mr. Geo. W. Anderson, of Rosemont, Ont. An editor of Farm and Dairy who visited Evergreen Farm recently was

has an excellent top line, is full behind the shoulder, thoroughly masculine and possesses traits very marked. Dairy-

men in the section claim to be able to pick out his young stock even in the grade herds of the neighborhood from which cows have occasionally been bred to him or distinctively recognize the line even in the progeny of their herds where some of his have been used as their herd headers. All his heifers that have been tested before leaving their heiferhood have made much better records than their dams at maturity. Six of his daughters have been tested in the Record of Merit and all have passed. Of these six Velstra Triumph De Kol at three years and 11 days gave 21.36 lbs. butter in 7

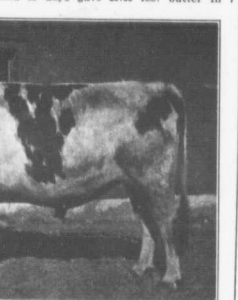
cord of 18.9 lbs. at maturity. Princess Maggie Keyes has a record of 16.8 lbs. at 3 years and is likely to do much better when she freshens again. Elder Triumph, a young animal with an exceptional sister, at one year 11 months produced 18 lbs. butter in 7 days, milking 51 lbs. a day. Velstra Triumph Elder at 1 year made a record of 14.85 lbs. butter.

The coming herd bull is Francis Boersge Korndyke recently purchased from D. C. Platt & Son. His dam, Elder Boersge Ormsby is the Canadian champion 3 year old with a record of about 27 lbs. of butter in 7 days. His dam, Elder Boersge Ormsby is the Canadian champion 3 year old with a record of about 27 lbs. of butter in 7 days. His dam, Elder Boersge Ormsby is the Canadian champion 3 year old with a record of about 27 lbs. of butter in 7 days. His dam, Elder Boersge Ormsby is the Canadian champion 3 year old with a record of about 27 lbs. of butter in 7 days.



A Holstein Bull With Many Record of Merit Daughters.

Velstra Triumph, here shown, imported by Geo. W. Anderson, Rosemont, Ont., is said to be the only bull in Canada whose dam and sire's dam have each made better records than their dams at maturity; surely the best test of propensities! Notice the great depth, straight lines and low-ness of this bull.



—Photo by an editor of Farm and Dairy.

much impressed with this bull as well as with the stock he is leaving. Velstra Triumph is seven years old and was imported from the noted Homestead herd at Utica, N.Y., of W. A. Matteson, an exponent of the American Holstein Friesian Association. This bull is said to be the only bull in Canada whose dam and whose sire's dam have each given over 100 lbs. of milk in a day. His dam, Tekstra Second's Velstra gave 105 1/2 lbs. of milk in one day. His sire's dam has a record of 104 lbs. milk in one day.

In appearance this bull is remarkable for his depth combined with unusual length at the same time being low down and well proportioned throughout. In spite of his age he is active and full of vigor and displays the great constitution that he is transmitting to his got. He

days She stands fifth in the 3-year old list at her age. She shows every indication of developing into an exceptionally fine animal, showing great strength of constitution and pronounced dairy qualities. Mr. Anderson believes that she will freshen again.

Another of his daughters, Velstra Keyes, as a senior 2-year old has a record of 18.2 lbs. butter in 7 days. A third daughter, De Kol Triumph, out of a half sister

GREAT SALE OF HOLSTEINS

Among the many finely bred Holsteins being offered by W. F. Elliott, Coleman, Ont., at his sale on May 23rd is Oakland 7th, a 3-year-old cow, bred by J. B. S. Matka. This is a young sire that any good breeder would be proud to have at the head of this herd. His dam has a record of 31.01 lbs. butter in seven days and 120.23 lbs. in 30 days. She is by De Kol and out of Sadio Vale Concordia who has a record of 30.64 lbs. His dam is by Lord Netherland De Kol and made 27.25 lbs. butter in seven days. Her sire, bull King Fayne Sagns Clothilde is also being offered. His seven nearest dams average 27 lbs. butter, and have years records from 20,000 to 25,000 lbs. milk and. Among the females of note being offered is Countess De Kol 2nd, a four-year-old A sister of this cow sold at Bruce Bros' sale for \$1,000. She will freshen on April 7th. Clotilda's Gelsche Sagns, although a youngster, is richly bred. Her grand dams average over 31 lbs. who her grand-sire is the best sire of the breed from the A.B. standstill. Queen Kathleen De Kol, five years old, as a two-year-old made 62 lbs. of milk in a day and as a three-year-old 77 lbs. Inka Sylvia, six, a three-year-old, milked 59 lbs. of milk a day at two years two months and 38 lbs. a day at eight months also calving. Her dam, Inka Sylvia, made 21.36 lbs. butter in seven days and a world record. These are only a few of the

