Soils and Crops

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BRANDING DAIRY PRODUCTS.

"Merchant," Huron Co., Ont.—Ques.—What are the regulations regarding the branding of packages containing dairy products?

Ans.—Every package containing whey butter, or a mixture of whey and creamery or dairy butter, or butter from a mixture of ordinary cream as separated from milk, and cream which has been separated from whey, must be branded at the time of packing with the words "whey Butter." Every package containing a mixture of dairy with creamery butter, or boxes similar to those used for creamery butter that are packed with dairy butter, must be branded "dairy butter." Parchment paper used for wrapping blocks, squares, or prints of dairy butter must be branded "Dairy butter." Skim-milk cheese must be so branded within twenty-four hours of leaving the press. So must every box or package containing skim-milk cheese. All packages containing butter or cheese must be branded according to their contents in letters not less than half an inch long and three-eighths of an inch wide except in the case of parchment wrappers, when the letters must be not less than a quarter of an inch wide.

GOING THE NITROGEN LIMIT

Time was when the introduction of any considerable quantity of nitrogen into an orchard fertilizer was supposed to be about as disastrous to the trees as putting a liberal quantity of arsenic into the baked beans for the church supper would be to the hungry eaters. Now we apply nitrogenous fertilizers with a prodigality that would have dismayed the fruit growers of ten years ago.

One of the biggest things the experiment stations have ever done for fruit growing has been to dissolve this old fear of nitrogen and show that it is really the most valuable of all fertilizer elements in the orchard and the most likely of any to bring profitable returns.

Ten years ago the usual fertilizer recommendation for orchards called for a relatively high proportion of potash, a moderate proportion of phosphoric acid and little or no nitrogen. The fear of nitrogen arose from the belief that it promoted vigorous growth of the trees. This was thought to be mischievous in two ways. One was that the trees would go into the winter with soft immature wood, and most likely suffer killing from low temperatures. The other arose from the belief that vigorous growth was opposed to fruitfulness. One could have either, but not both, in a given tree. This belief has been completely overturned, and now we know that, within limits, growth and fruitfulness go together. The more growth the more fruit.

If then nitrogen is a most helpful element in the orchard fertilizer, certain further questions arise: What form is to be preferred? How much is called for? What time of year is it best applied? The final answers to all these questions have not been given yet, but it is possible to give some helpful suggestion. Taking up the first question, it is probable that any of the usual notrogen-carrying materials will be beneficial. Nitrate of soda, sulphate of ammonia, barnyard manure or any of the so-called organic forms, as dried blood, fish or tankage, are all good. For quick results one of the readily available forms, such as nitrate of soda or sulphate of ammonia, will be found satisfactory. Probably nitrate of soda has been used by fruit growers more than any other form, but sulphate of ammonia may be just as good. It may be necessary, however, to apply in such cases a dressing of lime in occasional years, especially where it is desired to grow leguminous cover crops or a clover sod in the orchard. Sulphate of ammonia will, if used repeatedly, bring about an acid condition of the soil which is fatal to clover.

How much to apply is a question that cannot be answered definitely. A young orchard planted on a fairly fertile soil and kept in cultivation with a cover crop plowed under every spring may grow and just as well bear for several years without added nitrogen as with it. This has been proved by many experiments. On very poor soils nitrogen may be beneficial very early in the history of the orchard. For orchards in permanent sod, added nitrogen is likely to be a necessity from the start, and in relatively large quantities. If one will cut and remove the hay from the sod orchard it will be found necessary to replenish the nitrogen supply with generous applications. And let us say right here that such a practice will be disastrous to the fruit crops unless the orchard soil is retentive of moisture.

If one has a convenient and cheap source of mulching material, such as straw or swamp hay, which can be applied around the trees so as to form a thick layer of decaying organic matter, very good results can be obtained with only moderate quantities of nitrogen or possibly none at all.

The best measure of the quantity of nitrogen needed by the trees is the growth they make. Young apple trees ought to make eighteen to twenty-four inches annual growth on many of the leading shoots. When the trees come into bearing, twelve to fifteen inches may be enough, and with old trees that are beginning to crowd each other a less growth may answer. But it is probable that rarely does a mature tree growing less than four to six inches at the ends of many branches produce satisfactory crops.

