

FARM AND DAIRY & RURAL HOME

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DEVOTED TO
BETTER FARMING
AND CANADIAN
COUNTRY LIFE



Peterboro, Ont., Feb. 24, 1916



CHUMS ON A LARK

—Photo on farm of Mr. Forest, Holmesville, Ont.



FARM AND DAIRY & RURAL HOME



We Welcome Practical Progressive Ideas.

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

The Recognized Expert of Dairying in Canada.

VOL. XXXV.

PETERBORO, ONT., FEBRUARY 24, 1916

No. 8

Lime and Lime Requirements of Ontario Soils*

A Concise Summary of a Farm Problem that Should Receive More Attention

THE two most variable factors affecting the composition of our soils are lime and organic matter; they are also the two most important factors affecting the productive capacity of the soil. A soil rich in lime is almost invariably strong and productive, and the animals consuming the crops it produces are usually thrifty, with plenty of bone. A soil rich in decaying organic matter is rich in nitrogen, carries a fair amount of available mineral plant food, has a good physical condition, and does not so readily suffer from drouth.

But, while an abundance of organic matter is desirable, the acids formed in its decay render the lime soluble and thus convert it into a form readily leached from the soil. Consequently, the better the land is farmed the faster will it lose its supply of lime. For this reason we find that generally speaking the longer the land has been farmed the poorer it will be in lime, and, when the lime is exhausted, the most active substance in neutralizing the acids of the soil is gone and soil becomes sour or acid.

Many Districts Need Lime

During the past season's work on the soil survey, we have had abundance of evidence that in many districts these changes have progressed far enough to render the application of lime necessary. In the course of the summer's work thousands of borings were made in the soils of the counties studied. In most cases the surface soil was acid to litmus paper, and there was not enough carbonate of lime present to cause any apparent effervescence when treated with acid until a depth of 30 to 24 inches was reached; in some cases there was none even at 40 inches. Our soils are apparently following the same general changes of those in the older lands, and our farmers will have to follow the practice long in vogue in these countries of returning lime to the land to replace that which has been carried away in the drainage water.

But soils that are deficient in lime not only become sour; they also change in their physical condition. The clays become sticky, waxy and difficult to work, and the sands become too loose and readily dry out. Lime improves the clays

PROF. R. HARCOURT, O.A.C., GUELPH, ONT.

by rendering them more open and friable and the sands, more firm and compact. Lime also sets in motion many chemical reactions, whereby insoluble forms of potash and phosphoric acid are rendered available as plant food. Lime is essential to the life of the organisms that bring about the decay of organic matter as these cannot live and work in the presence of acid. Many domestic plants, particularly the legumes, can-

not grow in an acid soil, nor can the organisms that live in the nodules on these roots multiply and gather nitrogen from the air, neither can the various classes of bacteria that are now recognized as nitrogen-gatherers, carry on their work in a soil that is sour or acid. In these and many other ways lime is valuable in a soil, and when we remember that lime is one of the least costly of the materials that we may add to the soil, we have another reason why its use should not be overlooked.

As the term "lime" is generally used it may mean any one of a number of different compounds of calcium. It may not be out of place to describe some of the compounds that are being offered for sale. Lime, meaning the fresh lime, or quick lime, air-slaked lime, hydrated lime and ground lime-stone, are the common forms of lime offered for sale.

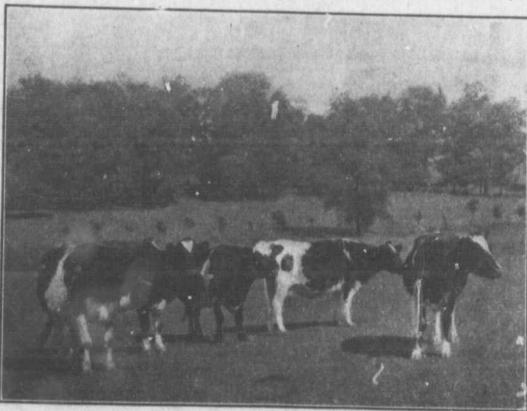
Quick lime must be slaked before it can be evenly distributed over the ground. The best plan is to distribute it over the field in small heaps, much as is done with stable manure. Forty heaps of fifty pounds each, two rods apart, is an application of approximately one ton per acre. If water amounting to one-third the weight of the lime be added and the heap covered with about an inch of soil, the lime will soon slake, when it may be spread with a shovel. This latter operation is not a pleasant one, but if the slaked lime is mixed with earth, and a damp day chosen for the work, it may be accomplished without any great inconvenience.

Hydrated lime is simply the quick lime slaked, screened and bagged. It is consequently more expensive, but its action in the soil will be the same as quick lime slaked in the field.

Air-slaked lime is quick lime that has been allowed to slake without the direct addition of water. It differs from the freshly slaked lime in that it has taken up some carbon dioxide from the air, and part of the lime has passed back into the carbonate condition. The amount that has been thus changed will depend upon the length of time the lime has been exposed to the air.

Ground limestone is simply the limestone rock, similar to that which is burned in the preparation of quick lime, finely pulverized. Naturally the more finely it is ground the quicker it will react in the soil. The coarser-ground material will remain an active agent for a longer time in the soil. Consequently it is not essential that the whole of the material be very fine. Generally speaking, if the rock is so pulverized that the larger particles are no bigger than flax seed and all the fine material that would naturally be formed in the process of grinding remain in it, it will be fine enough. The very finely pulverized material costs more to prepare and is more difficult to handle, and does not serve the purpose any better; for applications of ground limestone only need be made at intervals of four or five years. The finest materials will come into use first and the coarsest later. At the same time, it may prevent a too rapid leaching away of the material. *Mari* is

(Concluded on page 10)



A Part of the Herd: Bred for Business and Looking the Part.

*An address before the W.O.D.A. convention at St. Mary's, in January last.

Corn Growing: Varieties and Methods of Planting

THE last annual convention of members of the Canadian Seed Growers' Association of Ontario, held in connection with the Provincial Winter Fair at Guelph last December, was marked by several interesting addresses and discussions of interest to corn growers. As the corn season is now on hand, at least the season when dairy farmers should be looking around for a supply of good seed corn, a review of the corn features of that session may be of interest and value. Mr. T. G. Raynor opened up the discussion on corn, his subject being "Observations on the Growing of Ensilage Corn in Eastern Ontario."

"The big southern corns are going out and the Flints are coming in," said Mr. Raynor. Among the now popular Dent varieties, Mr. Raynor especially mentioned Wisconsin No. 7, Golden Glow and Bailey. He strongly advocated buying of corn on the ear. "A few years ago," said he, "some progressive farmers near Belleville bought their corn on the ear. They were the only ones in that district who had good corn that year. Their results became known all through the district, and now dealers in Belleville are obliged to get a good proportion of their seed on the ear to meet the demands of their customers."

Speaking of methods of planting, Mr. Raynor said: "Taking one year with another, for silage purposes I would advocate planting corn in hills three and one-half feet each way. This method will not give the largest yields of ensilage, but it will give the best quality of ensilage with more ear corn."

Choice of Varieties.

"During the year of 1915 we experimented with seven varieties of corn all over Eastern Ontario. In point of yield, Wisconsin No. 7 came first, White Cap Yellow Dent second, Bailey third, and Golden Glow fourth. There was very little difference in yield between the Bailey and Golden Glow. The White Cap went down worse than any of the other varieties, which would seem to indicate that it lacks brace roots. Wisconsin No. 7 was not as mature in the ear as either the Bailey or Golden Glow, but was always first in amount of stover."

"Among flint corns, Longfellow was the earliest, but was deficient in quantity of fodder. Compton yielded the most fodder, but was the slackest in ear and latest in date of maturity. Of all the flint corns grown in Eastern Ontario, I would say that Salzer's North Dakota is the best all-round variety. In planting corn for ensilage, I would advocate a mixture of one-third flint and two-thirds Dent corn."

At the conclusion of Mr. Raynor's address, Wade Toole, editor of The Farmers' Advocate, started the hottest discussion that marked the meetings at the Winter Fair. Two years ago on Weldwood Farm, run in connection with The Farmers' Advocate, some corn was planted very thickly in drills, three feet apart. The results were so satisfactory that in 1915 three acres of corn was drilled in thickly, so thickly that the stalks almost touched each other in the drills. At harvesting, toward the end of September, the thickly sown corn stood as high as that sown in the regular way. The stalks, as might be expected, were much finer and there was hardly an ear to be found on the whole three acres. The corn, however, was ripe, just as ripe as that sown thinly in hills, and most interesting of all, the thicker sown corn made 30 tons of ensilage to the acre, while that planted in hills made only a little over 16 tons of ensilage to the acre; and this latter is generally considered an excellent yield.

Mr. Toole argued that the food in the thickly sown corn was distributed all through the stalks and leaves, instead of being concentrated in the ears, and that therefore it would make as good ensilage as the corn that was well cared. Samples of the ensilage from both fields were sent to Guelph for analysis, and the showing made by the thickly sown corn was just as good as from that planted in the regular way. Mr. Toole added that the relative value of these two methods



A Canadian War Time Champion—But in a Milky Way.

This is Lakeway Dutchland Aerie, the new Canadian Champion Sen. three-year-old in the 7-day division with 567.7 lbs. milk and 34.66 lbs. butter; 30 days, 1,150.5 lbs. milk and 61.57 lbs. butter; 30 days, 2,302 lbs. milk, 119.94 lbs. butter. Only one other cow in Canada has equaled her 30 day record. Owned by Lakeway Farm, Bronte, Ont.

be experimented with by our agricultural colleges, and insinuated that in this particular, at least, the colleges have not done their full duty by the farmer.

The college professors, of whom there were several present, sprang right to the defence of the methods that they have been advocating for some years. Prof. Zavitz remarked that they had conducted experiments similar to that described by Mr. Toole, some 20 years ago, and had convinced themselves that the thick sowing of corn for ensilage was a mistake. They had considered the method a dead letter. Prof. Murray of Macdonald College stated that they had been carrying on an experiment similar to that which Mr. Toole had requested for four

years, but did not consider that they were yet in a position to make an authoritative statement. He admitted that in a wet season such as they had had in Western Ontario in 1915, heavily seeded corn might make an excellent showing, but it was the average season that must be considered in advocating methods of corn growing. In their experiments at Macdonald College, some of the corn had been planted four inches apart in drills three feet apart, and from this the distance apart varied up to hills three and one-half feet apart each way, with two to five stalks in

the hill. In the early part of the last season, the thick sown looked decidedly the best of the two up to the first of July. July, however, was a dry month, and the thickly planted corn almost stopped growing. The thinner planting came right along, ripened up well, and gave not only a better quality ensilage, but more of it. In reply, Mr. Toole admitted that weather conditions last season may have been favorable, but stated that he had such confidence in the thick seeding method that next year half of their corn at Weldwood Farm would be planted in this manner.

Varieties of Quebec
Prof. Murray added a few remarks on corn growing in Quebec. In the Huntingdon district, Wisconsin No. 7 had done splendidly. In all other counties where they had conducted variety tests, the Wisconsin No. 7 had given the best results with them, followed closely by Bailey. Among the flints, Longfellow had given the best results; in Missisquoi county he had seen field after field, 10 to 12 feet high, yielding a heavy tonnage of well matured ensilage. Salzer's North Dakota and Compton's Early did not mature as quickly as Longfellow, and were advisable for best corn growing districts only.

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Considerations in Selecting Seed Grain

PROF. C. A. ZAVITZ, O.A.C., GUELPH, ONT.

EXTENSIVE work in experimenting with seed selection at the Ontario Agricultural College has taken place. This has extended over a long period of time, and the results are very convincing. The experiments with cereals have been repeated from four to nine years. In comparing large plump with small plump seed, there has been an average increase in bushels of grain per acre per annum of the former over the latter as follows: 16.4 in oats, 7.8 in barley, 4.0 in spring wheat, 7.8 in winter wheat, 5.1 in peas, and 3.8 in spring rye.