MARKET

Toronto, Monday, May 15. Steady and seasonable air circles large order are reported. The dairy season has been unsettled condition noted last week. Cheapest higher than at and demand is brisk. Call money here rule.

Weather prices have worsened reports have unfavorable this past rains in the Western down at Chicago first ports of droughts for went up again. At the high level reached weeks been lost. The wheat is being stored the market is almost no matter how favorable ports may be. No have been made in lo

Save of the price range "Don direct from the factory"



Our Illustrated Canadian

LIVE STOCK SPRING SHOW

To be held at Ormstown, P.Q. on the 23, 24 and 25 May, 1911

A large display of Imported and Canadian Bred Registered Clydes and Pure Bred Ayrshire and Holstein Cattle. Auction sale of Imported Fillies and other live stock on Thursday 25, at 10 a. m.

ARCH. McCORMICK, D.V.S., Sec.

The Third Annual Farm Machinery Number

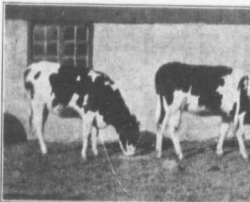
—The Next Special Magazine Number of Farm and Dairy—will be issued on JUNE THE FIRST

EVERY READER will find in this number material that will help him solve some of the most difficult problems of farm life. This number will be anticipated by all our readers, for every one of them desires to keep abreast of the times.

ADVERTISERS of all kinds of machinery and labor-saving devices for use on the farm will find it to their advantage to use large space in this Farm Machinery Number.

For rates, dates of closing of forms, and other particulars, write to the ADVERTISING DEPARTMENT FARM AND DAIRY PETERBORO, ONT.

It is desirable to mention the name of this publication when writing to advertisers



Four Heifer Calves That Are Good Ones

The four heifer calves shown above were photographed recently by an of Farm and Dairy on the farm of Mr. George W. Anderson, of Rosemont, Ont. They are unusually good ones. These calves are sired by Mr. Anderson's best bull, Velstra Triumph, illustrated above in this issue. They all possess exceptional depth and show the same grand constitution as their sire. The animal on the left is Evergreen's De Kol. At seven and a half months old she weighed 525 lbs. The animal on the right at eight months old weighed 525 lbs. Evergreen's De Kol is a full sister of Velstra Triumph De Kol, which at 3 years and 11 months gave 21.36 lbs. of butter in seven days. (See Gossip in this issue.)

of the champion cow May Echo, while under 2 years made a record of 15 1/2 lbs. in 7 days. It is possible that within a year Velstra Triumph will have more daughters in the Record of Merit than any other living sire in Canada.

Evergreen's De Kol, a full sister to Velstra Triumph De Kol, is a young animal of great promise. For her age she shows a remarkable under development, plenty of size and strong dairy individuality. Mr. Anderson considers her to be much better here at her age than her sister. There are a number of animals in this herd worthy of special mention. Nina De Kol, a half sister of May Echo, has a re-

many good things that will be offered in this sale. Mr. Elliott's farm is two miles north of York Station on the G. N. and two miles south of Wexford Station in the C.P.R.

\$1 A Week for this sized space for Stock Advertisements. Advertise Your Stock and Sell it

MARKET REVIEW AND FORECAST

Toronto, Monday, May 15.—Trade shows steady and seasonable gains. In wholesale circles large orders from the west are reported. The opening up of the dairy season has increased trade in country districts.

In farm produce there have been no notable changes this past week. All kinds of grain, live stock and vegetables are firm. Eggs are in stronger demand, while the butter market is in a very unsettled condition even at the decline noted last week. Cheese is selling half a cent higher than at this time last year and demand is brisk.