It follows that if trees are growing less than the amounts indicated there should be applied enough nitrogen to get the desired growth. This may be anywhere from 100 to 300 pounds to the acre of nitrate of soda or equivalent quantities of other nitrogen-carrying fertilizers.

Even larger quantities may be profitable on light poor soils, especially if the orchard is producing heavily. In most cases the limit is imposed not by stimulation of excessive growth and decrease of fruitfulness, as was formerly thought, but by a failure to secure high color of fruit. This comes about through excessive growth of leafy shoots that shade the fruit and a prolongation of the growth period of the fruit and consequent delayed ripening. In most cases the grower wants to get his early fruit on the market as quickly as possible, and with late-maturing sorts the oncoming fall season may prevent the perfect maturity of the fruit.

When there is a reasonably heavy growth of a cover crop the trees will rarely, if ever, be suffering from starvation. The production of a good cover crop in a cultivated orchard is of extreme importance for many reasons. It prevents soil washing and holds the surplus nitrates over winter and, decaying, releases them again for the use of the trees.

The older the trees and the heavier the crop borne, the more nitrogen is needed. It is rare indeed for an orchard of aged trees to bear well without some help from added nitrogen. Yet it does occur in some cases when the orchard is located on a soil of high natural fertility.

As to the best time to apply nitrogen, the usual recommendation is to put it on a short time before the leaves start in the spring. As good results follow this practice it is the best course to follow until it is shown that some other time is better. An abundance of available nitrogen at this time favors the quick production of a large leaf area. With lots of leaves the tree is in a position to manufacture large quantities of starch, and it is very generally agreed that a large starch reserve in the tree always accompanies fruit-bud differentiation. Here lies the argument for early applications of quickly available nitrogen. If plenty of nitrogen is available all through the summer the tree is likely to use it to make new growth all summer long, and in so doing use up the newly made starch, so that there is too little on hand the next spring to help along the formation of fruit buds. Old bearing trees stop growing and form their terminal buds much earlier than do young non-bearing trees.

The limit in the use of nitrogen is that quantity that is most profitable. Going beyond this may be merely a waste of so much money or it may extend to a positive harm to the fruit. Most likely this will be in poor color of the fruit or in late maturity.

Another possible harm in overdoing the nitrogen game is poorer shipping quality. A liberal nitrogen supply may mean a softer-fleshed apple, more easily bruised in handling. These possible bad results are most likely to be encountered in cultivated orchards than in those in sod.

DAIRY

The best milking cows in my herd are the best eaters. A good appetite seems to be a prerequisite to heavy performance at the pail. Since certain foods stimulate the appetite, I find that the good dairyman can have much influence over the milk output through the right sort of feeding.

When I fed the cows large amounts of over-ripe hay, frozen corn fodder with much of the leaves shaken off, or other foods of low digestible value, then the appetites of the animals seem to become more or less sluggish. But when I place before the same cows some succulent food like silage or roots, improvement started in a very short time. They not only eat the succulent food more ravenously, but their appetite for the dry feeds is stimulated.

Plenty of good water, fresh air and a feed combination with a reasonable amount of succulency, have gone a long way in bringing up my milk yields. These provisions will do much for others, and since they are well within the means of nearly every man who keeps dairy cows, there is not much excuse for so many low-producing cows with the cost of milk above the income.

HANDSOME HUSKIES FOR QUEBEC DOG DERBY

Some of the dogs which participated in the International Dog-Sled Derby at Quebec last year. These beautiful animals were close runners up and are competing again this year.

POULTRY

When saving winter eggs for hatching, try and keep them in a temperature between forty and fifty degrees. Eggs that go below thirty-five degrees may be chilled. If they go about sixty degrees a rapid deterioration results. It pays to gather the hatching eggs often in winter, so that most of the eggs are taken from under hens. Visitings the laying pens every hour from nine until early afternoon, will usually save most of the eggs produced from being chilled.

Eggs that weigh close to two ounces each are the best for hatching purposes. There is a tendency for hens to lay eggs close to the size of the eggs that produced them. We do not wish to oversize eggs as it costs too much to produce them. Small eggs are not desired by the best markets. A standard two-ounce egg is just about right for both market and hatching purposes.

Dampness in the poultry house is reduced by frequent cleaning of the dropping boards. The droppings contain a large amount of moisture. Overcrowding of the poultry house soon contaminates the litter and makes the house damp.