Very poor returns have been obtained from grain broken or split by the separator and peas injured by the pea weevil would grow. In many tests which were made at the college, it was found that only about 21 per cent. of large peas and 41 per cent. of small peas which had been injured by the pea weevil would grow. In many instances the weevil completely destroyed the germs and in other instances weakened the vitality and produced plants of uneven growth.

In rather extensive experiments with winter wheat it was found that seed which was allowed

to become thoroughly ripened before it was cut produced a greater yield of both grain and straw and a heavier weight of grain per measured bushel than that produced from wheat which was cut at any one of four earlier stages of maturity.

Seed of Strong Vitality

Weakened vitality may be brought about in various ways. The wise farmer will either send samples to be tested for vitality or will make a test of the germination of the seed himself before it is used for field work. Any farmer in Ontario has the privilege of sending a sample of seed to the Seed Laboratory, Department of Agriculture, Ottawa, and of having it examined for purity and for germination entirely free of cost. As an illustration of weakened vitality I would draw your attention to the season of 1915, when there were excessive rains which caused a considerable amount of winter wheat throughout Ontario to become sprouted before it could be harvested. In each of two years when winter wheat was sown in the fields germination tests of grain were made. The following re-

sults show that from broken, 94; one-quarter long, 18. In germination very uneven.

There was during the servative caused by cent., and in ing smut at be a five million their seed g had the grain Cf all the r the college f the loose sn been obtain twenty minu one pint of to 42 gallons been carried tion of the g tirely satisfac freedom from

Pu One of the in Ontario is varieties. Th nection with throughout C vancement, h line, and it grain of the than it was a Canadian Seed very wholess amount of pu

Stable

FARM anim Henry G F food or w out air. Fresh in the mainten obtained of all frequently used modify, if are tities that are stables.

The demand and cream dur dairying a gre can only be o food, pure wa stables should l

sults show the average percentages of germination from each selection: Skin over germ unbroken, 94; skin over germ broken, 76; sprouts one-quarter inch long, 30; and sprouts one inch long, 18. Not only were the sprouted seeds low in germination, but the plants produced were very uneven in size.

Freedom From Diseases

There was an unusually large amount of smut during the past season. It is probably a conservative estimate to put the loss in the oat crop caused by loose smut at from ten to twelve per cent., and in the winter wheat caused by stinking smut at from four to six per cent. This would be a direct loss to the Province of about five million dollars. If the farmers had treated their seed grains last autumn they might have had the grain practically free of smut this year. Of all the treatments which have been made at the college for the stinking smut of wheat and the loose smut of oats, the best results have been obtained by immersing the grain for twenty minutes in a solution made by adding one pint of formalin (40 per cent. formaldehyde) to 42 gallons of water. When this treatment has been carried out it has not injured the germination of the grain and the results have been entirely satisfactory as regards yield per acre and freedom from smut.

Purity From Other Varieties

One of the great troubles in crop production in Ontario is the lack of purity of the separate varieties. This has been noticeable even in connection with the field crops under competition throughout Ontario in past years. Good advancement, however, has been made along this line, and it is now much easier to secure pure grain of the leading varieties for seed purposes than it was a few years ago. The work of the Canadian Seed Growers' Association has had a very wholesome influence in increasing the amount of pure seed in available quantities.

Stable Ventilation and Lighting

Henry Glendinning, Ontario Co., Ont.

FARM animals could live several days without food or water, but not many minutes without air. Fresh air is the most essential element in the maintenance of life. It is the most easily obtained of all life sustaining elements, but it is frequently used as if it was a very scarce commodity, if we may judge from the small quantities that are sometimes allowed to enter the stables.

The demand from the cities and towns for milk and cream during the winter, has given winter dairying a great impetus. Clean, sanitary milk can only be obtained from healthy cows, good food, pure water and well ventilated stables. The stables should be well lighted by large windows.



Where Champions are Developed. The Cow Barn at Avon Dale Farm, Brockville, Ontario.

I prefer the windows extending from the ceiling well down towards the floor and the sash to be made in one solid piece and stationary at the bottom, but arranged to drop inwards at the top. This permits the windows to be partly opened on warm days, without any draught striking the cows.

During cold weather the windows should be kept closed and the air conducted from near the ground outside, up a flue and discharged into the stable near the ceiling. The foul air should be removed from the stable from near the floor, as that is where the deadly gas settles after being thrown off by the animals' lungs. This can be accomplished by having a tight board flue made to carry the foul air up from the stable floor and extending above the ridge of the barn. When all the doors and windows are closed, there will be a constant current of fresh air entering from the side entrances and the current of foul air passing up the central flue out at the top of the barn. A trap door should be put in the foul air flue near the ceiling, to be opened when the weather gets warm, so as to carry off quickly the over-heated air of the stable. By keeping the opening in the flue near the ceiling closed during cold weather, it prevents the escape of the warm air in the body of the stable and carries off the cool foul air from the floor. A common error is made by supposing that warm air is foul air and that cold air is pure. The reverse is apt to be the case in our stables.

A Cement Silo for \$50

W. H. Hunter, Grey Co., Ont.

IN Farm and Dairy of Jan. 20th, I read the account of Mr. Stewart Brown's silo, which cost \$120. This spring I built a cement silo, 12 x 34 feet, which cost in the neighborhood of \$50, besides the work of myself and hired man, which I consider superior to a wooden silo. Here is how we did it.

In our neighborhood several years ago, two men, who wanted silos, made wooden "rings" or forms for building cement silos. These men sold their shares to two other men at \$10 a share, and they have been going around ever since, building two and three silos a year. The only expense in buying the rings is in the laying out of the \$10, perhaps, for a year.

These forms are made in four sections each, for the outer and inner circles. They are made with old wagon tires, with inch lumber about six inches wide, put on the metal rings with small bolts, so they can be slackened, to be raised. In the spaces between the sections were placed pieces of sheet metal. (The fans of an old windmill). It is necessary to have these spaces as the forms are not taken apart to raise, but are raised with four small block and tackle.

The outside circle is taken in at every move so that the wall is thinner as it goes up. Mine was started at 11 inches, where I started to use the two rings, above the ground, and finished at six inches at the top. I cut slats 11 inches long to start and cut a half-inch off every time and tightened bolts up to that. The forms are made three inches high, and as one has to give about two inches catch on the wall they build just two feet 10 inches each move. As only one set of forms are used they can only be filled every day, and if not good drying weather, every other day.

I built 12 rings, and only missed one day, and in nearly every case moved the forms and filled in the afternoon. I used a scaffold built on the inside, setting up four poles before I reached the top of the ground. (Mine is 11 feet under ground). The inner form is braced across each way, and the scaffold is kept level with the top.

In raising, the scaffold is raised first, and chained to the poles, and then the forms raised into place, and tightened with the bolts. The bolts in the inner form have two nuts, and instead of moving the outside nut, the inside nut is screwed back to loosen and screwed out to tighten.

I used 26 barrels of cement at \$1.40, and paid \$4 for the use of a mixer (home made tool), and sold my share of the forms as soon as I was through. I paid a man \$1.50 a day for 8 days. As we worked at it only on afternoons, I was not more than eight days altogether. The three of us could mostly do it without trouble but I exchanged labor with a neighbor several half days as it got near the top.

If any one wishes fuller information as to the making of the forms, I will be pleased to give information.

The manufacturing farmer turns hay, grain, roots and corn into milk, beef, pork or eggs. And if he be wise in his feeding, he gets two profits where the grain-growing, grain-selling farmer gets but one.



Pure Bred Ayshires of the Milky Type in the herd of R. T. Brownlee, Hemmingford, Que.

The Great Egg Producer

GARDINER'S OVATUM

This is not a food, but a remarkable tonic composed of roots, herbs and bark. It invigorates the hen's digestive and reproductive organs, enabling them to eat and digest more food and turn a larger proportion of it into eggs. At a monthly cost of one egg per hen, Ovatum will add several to the monthly average. Buy it from your dealer in 25c. and 50c. packages or in 10-lb. bags, or if he hasn't it, write us for prices and also for information on Gardiner's Milk, Call Meal, Sae-a-fat and Ontario Feeders' Cotton Seed Meal.

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Feed Specialists
SARNIA, Ont.




130-Egg Incubator and Brooder

Both for \$13.90

If ordered together we send both machines for only \$13.90, plus freight and duty charge to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. station. Hot water, double walls, draught-free between, double glass (11) doors, copper tanks and brooder, self-circulating. Nursery under special incubator suitable for Canadian climate. Incubator and brooder shipped complete with thermometers, lamps, egg baskets—ready to use when you get them. Five year guarantee on our parts. Insulators finished in natural rubber showing high class. Call machines with others, we will send you a copy of our catalogue. We will give you a 10% discount on everything you buy. Remember our price of \$13.90 is for both incubator and brooder and covers freight for charges. Send for FREE catalogue today, or send in your order and save time.

WISCONSIN INCUBATOR CO., Box 234, Racine, Wis., U. S. A.

UNDER WATER 4 YEARS AND NOT RUSTED

Think of it! A galvanized fence so thoroughly galvanized that four years of submersion in water and winter-could not fade it. That's the Corning's experience with Peerless Fence. Read what he says. Here's his letter.

Questions—I have bought your fence for four years and find it good, strong and true. I put on four years ago across a paddy and the water is so high as the second time that it is not rusted nor broken etc. I have a ton of heavy horses that run into wire and it does not break or damage in the least, and I am glad to say that in the four years I have had no other wire fence but no complaints about it.

Yours truly, DAVID CUMMINGS, Bowlesville, Ont.

Incredible—unbelievable—yes? Not when you remember that

Peerless Perfect Farm Fencing

is different—that it is made of Open Hearted Wire. The Open Heart process makes all the impurities out of the metal, thus removing one of the greatest causes of rust. The wire is also galvanized so thoroughly that it will not fade, chip or get off. Every intersection of the wire in our farm and poultry fence is locked together with our Peerless Lock. While some locks break, this fence can be made to stand and perfectly straight over uneven ground. It is easily unrolled and on sections of heavy, still steel made to order. It requires but the double wire for free unrolling from full partitions. It will stand for years, perfectly fitting and ornamental fence. You'll save money by sending for it today.

THE BANWELL-BOXIE WIRE FENCE COMPANY, Ltd.
Winnipeg, Man. Hamilton, Ont.

INCREDIBLE—UNBELIEVABLE—YES? NOT WHEN YOU REMEMBER THAT

PUREST-CLEANEST MOST RELIABLE GET CATALOGUE AT BEST DEALERS OR DIRECT FROM PRATT'S

TORONTO - MONTREAL - WINNIPEG - VANCOUVER

More Milk in Winter

More pounds of milk—and more butter-fat—come from thorough digestion of food. All the good of the food may be turned into profit if you keep your cows in the best of health.

Pratt's Animal Regulator

The World's Greatest Digestive Tonic

25c. package, and larger money-saving size up to 85 lb. cans, 85.00.

Pratt Food Company of Canada Limited
681. Claremont Street, Toronto



Feeding and Fitting for Official Records

Nine of Canada's Leading Breeders of Holsteins, Whose Cattle Have Made Great Records, Contribute Their Experience

To get, in condensed form, the views of the breeders, The Holstein-Friesian World a few months ago sent a series of questions along the line of record feeding and management to nine of the United States breeders and to one Canadian Breeder. Why not a compendium of Canadian experience, we asked ourselves and letters were prepared forthwith requesting the opinions of some of our leading Canadians on the points that had been dealt with in the Holstein-Friesian World.

The feeding and fitting of cows for official records is a subject that recommends itself. No long introduction is necessary to amplify on the importance of the views here expressed.