Call money here rules at 5/4 per cent.

WHEAT

What prices have been see-sawing as weather reports have been favorable or unfavorable this past week. Reports of rains in the Western States sent prices down at Chicago first of last week. Reports of droughts followed and prices went up again. At no time, however, has the high level reached in this last two weeks been lost. The world's surplus of wheat is being steadily decreased and the market is almost certain to be firm, no matter how favorable the weather reports may be. No appreciable changes have been made in local quotations. No.

1 Northern is quoted at \$1; No. 2, 97c; No. 3, 95c. Ontario wheat was very strong at \$6 to \$7c the first of last week, but prices declined towards the end of the week. Although millers are not buying the most brisk for some time owing to encouraging cables. No. 2 winter Farmers' Market fall wheat is quoted \$5 to \$6c, and goosewheat \$6c.

COARSE GRAINS

The market for coarse grains has been firm with little changes one way or another. Corn and barley are down a little on last week's quotations. In oats only has there been an active demand. Quotations are: Oats, Canada Western No. 2, 57c outside, 56c to 40c on track here; No. 3, 39c; Ontario No. 2, 35c to 37c outside, 36c to 40c on track here; corn, 60c; peas, 75c to 80c; rye, 70c to 72c; barley, 55c to 67c for malting, 55c to 57c for feed; buckwheat, 51c. On the Farmers' Market oats are quoted at 42c; barley, 60c; buckwheat, 53c; and rye, 71c. On the Montreal market oats are stronger owing to a good export and are unchanged. Quotations on other grains local demand. Oats, Canada Western No. 2, 42c to 43c; No. 3, 41c to 41 1/2c; No. 2 local white, 40c to 40 1/2c; No. 3,

39c to 39 1/2c; No. 4, 38 1/2c to 39c; corn, 60c to 61c; barley, 57c to 77c; feed, 50c to 51c; peas, \$1.05 to \$1.15; buckwheat, 56c.

MILL FEEDS AND MEALS

A further decline in mill feeds has been recorded this past week. Receipts are small and there is little trade moving. Manitoba bran is quoted at \$21; shorts, \$23; Ontario bran, \$22; shorts, \$23.50. Oatmeal is quoted at \$23.65 per 90 lb. sack. The Montreal market also is easy with little coming in. Owing to the lateness of the season buyers are cautious about laying in supplies. Quotations are: Manitoba bran, \$21; shorts, \$23; Ontario bran, \$22; shorts, \$24.

HAY AND STRAW

The situation in regard to hay is unchanged. There is a good demand for all No. 1 timothy received, but there is little land. There is not much demand for straw and prices are maintained with difficulty. Quotations are as follow: No. 1 timothy, \$12 to \$13; mixed clover and timothy, \$9 to \$11; straw, \$6 to \$6.50. On the Farmers' Market No. 1 timothy bundled, \$13 to \$15; loose, \$8 to \$10. Competition for the hay offered on the Montreal markets is unusually keen. The Western States are short of hay and which Canadian hay has never been previously shipped. The local demand also is good. No. 1 hay is quoted \$12 to

\$13.50; No. 2, \$9.50 to \$12.50; inferior, \$8.50 to \$9.50.

SEEDS

Wholesale seed merchants are selling to the trade at the following prices: Alfalfa No. 1, \$11 a bush; No. 2, \$9.50; No. 3, \$8.75; red clover, No. 1, \$10.50; No. 2, \$9.50; No. 3, \$8.40; timothy, No. 1, \$7.00; No. 2, \$6.75; alfalfa, No. 1, \$13.75; No. 2, \$12.25.

HIDES

The market for hides is firm at the recent advance. Quotations are as follows: No. 1 inspected steers and cows, 10c; No. 2, 9c; No. 3, 8c; calf skins, 15c. Country stock is quoted as follows: Hides, cured, 9c to 10c; green, 8c to 9c; sheep spring lambs, 15c to 20c; horse hides, \$3; horse hair, 25c; calf skins, 14c to 15c.