Keep up the supply of green food for the hens that are laying eggs for hatching. The vitamines in both green feed and milk seem to enable hens to lay eggs with stronger germs. Many failures with early incubation are due to the quality of the eggs and not to the incubator. Breeding stock that lack green feed and exercise contribute many eggs that are either infertile or develop chicks that die in the shell.

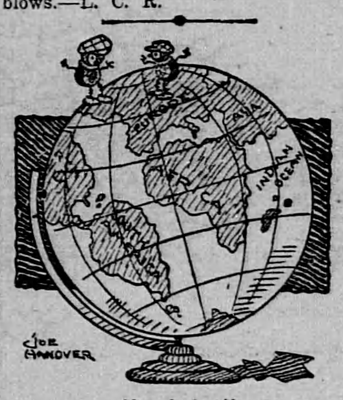
Nearly every farm flock, no matter how carefully culled, contains a few birds of much better quality than the general run of the flock. If these hens can be isolated during the breeding season and mated with the best cockerel ootainable, it is a great help in increasing the per cent. of fine individuals in the flock. The large number of cockerels which can be raised from the special mating can be carefully culled and used as breeders for the free range flock the next year.

SHEEP

In my experience in keeping sheep I find that fresh air is an inexpensive but important item in the comfort of the flock. So long as the sheep are dry they will scarcely ever of their own will and accord seek protection from chilling winds and cold weather.

Housing breeding ewes too closely is poor practice. Like many a flock owner, I have closed the doors of the shed on stormy nights and forgotten to open a few windows. The following morning the air in the shed would be stifling with the sheep logy from rebreathing the foul atmosphere.

In arranging for an ample supply of fresh air, I planned to prevent draughts from hitting the animals. This is easily done by opening windows on the side of the shed opposite the direction from which the wind blows.—L. C. R.



Yes, Indeed!

"Well, well, think of meeting you here!"

"Yes, the world is a small place after all!'

The Royal Winter Fair

The second holding of the Royal Winer Fair at Toronto saw this national exhibition of Canadian agricultural endeavor firmly founded and definitely established in the life of the Dominion. At a single bound the Winter Fair has become Canada's greatest farming exhibiion, Dominion-wide in representation and as comprehensive in the scope of its variety and standard of farm products. In fact, the Winter Fair, in its brief development has gone beyond purely national limits and has taken on an international hue, as is but natural cnsidering the eminent position Canada occupies among the agricultural countries of the globe.

Whilst visitors were present from many countries and all sections of the American continent many states of the Union were actually represented in exhibits, notably Michigan, Pennsylvania, Massachusetts, Ohio and Oregon.

Whilst fairs and exhibitions held in every locality in Canada indicate the excellence of the farm production of those areas the Royal Winter Fair has, in a graphic manner summed up the Dominion's agricultural effort. The imposing aggregate of great diversity illustrates in a clear manner not only the high standard of Canadian farm produce, but the addition experimentation is making each year, through the discovery of other crops possible of excellent production on Canadian soil and under Canadian conditions.

ALL BREEDS OF CATTLE EXHIBITED.

Beef cattle exhibits at the second annual fair covered all breeds, and were the strongest exhibits of the show. Dairy cattle came from five provinces and two states, and included Jerseys, Holsteins, Ayrshires, Guernseys, and French-Canadians.

The exhibition of draught horses was probably the best seen in Canada for a number of years. The sheep exhibits were exceptional coming mainly from Ontario, where the raising of pure-bred sheep for breeding purposes has been long one of the foremost industries. The swine exhibit was outstanding, a feature being the marked development towards the establishment of a national type in Canada.

The poultry exhibit comprised the largest aggregation of fowl ever collected on the continent. There were interesting exhibits of water fowl, African, Chinese, and Embden geese, Canada wild geese, Snow geese, East Indian and wild Mallard ducks. Rabbits, guinea pigs, pigeons, canaries and other song birds, all further indicated the latitude of Canadian production, whilst the exhibit of prize foxes has probably never been surpassed anywhere.

The horse show continued its remarkable success of the previous year and constituted what was probably the best horse show on the continent in the season. The jumping class made a particularly noteworthy feature of the entire exhibition, and Mr. Cox and his associates are to be congratulated for their perseverance in adding this unusually interesting phase to the exhibition. An additional novel feature of 1922, considerably expanded in 1923, was the exceptionally fine showing of live decorative fish which was probably as fine an one as has ever been drawn together.