The replies published are from the following well known breeders: M. H. Haley, Springfield; F. R. Mallory, Frankfort; G. A. Brethen, Norwood; D. C. Platt, Hamilton; W. H. Cherry, Hagersville; J. M. Steves, Steveston, B. C.; C. McFarlane, Ontario; J. Hardy, Brockville; Laidlaw Bros., Aylmer; C. W. Holmes, herdman at the Colony Farm, Essondale, B. C.

These breeders have made for themselves the great majority of Canadian champion records. Following is a list of questions and answers:

1. Fat Bestors Freshening

1. How fat should we get the cows before they freshen?

Haley: We like to have our cows in high condition; there is little danger of getting them too fat.

Mallory: In a good fleshy condition—such flesh to consist of as much lean meat as possible, rather than a soft fat.

Brethen: All our records have been made by cows in moderate condition, producing large quantities of milk. We believe it is a generally accepted fact that a cow that is fat tests higher for a time after freshening.

Platt: Fat enough to be considered good beef.

Cherry: I like to have them as fat as possible.

Steves: They should be in good condition. If they are fat they will make a better short time record.

Lynn: As the Holstein cow is one of the greatest producers of any breed both for milk and butter production, there is no limit to how fat she should be before freshening. The better the condition the better the results.

Laidlaw Bros.: The fatter the better, so long as it is not over-fed. The greatest essential is to get them in perfect health. We do not want them sluggish.

Holmes: Would like all cows beef at.

Grain Feed Before Freshening

2. How much grain should we feed before the freshening and what kind?

Haley: We try to feed about all the sil meal and bran they will stand. The amount depends altogether on the cow. Some cows will not take readily over six or eight pounds daily, while others will take 16 or 18 and sometimes more.

Mallory: Will vary much with individual. Would say, all they will eat and still maintain an excellent appetite.

Brethen: We have fed from eight to 18 pounds daily, depending upon length of dry period (usually short) and a mixture of bran and mixed chop and oil cake meal.

Platt: Not more than 18 pounds daily, greatly depends on how much time you give the cow in shape. Equal parts of ground oats and wheat bran with three pounds oil cake.

Cherry: I aim to have a cow dry eight weeks before freshening and for a period up to two weeks before they drop their calf I feed about 15 pounds a day of equal parts of chop,

bran and oil cake, then cut down to three pounds oil cake and two pounds bran a day.

Steves: I do not think it makes much difference what kind of grain is fed. We generally feed ground oats and a little barley, five or six pounds a day.

Lynn: The amount of grain to be fed before freshening depends a good deal on the condition of the animal. I should say that an animal weighing from 1,300 to 1,500 pounds, should at least consume 15 to 18 pounds of grain a day. A good ration would be two parts of bran, one part of oil meal, one part ground oats and one part corn meal.

Laidlaw Bros.: A person cannot give a hard and fast rule to go with this feeding question—cattle and animals must have different treatment. They will stand 10 to 15 pounds a day until shortly before calving, when it is best to give a system of bran, oats, oil feeding out equal parts of bran, oats, oil cake meal and corn.

Holmes: Feed when dry consists of a mixture of 100 pounds each of bran, oats and barley (the last two crushed) which, with linseed oil, makes suits best. We feed about eight pounds twice a day and oil meal three pounds.

2. Feed Day of Calving

3. How should a cow be fed on the day of calving?

Haley: When we see a cow showing signs of calving, we feed very sparingly and also for a few days after. After calving we put five or six quarts of bran in a pail and fill it with warm water and give it as warm as she will drink.

Mallory: Feed no grain until after calving. A light feed of roots and ensilage and a hot bran mash after calving too quick.

Brethen: We gradually reduce quantities of ensilage and chop as cow approaches calving, feeding milk, bran, or roots, and oil, meal and oil on day of calving when cow is anxious for feed, we give her small quantities of same. Usually give her milk and bran also on the first day after freshening and keep her free from draughts, but very seldom find it necessary to administer Epsom salts, etc., as advocated by some.

Cherry: No grain, with reasonable amount of good hay and 20 pounds roots.

Steves: We gradually reduce quantities of ensilage and chop as cow approaches calving, feeding milk, bran, or roots, and oil, meal and oil on day of calving when cow is anxious for feed, we give her small quantities of same. Usually give her milk and bran also on the first day after freshening and keep her free from draughts, but very seldom find it necessary to administer Epsom salts, etc., as advocated by some.

Lynn: No grain, with reasonable amount of good hay and 20 pounds roots.

Cherry: Hay ad libitum—no ensilage, no warm bran mash after freshening.

Steves: We do not feed her much, just a few pulped mangels and a little hay or roots or grain.

Lynn: I think a cow should be entirely cut off her grain ration just previous to calving, as well as reducing her silage and given a small feed of bran or roots in a half quart quantity, in order to cool down her system. Immediately after freshening she should have all the warm water and roots for the first day, with a very light feed of silage and what hay she might want.

Laidlaw Bros.: As soon as a cow freshens we give her all the warm water she will drink. This will lessen the dangers of the calving period. We then give her from one to one and one-half pounds salts as a drench, always putting a little ginger with it. Afterwards we give her a good warm bran mash. We give her very little to eat the first day; some good hay a few roots, some bran and a very little silage.

Holmes: We feed just the same until they leave it, which will be just feed before calving. After calving they have bran mashes for 24 hours,

then start increasing.

4. How much grain should we give about a meal, mixed with water?

Haley: On a daily basis, we feed about a meal, mixed with water.

Cherry: I give about a meal, mixed with water, of salt a day, good satisfaction.

Platt: On a daily basis, we feed about a meal, mixed with water.

Steves: We give about a meal, mixed with water, of salt a day, good satisfaction.

Lynn: A meal, mixed with water, of salt a day, good satisfaction.

Cherry: I give about a meal, mixed with water, of salt a day, good satisfaction.

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Platt: On a daily basis, we feed about a meal, mixed with water.

Steves: We give about a meal, mixed with water, of salt a day, good satisfaction.

(Continued)

then start on regular feed, slowly increasing until capacity is reached.

Salting the Cows
4. How much salt should they have and how is the best way to give it? Haley: When we are conducting official tests, and milking four times a day, we feed four times four times a day, we feed four times four times a day, we feed a dessert spoonful at each meal, mixed with the feed.

Mallory: An ounce to two ounces of salt a day mixed in feed, gives good satisfaction.

Flatt: Once daily, fed in the evening with regular feed.

Cherry: Just a pinch of salt on the meal or roots.

Steves: We do not feed any salt, as the cows here will not eat it. Our farm is on dyked land on the sea-coast there is plenty of salt in the feed.

Lynn: A good way to give salt is to mix in the feed ration. To 1,000 pounds of grain add 10 pounds of salt and about three times a week give the cows a handful in the manger or whatever they will lick up at their own free will.

Laidlaw Bros.: The amount of salt depends somewhat on the state of the bowels. We always keep salt before them, but when we are testing and feeding heavily we give a little extra on each feed. A cow will require from two and one-half to five ounces a day.

Holmes: Add to every mixing, 10 pounds to 300 pounds grain.

Grain Feeding After Freshening
What is the best kind of grain ration to feed after they freshen and about how much a day?

Haley: After they freshen we feed three or four quarts of bran twice a day for two or three days and then if the cow appears to be doing well, we start with a little oat meal for a day or so, then with oil meal and cottonseed. Here is where a feeder requires to use good judgment for the amount depends on just how the cow is going. A person must be very careful not to change to heavy feeding too quickly.

Mallory: We have found 100 pounds bran; 100 pounds oat chop; 50 pounds oil meal and 80 pounds pea meal a good ration. Amount per day depends on individual. Gradually increase until they seem satisfied after eating.

Brether: We have tried different grain mixtures, but have had good results from a mixture of 100 pounds bran (Ontario fall wheat), 100 pounds chop (one bushel each barley and oats, one peck each of wheat and peas); 60 pounds oil meal; 40 pounds cottonseed. Amount will depend upon cow and her production. When testing in June 1914, we fed our 112.5 pound cow up to 18 pounds in intention to grow feed, but reduced the quantity as we got best results at about 12 to 13 pounds a day. For similar production in the stable, she ate about double this quantity with a relish. If testing on grass would reduce oil meal and cottonseed.

Wheat Bran, ground oats, dried brewers' grain and oil cake. As to quantity, all depends on the capacity of the cow.

Cherry: I feed a mixture 3 pounds oats; 2 pounds gluten meal, 1 pound oil cake, 1 pound bran; 1 pound cottonseed after a cow is fresh a week. Give them all they lick up greedily. For the first week after freshening, give them just a little bran and oil cake.

Steves: We feed ground oats and a little barley, soy bean and oil cake meal, about 16 to 24 pounds a day in winter, in summer from eight to 18 pounds on grass.

Lynn: In figuring out a grain ration it is not practical to go exactly by any set standard for each cow has her own individual requirements and it is up to the feeder to study out what these requirements are. Some would prefer a mixture of bran,
(Continued page 18)

The PAGE commands the attention of all shrewd farm owners

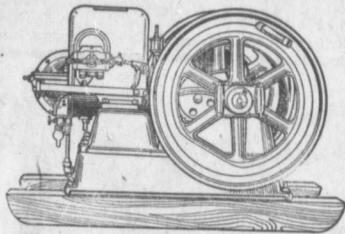
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FARM MANAGEMENT

Seeding a Poor Soil

WOULD you advise seeding down a field which is at best of farm, and not very rich, but dry, to be sown down three or four years with alfalfa, sweet clover, alsike and orchard grass, probably cut first year, then pastured—G. A. D. Huron Co. Ont.

The data supplied with regard to the kind of soil in the field and the line of farming being followed on the farm is not quite sufficient to permit one to give a very positive reply to this inquiry, but if the land is not very "rich" then it would be useless to sow alfalfa for alfalfa demands a soil in fairly good heart before it will make a good start. And, if it is "dry" as we understand the word dry, then it would be useless to expect to be able to grow either alsike or orchard grass with any fair chance of success, since both of these plants require a rather heavy, damp soil to give the best results.

I would suggest, as a probably satisfactory mixture on the land in question, the following:

Red Clover 6 lbs.
Western Rye Grass 6 lbs.

Sample No. 1, the Essex grown, cost \$3 a bushel, and was my general crop. For No. 2 I exchanged one gallon with son for American grown that cost \$2.75, and was claimed to be as good as could be produced anywhere. I sowed this alongside my own corn in the middle of the field. They came up about the same time, but in a few days there was a marked difference in favor of the home-grown, and in six or eight weeks it was much larger in leaf and leaf, and more even, and when the time for cutting came there was 20 or 30 per cent more cobs of a better size and quality and more evenly matured.

The No. 3 sample shows the result of sowing corn of a poor quality. I exchanged with a neighbor the same amount. This corn had been grown in Ontario, but had not been selected with the same care and not kiln dried. It cost only \$1.50 a bushel on the cob. It was a day longer in coming up, was much thinner in the row than Nos. 1 and 2, but for stock, leaf and cob was better than No. 2. It cost only 50 cts. an acre more to sow seed No. 1 than No. 3, but any person judging them would consider that there was several dollars difference in the value of the crop. Nos. 1 and

A Type of Garage that is Satisfactory and Fire Proof.

This metal shed garage on the farm of James Hoston, Oxford Co., Ont. A description of Mr. Hoston's splendid farm and herd appeared in Farm and Dairy some months ago.

Kentucky Blue Grass 6 lbs.
Sweet Clover 6 lbs.