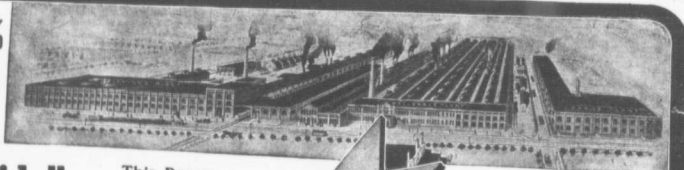
EGGS AND POULTRY

Under a strong demand from the West egg quotations have been higher this past week. Case lots are being accepted at 16c to 16 1/2c a dozen in the country and wholesale quotations here are 15c to 15 1/2c. On the Farmers' Market strictly new laid eggs are 20c to 22c. At Montreal the egg market has had a firm feeling owing to high prices paid at country points in order to meet the competition from western houses. Buyers are paying 16c to 16 1/2c f.o.b. shipping points and 19c at Montreal. A report that has gained some credence in some districts that the Montreal market is being flooded with American eggs is incorrect. Some Canadian houses have purchased eggs on

Save over 35% of the purchasing price on your range by buying a

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This Range Fully Guaranteed and Freight Paid \$41 to \$49



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We make the Ranges and place them in your Kitchen. There's only one transaction and one reasonable profit made on the whole transaction. You don't have to pay a factory profit—store rent and clerk hire—and expenses of travelling salesmen. Our great "Factory to Kitchen" Plan enables you to buy the best Range for the same price that the wholesaler and jobber would have to pay—AND LESS than the retail dealer could get it for—and on better terms too.

"DOMINION PRIDE" RANGES

would cost from \$69 to \$78 if sold by retail stores. Our square deal way of dealing direct with you—and saving you all the profits made on ordinary ranges—enables you to have a "Dominion Pride" Range for \$41 to \$49.

"Dominion Pride" Ranges are made of best Black Polished Steel and Malleable Iron. Polished steel does not need backing—simply go over it with a cloth and it will stay fresh and bright. Malleable Iron will NOT warp, crack or break, as cast iron will. Malleable Iron is used by railroads for car castings, and by Farming Implement Makers, because of its superior strength. Cast Iron Ranges are cheap—even at their best—and expensive for you as well as any price because they soon go to pieces. "Dominion Pride" Ranges will last a lifetime because they are best right, of the right materials, by people who know

SAVE OVER 90% OF YOUR FUEL

"Dominion Pride" Ranges have proved this by actual tests. Whether you use wood or coal "Dominion Pride" will cut down the cost of fuel by almost one-third. COLD rolled steel plate ovens, sectional iron lining Fire Box with air chambers—double walled flues, interlined with asbestos—extra heavy grates—all help to make "Dominion Pride" the most economical Range you can buy.

WE GUARANTEE THEM—ABSOLUTELY

Over 6,000 of our RANGES are in use in Toronto alone, and many thousands more in other parts of Canada. You get a Range that has proved its superiority in every way when you buy thing to you—because you have an enormous factory and an old established Canadian Company back the guarantee. Here's another point about "Dominion Pride" Ranges that is missing in Ranges bought at retail stores. You can always get new parts if you need them.

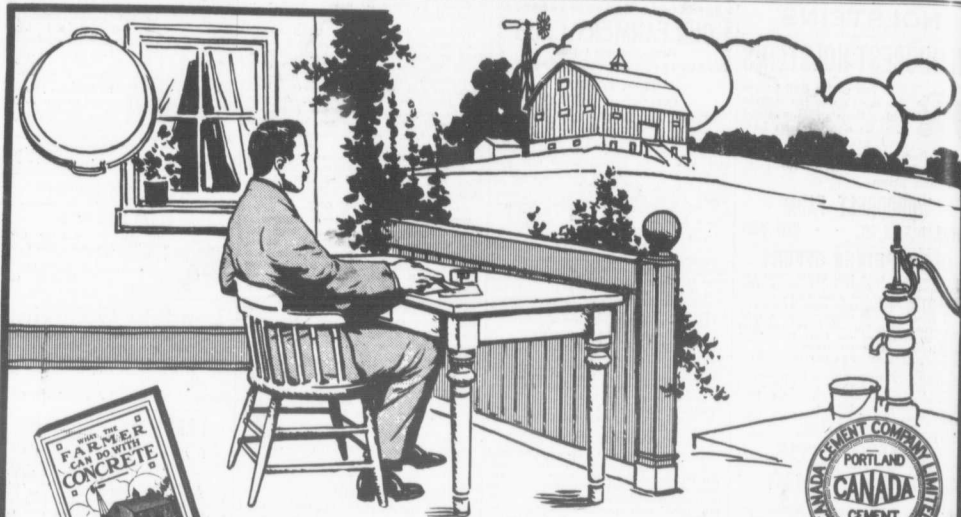
WE PAY THE FREIGHT—RIGHT TO YOUR STATION