GRAINS, VEGETABLES AND FRUIT.

All grains in such an excellent crop year were naturally of high standard, and of particular interest at the present time were excellent corn exhibits. The collection fruit and vegetables gave fair indication of the manner in which these crops are expanding in both volume and variety. The variety of blooms in the flower exhibits proved that the northern latitude is no handicap to floriculture. Fine honey came from every province, showing how apiculture is developing in the Dominion.

An exhibit of primel nterest was a collection of nuts from an Ontario orchard of about one hundred bearing trees. These included the Japanese and Canadian black walnuts, pecan filberts, almonds and English walnuts equal to anything grown in California.

The Royal Winter Fair has become Canada's annual agricultural expression, a yearly summary of what the farms of the Dominion are doing, for others to see. It is of particular interest to Canadians, and by reason of Canada's gradual ascent among other nations whose agricultural industry is of great importance, must, in the future, attract greater attention from other parts of the world.

A Valentine Party

By Margaret M. Scott

Have you ever wanted to give a valentine party yet hesitated because you could not think up anything new to do? If so, take heart, for here are some suggestions that may cause you to scout the old saying, "There's nothing new under the sun."

This invitation, written on a red heart, sent out in a white envelope with tiny red heart stickers might be used:

Hear ye, hear ye! List what fun
Is in store for everyone!
Come check your heart
At my front door—
February 14th, '24.

You might suggest that colonial costumes be worn, if you want a dressed-up party, for colorful clothes add so much to the decorations. Or you could arrange to have each girl wear a different-colored dress, and then give fancy caps to the guests as soon as they arrive. The door knob will take on a festive air if it protudes through a heart. Just inside you might have a gayly decorated booth presided over by Cupid, where the guests must check their hearts (the invations).

A musical hunt begins the program. Small paper hearts are placed, but not hidden, all around the room. Partners for the occasion are chosen by giving a heart to each girl. She tears it in two uneven pieces—one she keeps the other is put in a basket which is passed to the boys. Each boy finds the possessor of the other half of the heart he drew. Then each couple receives two yards of heavy thread and two big needles.

When the music sounds, partners march in a double row around the room, continuing until the music stops when they break ranks, thread the needles, tie a knot in the middle and, working together, each pair tries to collect and string on the thread more hearts than any other couple before the music begins again.

After this pass out pencils and slips of paper on which one or two lines of an old love song are written. Ask the guests to finish the verse. For instance:

"Her face is like the snowdrift,
Her neck is like the swan!"
I tried to tell her all these things,
But she said, "Aw, g'wan!"

You might award a prize of a heart shaped box of candy to the one who gives the most unexpected twist to his verse.

Next you might play Cupid's Game. Give the boys a small heart for every girl that is present. Then seat them around indifferently numbered nooks. Direct each girl to go to a different nook, where she proceeds to propose to the young man she finds there. If he accepts, he gives her one of the small hearts. The girl goes on to the next nook and proposes again. When the game is over, the girl who collected the most hearts has to tell her method.

After this St. Valentine himself decides who shall be supper partners. His costume is made of two large hearts after the fashion of a sandwich man. The girls' names are put in one basket, and the boys' in another. St. Valentine draws a name from each basket and "cries" them aloud as valentines. Those whose names are coupled are partners.

For the supper you might have heart-shaped sandwiches with pimento cheese or ham filling, cherry ice cream, small heart cakes, and coffee. Little baskets of old-fashioned motto candies would make amusing favors.

Prospects for Market Cattle.

Referring to the outlook for market cattle the Markets Intelligence Service of the Live Stock Branch at Ottawa, states that the prospects and present conditions in the live stock industry are on the whole far more favourable than they were a year ago, as feed is plentiful and store cattle are cheap. The producer and feeder who is taking advantage of this is in a fairly secure position, especially where intelligent methods of winter feeding are practiced.

In emphasizing the influence common stock has upon market prices, the same authority says: "Insofar as the West is concerned, the general quality of the run (November) was so mediocre that the so-called high grades decreased in price along with the poorer grades."