This is rather heavy seeding but may be expected to furnish as good a pasture as probably could be put in. To insure you having a good catch the land should be very thoroughly worked before seeding. Then put in the grass and the nurse crop when the seed-bed is solid from having been rolled or packed and when the surface is in good tilth from much working and moderately dry so as not to be too cold and to insure rapid germination. If the field is a sod at present I would strongly recommend the growing of a crop of corn this year and in this way getting the land into good shape for seeding down next year.—J. H. Gridler, Director, Dominion Experimental Farms.

3 were Wisconsin No. 7. I do not know what variety No. 2 was. In conclusion allow me to say:

1st—Why not patronize our own grower, especially when we get as good, if not better, results?

2nd—if it always pays to buy the best seed, and, in my opinion, if the farmers of Canada would make up their minds to buy the purest and cleanest seed they could get, even if it cost 20 or 30 cts. a bushel more, or even one or two dollars more, in the cost of clover seed, and let those who offer inferior seed, go begging for buyers, it would do more to encourage the production of pure, clean seed of all kinds, and stamp out the weed nuisance than all the laws the Government might pass!

Favor Home-Grown Seed

A. Forster, York Co., Ont.

I WOULD like to give the result of a test of three samples of corn for ensilage conducted last year. I have always contended that Canadian grown corn of the best quality would give better results than the best American grown, and would not buy from the agent who canvassed this section, but sent to one of the best growers in Essex county, who grows all the corn he sells on his own farm, select and handle it in most approved methods, until shipped on the cob to the grower. (And just here let me say that the American corn was shelled before shipping and you could not judge what it was like or the kind of ears you might expect).

Under-drained soil holds more moisture, is warmer, and, other conditions being the same, is more fertile than one not drained.

Are the animals around the farm putting on weight? This is the steers, pigs and so forth. If not, there is something wrong. Try a little more feed.

Pure Nitro-cultures from the Bacteriological Laboratory of the Ontario Agricultural College are now ready for distribution. These Nitro-cultures are for the inoculation of alfalfa, red clover, alsike clover, peas and other legumes. The price this year is 30 cents, which is 10 cents higher than was previously charged owing to war duties on materials used and postage.



The 'R

The "Estimated

EDITOR, Farm and Dairy, an Ayshire bred with the wonderful record of "Garlaugh" in your last issue. Also worthy of note is the strong constitution and test developing and test developing a source of gratification breeders to know of our high record cow of that true bred type desired in our pres

Five Good Reasons

Whether you have no Separator at all or are using an old, partly worn out machine, there are five good reasons why you should buy a "STANDARD".

1st.

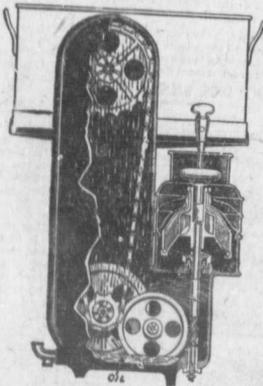
SKIMMING

Repeated tests by leading Dairy Authorities in Canada and elsewhere, have proved beyond question that the "STANDARD" skims cleaner, under all conditions, than any other Cream Separator.

Prof. H. H. Dean, of the Ontario Agricultural College, Guelph, says, "Our Inspector, Mr. Smith, makes the following report on the test made with our Separator, in which 150 lbs. of skimmed whey containing .29% fat, was skimmed in 21 minutes. The whey cream tested 50% fat, the skimmed whey containing .01% fat. This we consider a very satisfactory test."

Prof. R. M. Washburn, of the University of Minnesota, St. Paul, U.S.A., reports the following results:

From 65 lbs. of milk containing 4.6 fat, separated at a temperature of 90 deg. Fahr. Percentage of fat in cream 30%. Percentage of fat in skim milk 01%.



Standard

2nd.

CAPACITY

Every "STANDARD" Separator skims over its rated capacity.

A test made at the Eastern Dairy School at Kingston, with a Size 4 "STANDARD" listed capacity 400 lbs. per hour, gives the following results, with milk separated at 80 deg. Fahr.

Pounds of milk separated	900
Time taken for separating	23 min.
Percentage of fat in cream	27.5%
Percentage of fat in skim milk02 1/2%

This shows that, although rated at 400 lbs. per hour, the machine actually skimmed at the rate of over 520 lbs. per hour, and still skimmed closer than most other separators do while skimming at their rated capacity or less.

3rd.

CAPACITY CHANGE

The capacity of a "STANDARD" Separator can be increased at any time by a simple change of parts at a low cost. The "STANDARD" need never be too small.

For instance: One of our customers, early in 1915, bought a Size 2 "STANDARD" capacity 350 lbs. per hour. This year he had nearly twice as many cows milking, and needed a larger machine. We increased the capacity of his "STANDARD" to 600 lbs. per hour by giving him a new Size 6 bowl, etc., for the difference in price and an insignificant charge for depreciation on the old parts turned in.

An important point in connection with our Capacity Change is, that we supply a new bowl complete, of the larger capacity required. It is not a make-shift change of skimmers.

5th.

SERVICE

The "STANDARD" is in every respect a Canadian machine, built right here at Renfrew, Ont., by ourselves, and we will stand up to our guarantee, and protect you and every user of our machines. Think what this means to you, if you need spare parts, or expert assistance at a machine in a hurry. You cannot expect manufacturers outside of Canada to give you a service equal to ours in speed or completeness.

The sectional cut of the "STANDARD" shown above, will give you an idea how it is built, but we want to show you a machine in actual operation in your own dairy, and will be glad to do so without any cost or obligation on your part.

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4th.

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The "Estimated Butter" Basis
EDITOR, Farm and Dairy, — As an Ayrshire breeder, I am pleased with the announcement of the wonderful record made by the cow, "Garclaugh May Mischief," as given in your last issue, and it is also worthy of note that she is one of the strong constituted, level type animals showing good udder, veining and teat development. It should be a source of gratification to Ayrshire breeders to know that so many of our high record cows are possessed of that true bred type so much to be desired in our present-day breed-

ing operations, as witness such noted examples as "Auchenbrae Brown Kate," "May Mischief," "Jean Armour," "Milkmaid 7th" and many others we could mention.

There is one thing, however, in connection with records announced by Ayrshire breeders, both here and in the United States, that I would like to take exception to, and that is the estimated amount of commercial pounds butter fat. It is well known that Holstein breeders arrive at their basis. Thus a cow producing 400 lbs. butter fat would have her butter

production rated as 500 lbs.; or one producing 16 lbs. fat in seven days would be called a 20-pound cow.

It is claimed by some that this rate is a little too high for an average, but it is not my purpose in this article to discuss that phase of the case but to deal with matters as they exist. This custom has been followed for many years, I believe, by our Canadian Holstein breeders, and our nothing else than work on the same basis. As it is practically impossible to make a change in this respect now, owing to the number of records made and published, there is only

one course open to enterprising breeders of pure-bred dairy cattle, and that is to use the same standard as that adopted by our friends of the black and white breed. To illustrate from the present instance: "Garclaugh May Mischief," as announced, produced 25,337.7 lbs. milk containing 894.91 lbs. butter fat, equivalent to 1,022.83 lbs. commercial butter. But if she had been a Holstein cow it would have read like this:

"Colanthea Pleterje," etc., etc., produced 25,337.7 lbs. milk containing 894.91 lbs. fat, equivalent to 1,118.66 lbs. commercial butter, or a

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difference of 65.83 lbs. butter in
 favor of the latter, although the
 amount of fat is the same in each
 case.

To close closer home, the great
 Canadian-bred cow, Jean Armour,
 15591, whose record appears in vari-
 ous places as 20 1/2 lbs. milk, 903 lbs.
 butter, has nothing to show her the
 estimated number of pounds butter is
 arrived at. I believe if the butter
 were to be computed on the 80 per
 cent basis it would be about 907 lbs.
 instead of 903 lbs.

Possibly the plan that will eventu-
 ally obtain will be to announce only
 the number of pounds fat (and this,
 I believe, is the correct one), but in
 the meantime if we must estimate,
 in all fairness to our favorite cow, let
 us do so on the same basis as that
 employed by our friends of the
 "Black and Whites." The average
 reader, I believe, simply takes such
 statements as they are given without
 troubling to find on what percentage
 of fat they are calculated on, and
 there lies the injustice.

I have a high opinion of the
 modern Ayrshire cow, and I hope an
 not bind to a few faults (and what
 creature is perfect?) but feel sure
 she is not deserving of a blow of this
 kind even if given innocently. As I
 said before, if we must enter the
 field of estimated butter production,
 let us write "In Rome do as the
 Romans do."—J. L. Stansell, Straf-
 fordville, Ont.

**Lime and Lime Requirements of
 Ontario Soils**

(Continued from page 3)
 Gypsum, or sulphate of lime, is
 found in beds or deposits, in various
 parts of the Dominion. When pul-
 verized, it is very commonly called
 land plaster. It is a valuable source
 of calcium compound, is more solu-
 ble in water than the carbonate of
 lime, but it does not neutralize the
 acid of sour soils, and cannot,
 therefore, take the place of the above
 mentioned forms of lime for this
 purpose. In other respects, gypsum or
 land-plaster may substitute lime, and
 being more soluble, may be applied
 at a much less rate per acre. It also
 contains some sulphur, which some
 authorities now think may have a
 special value in the soil.

When to Apply Lime
 Ground limestone may be applied
 at almost any time of the year.
 Freshly slaked lime, especially if the
 soil is very sour and a heavy applica-
 tion required is perhaps best ap-
 plied in the fall. It is the surface
 frequently, it should not be plowed
 down.

In considering the amount of the
 various forms of lime that should
 be applied, it is well to remember
 that the pounds of pure quick lime is
 the equivalent of 100 pounds of pure
 carbonate of lime. That is, 56
 pounds of fresh lime or 74 pounds of
 slaked lime will have the same
 amount of the metal calcium and
 the same general effect in the soil as
 100 pounds of ground limestone.
 While not quite accurate, one ton of
 quick lime may be considered equal
 to two tons of the carbonate. How-
 ever, the character of the soil should
 be taken into consideration in de-
 ciding which material to use, car-
 bonate of lime, that is, ground lime-
 stone and marl, is much milder in its
 action than the freshly slaked lime,
 and is therefore the better material to
 apply where rapid action is not an
 important point, and especially on
 light sandy and gravelly soils. These
 soils are usually poor in organic
 matter, due to the free oxidation in-
 duced by their open porous nature.
 Freshly slaked lime is generally cre-
 dited with hastening this oxidation

while soils would thus cause
 too rapid a dissipation of this valu-
 able material. On heavy clays, fresh-
 ly slaked lime may be used, advan-
 tage. There is not the same fear of
 unduly hastening the decay of the or-
 ganic matter and its action in cus-
 ting flocculation of the clay particles
 will be more rapid and the improve-
 ment in the physical condition of the
 soil more quickly obtained. On soils
 between the sands and clays, experi-
 ments in other countries indicate that
 the carbonate of lime will probably
 give the best results through a term
 of years, although the returns for the
 first year may be in favor of
 fresh burned lime.

For Peaty or Muck Soils
 For mucks and peaty soils that
 are slaked lime to be preferred. Quite
 recently, it is found that the organic
 matter in these soils has not decayed
 sufficiently to give the best results in
 crop production, consequently, if the
 lime hastens the decay, an improve-
 ment in texture will be affected as
 well as the acid neutralized.

The amount of lime that should
 be applied naturally varies with the
 nature of the soil and the degree of
 acidity. We have generally recom-
 mended one ton of fresh lime or two
 tons of ground limestone, per acre.
 This is probably enough for light
 soils that are not very acid, but ex-
 perience is showing us that much
 heavier applications may be made on
 clays that show acid with litmus
 paper. The heavy dressings with
 fresh lime, tend to sterilize the soil
 for a time, that is, the lime checks
 the life process of the organisms
 within the soil. There is, however,
 no fear of this with the carbonate of
 lime. On light soils it is safe to
 apply from one to two tons of the
 ground limestone, and on clay the
 same amount of the fresh lime. But
 in some cases the clay may be so
 sour that much heavier applications
 are required to neutralize the acid
 present and give the maximum re-
 sults.