Our prices—direct from our Factory to your Kitchen is this—a "Dominion Pride" Range 8-18 or 9-18 top, with high closet shelf or elevated tank or flush reservoir, with zinc sheet to go under Range, 8 joints of blue polished steel pipe and 2 elbows—delivered to any railroad express station in Ontario, Quebec, New Brunswick, Nova Scotia or Prince Edward Island—for \$41—OR delivered to any railroad express station in Manitoba, Alberta, Saskatchewan or British Columbia—\$49. \$5 to be sent with order, balance to be paid when Range is delivered at your railroad station. If not convenient to pay cash we will arrange to accept your Note.

At least, write for the booklets. You'll find them wonderfully interesting. Send to-day.

Canada Malleable & Steel Range Mfg. Co., Limited, OSHAWA ONTARIO

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\$3,600 in Cash Prizes for Farmers

Tell Us How You Did It

You may win a prize by doing so

SUPPOSE your friend Bob Wilson, on the next concession, "pulled up" at your front gate on the way back from market and asked you about that silo or barn foundation you built, you would be glad to tell him, wouldn't you? And it wouldn't take you long either, would it? And, as a matter of fact, you'd find as much pleasure telling him as he would in listening—isn't that right?

First, you would take him over to view the silo or barn foundation. Then you would start to describe it—its dimensions—the kind of aggregate used—the proportions of cement used—number of men employed—number of hours' working time required—method of mixing—kind of forms used—method of reinforcing, if any—and finally, what the job cost. So that by the time you finished, neighbor Wilson would have a pretty accurate idea of how to go about building the particular piece of work which you described.

Now, couldn't you do the same for us, with this difference—that you stand a good chance of getting well paid for your time?

In Prize "D" of our contest, open to the farmers of Canada, we offer \$100.00 to the farmer in each province who will furnish us with the best and most complete description of how any particular piece of concrete work shown by photograph sent in was done. The size of the work described makes no difference. The only important thing to remember is that the work must be done in 1911, and "CANADA" Cement used.

In writing your description, don't be too particular about grammar or spelling or punctuation. Leave that to literary folk. Tell it to us as you would tell it to your neighbor. What we want are the facts, plainly and clearly told!

Sounds simple, doesn't it? And it is simple. And surely it is well worth your while when you think of the reward in view.

Now, sit right down, take your pen or pencil—fill out the attached coupon—or a post card if it's handier—and write for the circular which fully describes the conditions of this, the first contest of the kind ever held in Canada.

Every dealer who handles "CANADA" Cement will also be given a supply of these circulars—and you can get one from the dealer in your town, if that seems more convenient than writing for it.

Contest will close on November 15th, 1911—all photos and descriptions must be sent in by that date, to be eligible for one of these prizes. Awards will be made as soon as possible thereafter. The decisions will be made by a disinterested committee, the following gentlemen having consented to act for us, as the jury of award: Prof. Peter Gillespie, Lecturer in Theory of Construction, University of Toronto; Prof. W. H. Day, Professor of Physics, Ontario Agricultural College, Guelph; and Ivan S. Macdonald, Editor of "Construction."

Having decided to compete for one of the prizes, your first step should be to get all the information you can on the subject of Concrete Construction on the Farm. Fortunately, most of the pointers that anyone can possibly need, are contained in our wonderfully complete book, entitled "What the Farmer Can Do with Concrete." A large number of Canadian farmers have already sent for and obtained copies of this free book. Have you got your copy yet? If not you'd better send for it to-day. Whether you are a contestant for one of our prizes or not, you really ought to have this book in your library. For it contains a vast amount of information and hints that are invaluable to the farmer.

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