With the top price of steers, for the week ending December 20, 70 cents per hundred above what they were in the same week last year and calves 50 cents, and with prices in excess of what they were the previous week, for all live stock except lambs, it must be admitted that the prospects are at least promising. Again, with all the slaughtering that is going on in Britain on account of the foot and mouth disease, there is likely to be an increased demand in the future for cattle; as usual, the man having the right sort will reap the most profit. A study of the weekly market reports sent out by the Dominion Live Stock Branch will show how true this always is. At Toronto, for instance, in the week ending December 20, good steers averaged $6.36 per hundred and common $4.64; good veal calves averaged $10.51 and grassers $3.83; select bacon hogs averaged $9.05 and extra heavies $6.05; good lambs 10.28 and common $9.15, and light sheep, $6.09 and common $2.02. Surely there's a lesson in these figures.

Cost of Maintenance.

Considerable work was done during the winter of 1923 by the Department of Animal Husbandry, Ontario Agricultural College, to ascertain the cost of maintenance of the farm work horses. For heavy horses at teaming work necessary around the farm, such as drawing manure, etc., it costs from 31½ to 36.6 cents per horse per day for feed, stabling and care. The cost of feed was 54 per cent. of the total cost of maintenance and the cost of labor was 22 per cent. of the total cost. Horse labor during the winter cost 21.6 cents per hour.

DAIRY HEIFERS.

Records kept by the Department of Animal Husbandry, O. A. C., on the cost of winter maintenance of dairy heifers, showed that the average cost of feed per heifer was 16.3 cents, and that the total daily cost of maintaining an average heifer weighing 830 pounds was 27 cents. The total cost of winter maintenance per 1000 lbs. of live weight was 32.5 cents.

Mangels Versus Beet Pulp.

During the winter of 1923 the Animal Husbandry Department of the Ontario Agricultural College, conducted an experiment to determine comparative values of mangels and sugar beet pulp. There was very little difference in the actual production of the cows when on each of the two feeds, but the mangels were a much cheaper ration.

Fight cleanly, each for your ideas. Hit hard, but never below the belt. —General Sir Ian Hamilton.

Wintering Bees.

A very comprehensive bulletin on "Bees and How to Keep Them," by the Dominion Apiarist, has recently been issued by the Department of Agriculture at Ottawa. In the chapter dealing with wintering, the author calls attention to a number of points of importance. The bee cellar should be well ventilated but not draughty, and the best temperature, in the early part of the winter, is usually around 48 degrees F., but towards spring it should be lowered from three to six degrees, care being taken to keep the bees as much as possible from restlessness. The air in the cellar should not be too dry, nor damp enough to allow moisture to condense on the floor of the hives. Good drainage is a necessity, and the bees should be kept in darkness and left undisturbed. The date that the bees should be taken out of the cellar depends upon their condition and the state of the weather.

Keepers of bees will do well to remember that mice and rats are enemies of bees and will sometimes destroy colonies in the winter if care is not taken to exclude them from the bee cellar or wintering case. Colonies wintered outside may be protected by reducing the width of the hive entrance to three-eighths of an inch so that mice will be unable to get in; in the cellar they may be poisoned.

Salt and Water for the Sheep.

During the winter when the snow is available and especially where a liberal supply of roots is being fed, the flock will not suffer a great deal if water is not given, so says the Department of Animal Husbandry, Ontario Agricultural College. At the same time sheep will drink more or less water if it is to be had, and if at all convenient it will pay to provide it even in the winter. After the ewes have lambed in the spring and during the summer while on grass, an abundant supply of clean, fresh water should be at hand. Especially during the long, hot days of summer the sheep will drink quantities and the health and comfort of the flock demands that it be available.

Salt should be before the flock at all times during the year. A box or trough set up in the pen during the winter or in the field while on pasture, in which there is always a supply, will assure the owner that his flock is always well provided with salt.

Prolificness by Months.

Investigational work carried on by the Department of Animal Husbandry, O. A. C., during 1923, to gain some light on the question of sheep increase, gave the following results:

March	150.8%
April	146.6%
January	140.9%
February	137.8%
May	134.7%
June	128.0%

Of the eleven breeds studied only three showed a higher percentage of twins and triplets than singles, the Dorset Horn, Oxford Down and Leicester.

Percentage yeanings, singles	56.6%
Percentage yeanings, twins	42.0%
Percentage yeanings, triplets	1.4%

Do not apply furniture polish to soiled furniture, or it will never look bright. Wring a cloth out of warm soapy water, and wipe the furniture carefully. When quite dry, polish as usual.