Many animals are rants because
 their owner's ideas are as small as
 they are.

Don't purchase the lowest-priced
 seed. In nine cases out of ten the
 highest-priced seed is by far the
 cheapest. The seed doesn't cost much
 after all, in proportion to the labor
 put on plants, once they start. A full
 crop is important, and possible only
 with good seed.

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Flaming's Lump Jaw Cure
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Our Folks on a Tour

A FEW weeks ago a big touring car swept up to Farm and Dairy's office. This car was a Mitchell Six. Its occupants were good friends of Farm and Dairy.—Mr. and Mrs. M. E. Maybee, of Trenton, and Mr. and Mrs. S. L. Terrill, of Wooler. These Holstein enthusiasts were combining business with pleasure. They had been down to Newcastle on the Lake Ontario front, then up to Orono, where they were both judges at the local fair, then across to Lindsay fair, where they also officiated, and when they stopped at Farm and Dairy office for a place, they were on their way back to Trenton and home. At all of the places mentioned, our friends have been visiting leading dairymen in the

H. Rive, our well known dairy instructor. His loss will be greatly felt by our dairymen during his absence, as Mr. Rive has joined the artillery corps. Few of our prominent dairymen but have sons or brothers serving in their country, and at the convention one would hear news of one or another, and that Billy Patterson, of Koksilah, had been recalled by nature.

Vancouver Island has from three to five feet of snow, and many buildings have collapsed. Feed has gone up and transportation has been badly hampered.

It is some job to haul in a pit of work to turn the sleigh around in the field. Roots are generally pitted in the field being sufficient to keep out of earth being sufficient and six inches ordinary frosts. The well fitted silo now, and lucky is the man that has lots of feed handy and a big wood pile.

Local creamery butter is in great demand, and most concerns are unable to ship more than a very few boxes to Vancouver or Victoria. Prices are 38 to 40 cts. wholesale; 45 cts. retail.

The cities and rural towns are having difficulty in getting in vegetables, and many stores have been without onions and potatoes for days.

Wintering Sows in Manitoba

Jas. A. Russell, Dauphin Dist., Man.

FORMERLY I lived in Cobourg, Ont., but have had considerable experience in caring for brood sows in Manitoba. It is much harder to raise young pigs on account of being so much colder here than in Ontario. I am now manager of one of the largest farms in Manitoba. Mixed farming is practiced here and we ship two car loads of hogs yearly, one car load of cattle, and breed Clydesdale horses extensively.

As regards hogs, I breed a dozen well matured Yorkshire sows to a pure bred Yorkshire boar in December so that they will farrow when the weather gets a little warmer towards spring. I have built a pen for brood sows, which is cheaply made from logs, about 30 feet square, with logs on top as well as the sides. I thresh about half a day near this pen and blow the straw over it. This is where the brood sow sleeps.

I have another first class hog pen, meant more especially for feeding in. During the winter some of the slide doors are opened at eight o'clock and the sow comes in for breakfast. They are put out again in about an hour and this is repeated at about half-past four in the afternoon. The two pens are about 10 rods apart and this gives the sow exercise which is very necessary. The straw pen is in a separate yard from that of the

other stock so the sows do not run a chance of being hurt.

The sows are fed with ground oats and pulped mangels, just enough to keep them in a good thrifty condition not too fat nor too thin. Then the young pigs come strong and thrifty. One week before farrowing I shut the sow up in farrowing pen which is warm and well lighted. The pen for each sow is 10 feet square with a protection around the wall to keep the sow from lying on the young pigs.

After the young pigs are weaned, in about six weeks the sows are bred again and put on barley pasture of about five acres. We let them harvest this and it keeps them in good pasture nearly all summer. We always see that they have plenty of water to drink.

Before the young pigs are weaned we feed the sow on soaked ground oats and shorts soaked one day soaked. We would prefer to have this soaked with milk but we have not nearly enough for that and have to use considerable water as our cattle are raised for beefing purposes and the calves milk the cows.

Dairy farming is an A 1 line where soil fertility has been depleted.

A poor horse well fed frequently sells for more than he is really worth, but a good horse poorly cared for rarely commands his value.



A Group of Our Folks, Their Touring Car, and the Farm and Dairy Office in the Background.

interests of their business. Altogether they had travelled over 160 miles.

Mr. Maybee has had his car for only one season, but it is now appreciated to the full. "The horses do not seem to go so fast as they used to," he remarked with a smile. "We could get around quite satisfactorily with horses at one time, but now travelling behind the horse is so slow a pace. The car is giving as much satisfaction to all of the rest of the family as it does to me. Could any one imagine a more delightful way to take a holiday?"

British Columbia Notes

By R. U. Hurford

DAIRY farming in B.C. is now meeting unusual conditions. The severity of the winter and the very deep snow have been reflected in the shrinkage of milk and cream. Prices of milk and butter are both good, the condensary at Chilliwack paying 45 cts. butter fat for whole milk and the creameries equalling 38 to 40 cts. for cream. Most of the creameries are having cream delivered twice a week.

The B.C. dairymen's convention at New Westminster brought forth some interesting addresses, and it was gratifying to hear of the improvements made in the methods and barns of those farmers in the cow three active associations which are partly assisted by the province, the farmers paying \$1 per cow per year and boarding the tester and conveying him and his equipment to the next member's farm. These institutions are mainly the work of Mr.



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

OUR GUARANTEE.

We guarantee that every advertiser in this issue is reliable. We are able to do this because the advertising columns of Farm and Dairy are as carefully edited as the reading columns, and because to protect our readers, we turn away all unscrupulous advertisers. Should an advertiser hereafter dishonour with you as one of our paid-in-advance subscribers, we will make good the damage done, provided such transaction occurs within one month from date of this issue, that it is reported to us within a week of its occurrence, and that we find the facts to be as stated. It is a condition of this contract that in writing to advertisers you state: "I saw your advertisement in Farm and Dairy."

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

The Rural Publishing Company, Limited
PETERBORO, ONT.

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

The New Dominion Taxation

FINANCE Minister White has introduced a budget that, fortunately, lays the additional burdens to be borne, on the shoulders of those best able to bear them. In taking twenty-five per cent. of the surplus profits of large concerns, the Finance Minister has gone only half the length of his British contemporary, but in so far as he has gone he has done well. His action in making the tax retro-active to the beginning of the war will meet with the approval of all except the few directly affected. The new budget has much more to commend it than its predecessor, which elevated the tariff wall seven and one-half per cent. all round. The chief difficulty that the Finance Minister must anticipate is the efforts that will be made to conceal profits by increasing salaries, falsifying records and the hundred and one other methods that may be adopted by our wizards of finance. The increased tariff on apples, we anticipate, would be received with better grace by the grain growers of Western Canada, whom it will affect most adversely, had they been granted the "free wheat" for which they have been agitating.

While we are well satisfied with the budget in view of what might have been, we cannot but feel that a great opportunity was missed in neglecting altogether the greatest possible source of public revenue, a tax on the value of all the natural resources of the country, used and unused. Such a tax would tend to open up to development valuable lands, mines, and water powers which are now held out of use by speculators. Such a tax would have given such a boost to legitimate industry that we could bear easily all our share of the burden of the war. The taxation of our profits must meet with ap-

proval. The taxation of our natural resources, as suggested by the organized farmers of Canada, might well have been substituted for a portion of the tariff taxes which bear heavily on the majority of producers and especially on agricultural producers. A radical move, perhaps, but unusual demands justify radical action.

The H. C. of L. Commission

THE high cost of living has at last been explained. A Commission appointed some two years ago by the Dominion Government to inquire into the subject have at last handed in their report. The Commission finds that in the past fifteen years the cost of living in Canada has increased fifty per cent. This they attribute to an increase in the gold supply, thus lessening the purchasing power of the dollar; extravagant, public and private; disproportionate urban development; uneconomic methods of distribution; highest standards of living; inefficient service and lack of vocational training; the gospel of ease which has permeated the national life of the Anglo-Saxon race; uneconomical household expenditures, and to the effects of mergers, trusts and combines.

We have not yet had an opportunity to examine this report minutely, but so far as we are aware little reference is made to the fact that facilities for the production of wealth have increased in effectiveness to such an extent as to more than counterbalance all of the factors mentioned by the Commission as explaining the higher cost of living. Mergers and combines are mentioned as one factor, but the tariff, which alone makes mergers and combines dangerous, is scarcely mentioned. The farmers, who have been working early and late with insufficient help, and the toilers in factories, stores and offices, will wonder just what the Commission means by its reference to "the gospel of ease." Rural population is deplored, but the increasing price of land, which, in many new sections and more old ones, is working most effectively to keep people off the land, receives but little consideration, and the taxation of land values, which would right this situation and along with it most of the other problems investigated by the commission, is passed over altogether. If the findings of the Commission prove anything it is the uselessness of expecting fundamental investigations to be conducted by a Commission composed of Government employees. Compared with the report recently published by the United States Commission on Industrial Relations, the Dominion report is a sorry failure. The Commission has, however, compiled a lot of interesting data in convenient reference form.

Pay Well for Good Seed

AT an Iowa convention the question was asked, "What can we afford to pay for good seed corn? One man present replied: "Fifteen dollars a bushel if you can't get it for any less." In re-telling the incident, Hoard's Dairyman estimates that corn at \$15 a bushel would mean fifty cents, a quart or three dollars an acre, and our contemporary then asks, "Does anybody think he would not be pretty certain to lose more than three dollars an acre if he planted poor seed?"

A broken stand of weak plants is the worst result of using poor seed. Sometimes, however, there is a loss on purchasing poor seed even before it goes in the ground. Mr. T. G. Raynor of the Seed Division, Ottawa, tells of a farmer in one of the eastern counties of Ontario who had a choice between No. 1 Government standard clover seed and another lot of clover at a much lower price offered by a neighbor. The

farmer decided in favor of the cheaper seed, but before he had an opportunity to sow it, one of the Government inspectors came along and tested the seed. It was found to be almost equally divided between pigeon grass and red clover, and pound for pound the clover seed in the mixture actually cost more than the Government tested seed which had been rejected on account of its price.

Poor seed is always expensive, but there is scarcely any limit to what we can afford to pay for really good seed if the same quality cannot be secured at a lower price. This is particularly true this year when the quantity of good seed is limited.

Cost of Keeping a Cow

WHAT does it cost to maintain a dairy cow for one year? The answer to this question has been given times without number by experimental stations, agricultural colleges, cow testing associations, good practical farmers, from farmers not so good, and so far no two have ever made the same estimate, the amounts varying all the way from the \$27 of certain Quebec farmers to \$147 a year per cow, as estimated by Prof. Fred Rasmussen of New Hampshire, Mr. E. S. Archibald, Dominion Animal Husbandman, estimates that the cost of keeping a cow producing 6,500 pounds of milk a year is \$102.11. Other estimates could be given, varying all the way from the \$27 minimum to the \$147 maximum.

Why such a variation? If the lower estimate is correct, dairying must be a most profitable business. If the latter is correct, thousands of us are rushing along on the road to bankruptcy. The truth must be somewhere between the two. Can any of Our Folks throw any additional light on the subject? Many, we know, keep cost records. Why not give us the benefit of your figuring?

District Representative Work

THIS is not a general dissertation on representative work as conducted in Ontario, but a hearty commendation of one phase of the work—the agricultural short course. Many of these courses are now being held all over Ontario. The subject matter of the course has been broadened out from year to year, and now includes training for citizenship as well as instruction in farming. We quote from a recent report from J. S. Knapp, B.S.A., district representative in Waterloo county, to illustrate the character of the work being done:

"Monday morning we had two new students, this bringing the number in our course up to forty. The interest in our course has not lagged for a minute. Every morning last week, we have had from four to ten outside men in for part or all of the lectures. Quite frequently some of the boys' fathers drop in for an hour or two. The average attendance during the week was about forty for both forenoon and afternoon sessions. Very keen interest was shown in the debate which we had Friday morning, the subject being: 'Resolved, that the farmer has done more for the good of Canada than the manufacturer.' There were three speakers on each side. Two had never made a public speech before. Although not as fluent as the rest of the speakers, they did themselves credit. The more I see of the Short Course work, the more I realize that the boys get equally as much from rubbing shoulders with each other as they do from the lectures."

We might give many similar quotations from the reports of other representatives. This newer phase of short course work, exemplified in the debate, which is being developed by Ontario representatives is most praiseworthy, and in this one thing alone the representative system is more than justifying the faith of its founders.

Junior

W. B.

IN its progress the junior province the culture is endeavored to be in such the s have been hpt of the Farm organization work.

In some countries alone along the partnership took, for instance, being held. It was out of the work of the society to inter out of school, cow with 25 rural s has seen an in till this year the work ex the whole pro

Organization

Each fair is of the District county, who g the more c holding of fairs executive to v elected, one fro choice of deleg all the children

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The object of give agriculture the boys in their tition. Then y affect on the agriculture of the affect of the wor

*Sponsored and by W. Bert annual meeting of the tal Union, at the

Junior Work of the Ontario Department of Agriculture*

W. Bert Roadhouse, Deputy Minister of Agriculture for Ontario

IN its program for the extension of the junior work throughout the province the Department of Agriculture is endeavoring to interest the boys and young men in agriculture in much the same way as the adults have been interested in it by means of the Farmers' Institute and other organizations which have been at work.

In some counties work had been done along this line before the Department took hold of it. In Waterloo, for instance, school fairs were being held. In 1912 we took charge of the work and proceeded to extend it. It was our aim to supplement the work of the school by furnishing work to interest the children when out of school. That year we started with 25 rural school fairs. Each year has seen an increase of the work until this year we held 230 fairs with the work extending practically over the whole province.

Organization of the Rural Fair

Each fair is under the supervision of the District Representative of the county, who groups the schools in the most convenient way for the holding of fairs. Each group has an executive to which delegates are elected, one from each school. The choice of delegates is the duty of all the children attending the school.

The delegates meet under the direction of the District Representative. They choose their president, secretary and other officers and then proceed to consider the business of outlining their summer and fall program. After this has been outlined the delegates return and report to the various schools who are then in a position to receive their seeds and eggs. When these are to hand work is proceeded with. During the summer the District Representative inspects and scores the plots and in the fall prizes are awarded. These are generally paid by cheque, and everything is conducted in a strictly business-like fashion.

For the financing of the various schemes in connection with their work the boys generally send a delegation to the school trustees with a request that they be given a grant of \$5. From the township they request and generally receive a grant of \$25. The general expense incurred by inspection is paid by the Department, and though this is considerable, it is considered well worth the money from an educational standpoint.

The real value of the work is to be found in the care, work and study that are put upon the plots during the summer months and in the business training which the boys and girls receive in carrying through and financing the various schemes which are the conduct of the work demands.

In connection with the fairs there are prizes on the best methods of caring for the plot. Lately we have introduced oratorical contests, and the efforts of some of the boys in these contests are truly astonishing. Speeches are made by boys only 12 or 13 years of age that would be credit to boys well on in our high schools and colleges.

The object of all this work is to give agriculture a fair show with the boys in their choice of an avocation. Then the work has a valuable effect on the social life and the agriculture of the province. The effect of the work is seen not only

on the children but upon the adults as well. Men who thought that agricultural education was a fad and a fancy are now coming to realize that it is a matter of greater prosperity and that it means more dollars and cents to them.

Short Courses and Competitions

Another feature of our junior work is the agricultural short courses in agriculture, of which there are at present about 40 in working order. Out of these have grown the Junior Farmers' Improvement Associations, of which there are now 30 with a membership of over 800.

Acres profit competitions, in which the emphasis is laid not on yields but on the profit per acre, is another phase of our junior work. These competitions have been held all over the province, and this winter over 80 of the young men attended short courses at the Ontario Agricultural College, which they had won as scholarships in the competition in their district. These young men are benefitted from all over the province, from Fort William district and Sarnia in the west to the counties on the St. Lawrence in the east. The highest profit in oats was \$23.90, on mangies \$156 and on silage \$100 per acre, with equally startling results in other crops.

These are some of the ways in which the Department is endeavoring to improve the agriculture of the province by interesting the boys in better agriculture and furnishing the necessary instructions which will enable them to pursue it.

Ruralizing the Ministers

EDITOR, Farm and Dairy.—Should the rural minister be a trained agriculturist? Dr. Creelman, of the Ontario Agricultural College, assures us that he should, and special courses have been instituted at the college to give rural ministers training in the principles of scientific agriculture. My own answer to the question would be, "not by a long shot." I would like to bring it to Dr. Creelman's attention that the policy he and the department with which he is connected are adopting, is a sure and certain way to divide the people of this country into castes and reduce the independent yeomanry of Canada to the status of peasants. Paternalism, to quote a well known Ontario farmer of radical tenor, is "intellectually 'demoralizing and pauperizing' the farming class, and this attempt to ruralize the ministers is part and parcel of the general policy.

I agree that ministers should be sympathetic with the problems of the farm. I disagree that they should be qualified to give instruction in agriculture. Their work is the cultivation of souls, not of soils. Whoever heard of a city minister advising his flock on the business problems of office, factory or store? The city minister must know something of the conditions under which his flock work, but he is not supposed to be an expert in their lines. Why this general impression that the farmer is his own professional man? For my part, I prefer my minister who knows his own business well and takes a sympathetic interest in mine, even as I try to understand the cultivation of my farm and take a sympathetic interest in the work of my minister. I do not consider it necessary that I should know all about preaching any more than the minister should know all about farming. This system of paternalism is becoming increasingly distasteful to at least one—Edly Farmer Democrat."



It cost less to buy a
DE LAVAL
than to buy experience

EACH year some 40,000 farmers, who have bought at one time or another "cheap" cream separators, discard their inferior, cream wasting machines and replace them with clean skimming De Laval.

These men bought the "cheap" machines because they thought they were "good enough" or "just as good" and that by purchasing such machines they could save a little money. They actually would have been better off in most cases had they bought no separator; for they lost most of the money they spent for the "cheap" machines, besides all the cream these machines have failed to get out of the milk.

No one ever saved money using a "cheap" cream wasting separator or an old or half worn-out machine. No one ever got back the money spent in most cases had they continued to use it. Those who bought "cheap" machines and got out of the difficulty best are the ones who quickly discovered their mistake, discarded the inferior machines and put in real cream separators—De Laval.

There are nearly 2,000,000 farmers who have bought De Laval, and every one of these had just as many opportunities to buy "cheap" separators as any one else. They did not do it, and of experience, and their De Laval have paid for themselves many times over. It always pays to buy a separator of proved, known superiority.

The nearest De Laval agent will be glad to let you see and try a De Laval on your own farm, without obligating you in any way. It is better to take advantage of this opportunity than to pay dearly for your own cream separator experience. If you don't know the local De Laval agent, simply address the nearest main office as given below.

DE LAVAL DAIRY SUPPLY CO., Ltd.

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*Reprinted report of an address delivered by W. Bert Roadhouse before the annual meeting of the Ontario Experimental Union, at the O.A.C. January, 1916.



THE happiness of our lives depends much less on the actual value of the work done than on the spirit in which we do it.—H. R. H. Prince Leopold.

“Pigs is Pigs”

BY E. P. BUTLER, IN FARMER'S MAGAZINE

MIKE Flannery, the Westcote agent of the Interurban Express Co., leaned over the counter of the express office and shook his fist. Mr. Morehouse, angry and red, stood on the other side of the counter, trembling with rage. The argument had been long and heated, and at last Mr. Morehouse had talked himself speechless. The cause of the trouble stood on the counter between the two men. It was a soap box, across the top of which were nailed a number of strips, forming a rough but serviceable cage. In it two spotted guinea-pigs were greedily eating lettuce leaves.

“Do as you like, then!” shouted Flannery. “Pay for them, an’ take them, or don’t pay for them and leave them be. Rules is rules, Mister Morehouse, an’ Mike Flannery’s not goin’ to be called down for breakin’ of them.”

“But, you everlastingly stupid idiot!” shouted Mr. Morehouse, madly shaking a flimsy printed book beneath the agent’s nose, “can’t you read it here—in your own plain, old printed rates? Don’t you see Franklin to Westcote, if properly boxed, twenty-five cents each.” He threw the book on the counter in disgust. “What more do you want? Aren’t they pets? Aren’t they domestic? Aren’t they properly boxed?”

He turned and walked back and forth rapidly, frowning ferociously. Suddenly he turned to Flannery, and forcing his voice to an artificial calmness, spoke slowly, but with intense sarcasm.

“Pets,” he said, “P-e-t-s! Twenty-five cents each. There are two of them! One, two! Two times twenty-five are fifty! Can you understand that? I offer you fifty cents!”

Flannery reached for the book. He ran his hand through the pages and stopped at page sixty-four.

“An’ I don’t take fifty cents,” he whispered in mockery. “Here’s the rule for ut. (When the agent be in any doubt regardin’ which of two rates applies to a shipment, he shall charge the larger.) The consignee may file a claim for the overcharge. In this case, Mister Morehouse, I be in doubt. Pets them animals may be, an’ domestic they be, but pigs rules says plain as the nose on yer face, ‘Pigs, Franklin to Westcote, twenty-five cents each.’ An’, Mister Morehouse, be my arithmetical knowledge, two, times thirty comes to sixty cents.”

Mr. Morehouse shook his head savagely.

“Nonsense,” he shouted, “confounded nonsense, I tell you! Why, you poor, ignorant foreigner, that

rules means common pigs, domestic pigs—not guinea-pigs!”

Flannery was stubborn. “Pigs is pigs,” he declared, firmly. “Guinea-pigs, or Dago pigs, or Irish pigs is all the same to the Interurban Express Company an’ to Mike Flannery.”

Th’ nationality of the pig creates no differentiability in the rates, Mister Morehouse! I would be the same was they Dutch pigs or Rookshun pigs. Mike Flannery,” he added, “is here to tind to the ex-



Neatness is the Prevailing Characteristic of this Ontario Farmstead.

—Home of Jas. Tamblin, Durham Co., Ont.

A few weeks later he received a reply from the Claims Department. Attached to it was his last letter.

“Dr. Sir,” said the reply, “your letter of the 16th inst., addressed to this department, subject rate on the guinea-pigs from Franklin to Westcote, rec’d. We have taken up your matter with our agent at Westcote, and his reply is attached herewith. He informs us that you refused to receive the consignment or to pay the charges. You have, therefore, your letter regarding the proper rate on the consignment should be addressed to our Tariff Department.”

Mr. Moorehouse wrote to the Tariff Department. He stated his case clearly and gave his arguments in full, quoting a page or two from the Encyclopaedia to prove that guinea-pigs were not common pigs.

He turned the care that characterizes corporations when they are systematically conducted, Mr. Moorehouse’s letter was numbered and O.K’d, and started through the regular channels. Duplicate copies of the bill of lading, manifest, and several other pertinent papers were pinned to the letter, and they were passed to the head of the Tariff Department.

The head of the Tariff Department put his feet on his desk and yawned.

shouted at his wife as soon as his foot was across the door sill.

Mrs. Morehouse jumped, guiltily. She never used ink. She had not seen the ink nor moved the ink nor thought of the ink, but her husband’s tone convicted her of the guilt of having borne and reared a boy, and she knew that whenever her husband wanted anything in a loud voice the boy had been at it.

“I’ll find Sammy,” she said, meekly.

When the ink was found, Mr. Morehouse wrote rapidly, and he read the completed letter, and smiled a triumphant smile.

“That will settle that crazy Irishman,” he exclaimed. “When they get that letter he will hunt another job, all right!”

A week later Mr. Morehouse received a long official envelope, with the card of the Interurban Express Co. in the upper left hand corner. He tore it open eagerly, and drew out a sheet of paper. At the top it bore the number A6754. The letter was short. “Subject—Rate on Guinea-pigs,” it said. “Dr. Sir,—

We are in receipt of your letter regarding rate on guinea-pigs between Franklin and Westcote, addressed to the president of this company. All claims for overcharge should be addressed to the Claims Department.”

Mr. Moorehouse wrote to the Claims Department. He wrote six pages of choice sarcasm, vituperation, and argument, and sent them to the Claims Department.

He looked through the papers carelessly.

“Miss Kane,” he said to his stenographer, “take this letter. ‘Agent Westcote: Please advise why consignment referred to in attached papers was refused domestic pet rates.’”

Miss Kane made a series of curves and angles on a notecase and waited with pencil poised. The head of the department looked at the papers again.

“Huh! guinea-pigs!” he said. “Probably started to die by this time! Add this to that letter: ‘Give condition of consignment at present.’”

He tossed the papers on the stenographer’s desk, took his feet from his own desk, and went out to lunch.

When Mike Flannery received the letter, he scratched his head. “Give printer’s condition,” he repeated, thoughtfully. “Now, what do them clerks be wantin’ to know, I wonder! ‘Print condition,’ is it? Them pigs, praise St. Patrick, do be in good health as far as I know, but I never was no veterinary surgeon to Dago pigs. Mebby them clerks wants me to call in the pig docter an’ have their guinea-pigs looked over to do know, howiver, which is they glorious appetites for pigs of their size. At? They’d ate the brass padlocks off a barn door! If the Pady, by the same token, ate as hearty as these Dago pigs when there’d be a famine in Irelaand.” To assure himself that his report would be up-to-date, Flannery went to the rear of the office and looked into the cage.

The pigs had been transferred to a larger box—a dry goods box.

“Wan—two—tree—four—foive—six—seven—eight!” he counted. “Sivin spotted an’ wan all black. All well, an’ hearty, an’ all eatin’ loike ragin’ hippyphoymusses.” He went back to his desk and wrote.

“Mr. Morgan, Head of Tariff Department,” he wrote. “Why do I say Dago pigs is pigs because they is pigs and will be till you say they ain’t which is what the rule book says stop your jollyin’ me you know as well as I do. I can’t say they are well and hoping you are the same. P.S.—There are eight now the family increased they are all good eaters. P.S.—I paid out so far two dollars for cabbage, which they like shall I put in bill for same?”

Morgan, head of the Tariff Department, when he received this letter, laughed. He read it again and became serious.

“By George!” he said, “Flannery is right. ‘Pigs is pigs,’ I’ll have to get authority on this thing. Meanwhile, Miss Kane, take this letter:—

“Agent, Westcote, regarding shipment guinea-pigs.—File No. A6754. Rule 83, General Instruction to Agents, clearly states that the agent shall be exempt from consignee all costs of product from consignee, required for live stock while en route or storage. You will proceed to collect same from consignee.”

Flannery received this letter next morning, and when he read it he grinned.

“Proceed to collect,” he said, softly. “How them clerks do loike to be kane!”

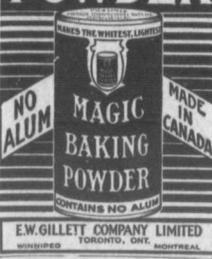
He proceeded to collect two dollars and twenty-five cents off Mister Morehouse. I wonder do them clerks know Mister Morehouse. I’ll get it. Oh, yes! Mister Morehouse, two and a quarter, please. ‘Certainly, my dear friend, Flannery. Delighted!’ Not!”

Flannery drove the express wagon to Mr. Morehouse’s door. Mr. Morehouse answered the bell.

“Ah, ha!” he cried, “so as you saw it was Flannery.” “So as be comin’ to your senses at last, have you I thought you would! Bring the box in.” (Continued next week.)

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The Upward Look

Travel Series No. 21
 Made Perfect in Love

"THERE is no fear in love; but perfect love casteth out fear: because fear hath torment. He that feareth is not made perfect in love."—1 John iv. 18.

The most spectacular event at the last Great Exposition was the aeroplane excursions by Art Smith. He rose many hundreds of feet. Up there, at that great height, he made complete revolutions with his aircraft. These could be discerned clearly by a smoke following in his wake. One day I counted fourteen loops. When Roosevelt was there, by these loops of smoke, Smith traced the former's name, at a dizzy attitude.

A great siren blew before each ascent. It was thrilling to think of all the thousands of eager watchers throughout that great city. At night the sight was grander. The smoke was illumined, so that the effect of the whole was a series of loops of brilliant comets. His wife almost invariably, and his mother very often, were present.

One day this daring young aviator, who looked scarcely older than a boy, addressed a vast audience. In his speech he asked that the spectators should have no fear for him in his flight, as he felt he was influenced by that fear, which might cause disastrous consequences.

Though we cannot all go quite as far as that, yet there are many of us to whom this may suggest a helpful thought. Many of us most of the time seem to be haunted by some fear. Yet how wrong and useless this is! It only weakens us so that when if ever the moment for action comes, we are less capable of acting wisely and right than we are of our own peace of mind, and also that of others, with whom we have most to do. It takes much of the joy out of our life, as well as out of others. But most of all it reflects on our love and our trust in our heavenly Father.

With our hearts filled with the right love for Him, there will be no room for this tormenting fear. We are His and so no real harm can befall us. What seems material harm may, but that is really immaterial, as nothing can hurt the spiritual, the soul, the living part of those made perfect in love.—I. H. N.

Some Between-Season Thoughts

"Aunt Fannie," Peterboro Co., Ont.

THIS is what might be called a between-season time on the farm and we women folk have more leisure hours than probably at any other time of the year. I wonder what use the majority of us are making of this spare time. According to my notions, our splendid way of using it is to get out and do some visiting among the neighbors. We cannot afford to neglect our social duties in the community and when the least opportunity offers, I think we should make a point to get out and mingle with our friends, thus becoming better acquainted, broader minded and probably bring a little cheer into the homes of some who have not as many blessings in life as ourselves.

But this isn't what I started out to say at all. I had in mind another way that also appeals to me strongly as an excellent one in which to put our spare moments to good use. It is by doing more reading. There are so many subjects in which we should be interested and on which we can become much better informed through

reading. By reading too, there are many little household wrinkles that we can pick up which we would never think of ourselves. It makes our work twice as interesting to experiment occasionally on some of these new ideas, instead of doing the same thing over and over again. Here are two or three ideas that I have picked up recently which may prove interesting to others besides myself.

Do any readers of this department keep sandpaper in the kitchen? A roll of different grades of sandpaper may be used to good advantage for cleaning burned food off kettles and pans, also for scouring steel knives and forks that have become rusted. Steel frying pans, iron kettles, etc., can be kept bright, shiny and smooth, as the sandpaper will remove every particle of burned stuff and rust which is hard to get off in any other way.

I believe that nowadays quite a number of farm homes can boast of hardwood floors and stairs, nicely waxed and polished. It's rather hard to keep the stairs free from dust isn't

it? A good idea is to purchase a felt blackboard eraser for this purpose. It not only gets into the corners well, gathers up the dirt and holds it so that the brush can be taken to the door and cleaned, but also serves to polish the waxed surface.

Here is a nice room convenience that may prove a valuable suggestion to someone. For the patient able to sit up in bed, a table has been manufactured up the dirt and holds it so that the brush can be taken to the door and cleaned, but also serves to polish the waxed surface.

Here is a nice room convenience that may prove a valuable suggestion to someone. For the patient able to sit up in bed, a table has been manufactured up the dirt and holds it so that the brush can be taken to the door and cleaned, but also serves to polish the waxed surface.

What home dresser has not experienced the difficulty of trying to straighten a skirt that she is making for herself. This idea, I picked up in

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 - KARN five octave organ, nicely polished walnut case, handsome carved high top with music rack, Cylinder fallboard, lamp stands, has 11 stops including Bass and Treble Couplers, Forte, Vox Humana, Viola, etc. Grand organ special music at \$55
 - BELL six octave organ, walnut case, piano case model, flat top with mirror, sliding fall board, lamp stands, has 3 piano pedals in top, 21 stops, 10 organ and knee swell, music couplers, Forte, Vox Humana, Celeste, etc. Grand full tone and has been carefully renewed in every part by our own expert and is a splendid bargain at \$69

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The Laws of Decoration

BEFORE proceeding to describe in detail a scheme of decoration for Farm and Dairy house plan No. 3, a word, once again, as to the underlying principles of house decoration. There are two sets of these, one dealing with form and the other with color.

The time to settle the matter of form satisfactorily is while the house is still on paper and before the builder has committed himself to any particular style of house. Then he should take an inventory of his belongings and see if they fit into the type of house he has in mind. That house should be chosen which provides comfortable looking places for his most important pieces of furniture. If, however, he starts out in the enterprise of house building unburdened with furniture he should select the house that pleases him and then buy the furniture to fit it.

In the matter of color there is one invariable rule based on nature, that the floor is the darkest portion, the wall lighter, and the ceiling lightest. The Rayne Adams, a successful American architect, has explained the reason for this rule very cleverly by means of illustrations in a little booklet on decoration prepared for The DeLinger magazine. One illustration is a very pleasant scene showing land, water, distant hills and sky. The foreground of the picture is dark, the hills grey and the sky white, and the whole effect is pleasant and cheerful in the extreme. In the second illustration the sky is made darker than the foreground of the distant hills, and the scene immediately becomes suggestive of sadness and gloom. Applying this rule of color to a room then, in order to have it cheerful the color should grade from the floor up. The colors in white rooms are to be decorated should be settled before the building is contracted for, in order to secure the best results, as the woodwork must be finished to correspond. The choice of the color will be influenced by the direction and number of the windows and the character of the furniture the owner possesses or intends to use in each room. It is usually safe laying down hard and fast rules and saying things should be done thus and so, for what seems good to us to-day may offend our more developed taste a year hence. Yet there are certain things which the fitness of things seems to prohibit. One of these is the use of heavy mission furniture with light painted or enamelled woodwork or the use of golden oak in a room with white enamel finish.

Generally speaking, mission or golden oak furniture is at its best in a room in which the woodwork is a medium or very dark brown and finished with a dull flat varnish, which dries without a gloss. The owner of mahogany furniture, on the other hand, must stain his woodwork silver grey or enamel it cream white to bring out the full beauty of the wood. Again, one would not think of using light cream, green, buff or pink walls with mission furniture. It seems to require something more tangible to keep it company. Tan, golden brown or olive green are better. Willow furniture, on the other hand, can be used with almost equally good results in light or dark rooms by varying its color to harmonize with its environment. But it would be impossible to lay down rules to meet all emergencies, and the owner of the home will have to use her own sense of suitability upon many occasions.

Let us suppose that the builder of house No. 3 is possessed of a parlor suite of mahogany furniture covered with plush or horsehair, as indeed

many house builders are. She is recommended to finish the woodwork in the parlor and the bedroom opening off it in ivory or white enamel, and have the walls tinted a soft creamy buff. The exact color can only be produced by mixing two or more shades of certain wall tints, but the result is something between gold and fawn and is very delightful to live with. The writer is speaking from experience. A plain brown carpet should be used in this room or one with a graceful rose and green border.

The windows should have inside curtains of rich cream scrim and over-curtains of cretonne which has much green and old rose on a buff ground.

The chairs and settee should be covered over with the same cretonne that is used for the curtains or one that harmonizes with it in color. The room at this stage will have begun to take on a habitable expression, but there is still quite a little to be done before it is a finished product ready for the light. The settee should be placed over against the wall between the window and corner and nearly facing the door from the hall and the table drawn up beside it, with a plain green or brass reading lamp and a few books. Before the double windows there should be a tall stand holding a fine fern or a handsome geranium or petunia. If there is a piano or organ it should be placed across the corner next the bedroom. But the room will still be bare and unfinished. It needs a plain rose and green linen cushion or two and some pictures. These pictures should not be photographs, enlarged or otherwise, or calendars, but copies of great works of art. Colored prints can be purchased at the rate of eight for a dollar and sepia ones at five cents each.

The bedroom opening off the living-room should have a brown or green carpet, a white enamel bed and chair and a mahogany dresser. The hall and the dining-room should have very dark brown woodwork and a deep tan wall, with a fumed oak dining suite in the latter room, and perhaps a substantial fumed oak rocker and easy chair before the fireplace. A well filled bookcase along the staircase wall will help greatly in the furnishing of the room.

All of the bedrooms upstairs should have white enamel woodwork, and the walls tinted in some pale color.

A New Aspect

Two old men were discussing the war. "It'll be an awful long job, Bill," said one. "Right 'yare, mate," replied the other.

"You see, these Germans is takin' thousands and thousands of Russian prisoners, and the Russians is takin' thousands and thousands of German prisoners. If it keeps on, the Russians will be in Germany and all the Germans in Russia, and you'll see they will start fresh over again, fightin' to get back to their own homes."

Quite a Difference

The teacher asked the class where in lay the difference in meaning between the words "sufficient" and "enough."

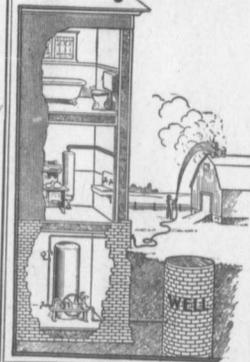
"Sufficient!" answered Tommy, "is when mother thins 't's time for me to stop eatin' pudding; 'enough' is when I think it is."

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Feeding and Fitting for Official Records

(Continued from page 7)

ground oats, oil meal, corn meal and cottoensed meal. I would prefer leaving out the cottoensed and making a more bulky feed by adding dried brewers' or distillers' grains. The amount a day would partly depend on the condition of the animal after freshening. I would say to commence with not more than eight pounds a day.

Laidlaw Bros.: This depends a great deal on what is available and what is best for one's cow is not best for another. Some have had good results feeding barley while other good feeders condemn it. I think a good safe feed for a new beginner is two parts bran, two parts rolled oats and one part oil cake meal, along with very little cottoensed meal.

Holmes: Testing feed consists of 100 pounds each bran and oats, 60 pounds barley and 80 pounds wheat, all crushed, which is fed according to production of cow, from 16 to 24 pounds, adding up to about eight pounds oil meal and from three to six pounds soy bean meal.

6. How fast should we increase the grain ration after they freshen?

Haley: If after the cow has been fresh say a week and she is doing well and gaining in milk, we start her with six or eight pounds daily of the following mixture: 200 pounds oat meal; 100 pounds bran; 75 pounds oil meal and 75 pounds cottoensed meal and increase about one pound a day until we are feeding about 14 to 15 pounds a day. If she cleans up everything and is still gaining in milk, we can still increase it, but very slowly for right here again is where a feeder requires to watch his cow very closely.

Mallory: Depends upon labor of cow in calving and apparent "heart" that she is in. Also upon condition of udder. Should take a full ration in 15 to 30 days.

Flatt: One-half pound daily.
Cherry: I increase about one or one and one-half pounds a day, until I think they have sufficient.

Steves: We increase the grain ration after the first three or four days one pound to one pound and a half.

Lynn: The judgment of the feeder would have to be exercised at this point. Some animals will respond to a rise in feed much quicker than others. Care should be taken in case they do not respond and not increase the feed too fast. Starting in at eight pounds, a raise of one-half pound a day for the first week, would be fast enough.

Laidlaw Bros.: This depends entirely on what condition the cow is in. Some will stand a full feed 10 days after calving, while others will not stand anything but bran for two weeks after. Watch your cow closely and feed her a little less than she will take readily.

Colov Farm: According to appetite of cow. Give what they will always clean up until up to about 80 pounds, then watch them very closely. We weigh all feed.

Quantity of Alfalfa

7. Is it well to give them all the alfalfa they will eat? If not, how much?

Haley: Of the first cutting of alfalfa it is safe to give all they will clean up, but the second and third cuttings which are finer and generally cured much greener, should be fed in a limited quantity.

Mallory: Not with the grain ration I have mentioned. About eight pounds a day if above ration is used; 12 to 15 pounds a day if no peas or oil cake are used.

Brethen: We have not had much alfalfa yet, but we feed all the hay a cow will clean up readily.

Flatt: Feed alfalfa once a day, around 15 pounds.

Cherry: Give them all the first cut-

ting, well cured alfalfa they will eat.
Steves: We do not feed alfalfa. Nearly all our feed is grown on the farm and we cannot grow alfalfa successfully. We feed them all the hay they will eat.

Lynn: All the alfalfa they will eat as clean as the other feeds are increased. They will not take any more hay than they require.

Laidlaw Bros.: Give just what they will clean up. It is well to give them a chance to get used to every day, as the alfalfa gives them an appetite for some other hay.

Holmes: We give all they will eat.

8. Is it well to give them all the beets they will eat? If not, how many?

Haley: After they get well used to them we give about all they will eat.

Mallory: Give a good supply, but not quite all they will eat; 80 to 100 pounds, depending on size of cow.

Brethen: Contrary to past custom, have fed two cows tested this past winter, about 80 pounds each a day, with good results. Never enough to act as a laxative. Roots are appetizing and I think aid digestion of concentrates.

Flatt: Feed plenty roots, not all they will eat as they are liable to scour; 30 pounds daily should be considered liberal feeding.

Cherry: I feed from 80 to 100 pounds a day, according to the disposition of the cow.

Steves: We feed 50 to 100 pounds pulped mangels a day, each.

Lynn: Owing to the difference in constitution of animals, care should be taken not to feed too many beets, which you may feed as high as 100 pounds a day to one cow and apparently see no bad effects. You may feed the same to another cow and it might knock her clean out of commission for the time being; 50 pounds might be enough for this cow. Watch the bowels carefully.

Laidlaw Bros.: This also depends a great deal on the state of the bowels. Some cows will take 100 pounds a day, while others do better on 40 pounds.

Holmes: Mangels are our main roots. We feed up to 70 pounds a day according to the cow.

9. Is it well to give them all the ensilage they will eat? If not, how much?

Haley: We don't give them all the ensilage they will eat. We try to give about one peck to a feed, four times a day.

Mallory: Not too much ensilage; 80 pounds a day is enough for largest feeders.

Brethen: No, as a cow filled up on ensilage will not eat sufficient concentrates for large production. In short, try from 50 to 40 pounds, depending upon capacity of cow.

Flatt: No, as some sows prefer ensilage to any other food; 80 pounds daily should be sufficient.

Cherry: 15 to 30 pounds a day on test—twice a day, 6 A.M. and 6 P.M.

Steves: We have no ensilage.

Lynn: An animal under test after the first week from freshening might have all she will eat up clean, providing you divide it into say three feeds, instead of two, but keep her eager for it.

Laidlaw Bros.: We make them clean the mangels out, but never give over 40 pounds a day. Some will take less ensilage and more roots and some plenty of silage and not so many roots.

Holmes: We have never experimented with ensilage. We feed about 16 pounds.

Box Still Feeding

10. Is it well to keep them in a box still if they can't eat it? Why?

Haley: We have had the best re-



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suits by keeping them tied up in a well bedded box stall with abundance of fresh air.

Mallory: Yes, if possible, Brethren: Since they are comfortable, would prefer box stall, although splendid records can be made by cows tied up if box stall is not available.

Flatt: Yes, and avoid sudden changes of any kind.

Clerry: It is well to keep them in box stalls, provided they do not seem uneasy on being away from the rest of the herd.

Stevens: We always keep our test cows in box stalls as we think they do a lot better.

Lynn: A box stall is much preferable, at least a short time before and after freshening, it being much more comfortable for a cow with a caked or swollen udder, although some cows don't feed as well in a box stall on account of being separated from the other animals.

Laidlaw Bros.: Here again circumstances alter cases. I have seen cows that would do best tied, while others will do best in a box stall.

Holmes: All in loose boxes which I think is best.

The Makers' Corner

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

Dimensions of 56 Pound Box

The advisability of changing the dimensions of the 56-pound butter box was discussed at the last dairy meeting at Guelph without any definite conclusions being arrived at. Mr. Jackson stated that a considerable saving in expense could be made by buying boxes that had previously been used to ship solids, for the shipping of creamery prints. The difficulty that they had found, however, was that the standard box did not fit the standard print when the prints were cut by machinery. He suggested a box 12 1/2 x 12 1/2 x 11 inches. It developed in discussion that the Ontario is a trifle too small and Mr. Stratton of Guelph added that by specifying size in his order, he had been able to get second hand boxes of proper dimensions and had saved many dollars a year thereby. Prof. Dean suggested the substitution of a 50-lb. box edged decimal system. Mr. Herns was doubtful if the exporters would be agreeable to this.

Rennet Supply Assured

Prof. H. H. Dean, O.A.C., Guelph, Ont.

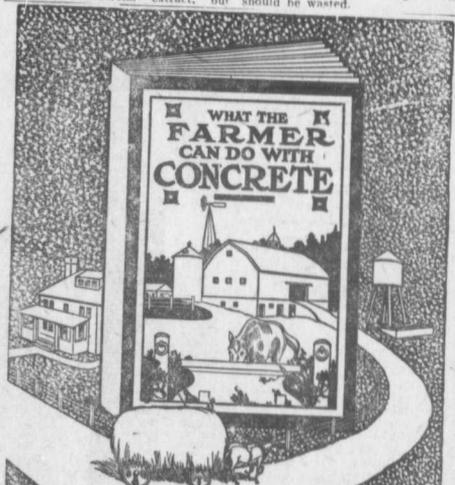
For some time, cheesemakers and those interested in the continued development of the Canadian cheese trade, have been anxious about the supply of rennet, which is an essential factor in cheese manufacture. The European war cut off large supplies of rennet or calves' stomachs from Europe. The local supply has been neglected. A local butcher told the writer recently that he used to be able to sell all the stomachs from slaughtered calves at fair prices, but during recent years he had not saved any of these, because it did not pay.

The Dairy Department of the O.A.C. College has been in touch with several firms on this matter for some time. We are glad to be able to announce that one of the largest and most reliable manufacturers of rennet supplies has assured us that there is no danger of Canadian cheesemakers not being able to get a full supply of rennet, they will be prepared to start a branch factory in Canada at short notice.

We expect to make some investigations during the coming summer on home-rennet-supply and have already arranged with a local butcher to save us calves' stomachs.

It would be wisdom on the part of all cheesemakers to conserve, so far as possible, all rennets in the home locality, so that they might be utilized, if necessary, for rennet manufacture. We do not advise cheesemakers to use home-made in preference to commercial extract, but

home-made would be better than none. The price allowed per stomach by the manufacturers of commercial rennet is about 12 cents each. Assuming there were 50 to 100 calves killed in a neighborhood or by the local butcher, this would mean \$6 to \$12 for very little labor. After cutting free from the other parts, the stomach should be sprinkled with salt and packed in a barrel or cask. In these times, nothing of value should be wasted.



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