DAIRY.

Preservatives Disapproved.

Profs. H. H. Dean and R. Harcourt, of the Ontario Agricultural College, have issued a bulletin on butter preservatives which may be injurious in their use, and which is not advised unless in cases where the necessity is clearly manifest.

Milk and cream do not come under this list, and it is not necessary to use preservatives in butter intended for home consumption. Preservatives do not improve the butter; they simply preserve for a longer time the flavor developed in the fresh article.

A number of experiments were made, and the following conclusions reached:

1. Powdered borax, in these experiments, has given as good results as the commercial preservatives, although manufacturers of the latter claim that borax is unsuitable as a preservative, as the following quotation from a letter received from one of the firms will show: "We know, from a number of experiments conducted under our personal supervision, provided well-made butter of a delicate flavor were in question, the ——— treated butter must yield a finer flavor than borax-treated butter. Borax, as a matter of fact, is a most unsuitable preservative for butter, as any practical butter manufacturer must know, as borax is alkaline in its action, and would tend to saponify butter."

We do not find the foregoing results in our experiments, although further work is needed to settle the matter definitely. The borax costs about one-half as much per pound as the commercial preservatives.

2. One-quarter of one per cent. of powdered borax or of the commercial preservatives appears to be sufficient to hold the butter flavor under ordinary conditions, and it is not nearly so liable to give the "preservative taste" to the butter. Butter which is likely to be held over three months, or which may be exposed to high temperatures, may have one-half of one per cent. added.

3. The results indicated better keeping quality in the sweet-cream butter than in those lots made from ripened cream.

4. There was not much difference in the keeping quality of the butter treated with the different preservatives, boracic acid giving the poorest average, and commercial preservative No. 6 rather the highest.

5. All the boxes and prints of butter made during the summer to which the borax, boracic acid or commercial preservatives had been added developed mould very badly, while the samples which were salted were free from mould.

6. Under the severe test of December 6th, none of the preservatives may be considered as having given satisfactory results, although the flavor was very much better in those lots as compared with the lots treated with salt alone.

7. At the present time we are not prepared to recommend the use of milk or cream preservatives.

8. For the home trade, with proper means for pasteurizing the cream, and suitable cold-storage facilities, we do not consider that preservatives, other than salt, are needed to keep butter for a reasonable length of time.

9. For the export trade, which allows one-half of one per cent. boracic acid in butter, it would seem as if this amount might be used to advantage in some cases, but with suitable cold-storage, and especially where pasteurization is followed, less than this amount would preserve the butter and be less liable to injure the consumer.

10. Salicylic acid, sodium fluoride and formalin may not be recommended as butter preservatives. The first one is more or less harmful and gives an objectionable flavor to butter, while the latter two are considered quite harmful to the human system.

Changing from Cheese to Butter.

In the course of his address at Eketahuna, Mr. Kinsella, Chief Dairy Commissioner, said that so far as he could ascertain in the Old Country, New Zealand cheese was giving every satisfaction, and merchants had expressed the wish that they could get more of it. Last year a good many factories in New Zealand had abandoned their cheese plants for butter. He was not sure that this was a right course to pursue. He had had experience in Canada in connection with jumping from one product to another to suit the market prices. He was convinced that a factory keeping to the one thing throughout was just as well off in the long run. The Kaupokonui factory, he was aware, made butter one year and cheese the next. He was of opinion that if they had a large butter factory they should stick to butter, because the brand became recognized and established in the Home markets. He had heard complaints from merchants at Home that as soon as they had built up a connection for a certain brand of butter that brand was either withdrawn and sold elsewhere, or was substituted by cheese. They should endeavor to emulate the Danes, who sent their butter to the same merchants, and almost to the same tradesmen each year. The merchants would pay a higher price if they could obtain a continuous and fixed supply of a good article. The Glasgow merchants complained bitterly about the cheese, and that direct shipments were not made to them. If they wished to build up a reputation and receive a high price for their produce they must adopt a uniform system of manufacture and selling.—[New Zealand Dairyman.

Material for and Size of Silos.

The cement silo, writes Prof, C. S. Plumb, of Ohio State University, will keep silage perfectly if the corn is cut and placed there under satisfactory conditions. I should want corn that was well matured before cutting, and then, as placed in the silo, should want it uniformly distributed over the entire available surface and reasonably well tramped down.

One of the best arrangements that the writer knows of for accomplishing this distribution easily, is to attach a cloth chute from the point where the carrier or blower unloads into silo, letting it come down to within three feet of the bottom, if filling is to begin there. Such a chute may be made of common cotton cloth, or of bran sacks sewed together end to end to secure the desired length. The cut corn will pass down into the silo through this, and even a twelve-year-old boy can easily walk about in the silo and distribute the material uniformly and wherever wanted, not even requiring a fork in the work. As the contents of the silo become higher, the mouth of the chute may be rolled up on itself, or if sacks are used, they may be taken off at the lower end, and as often as desired.

This method has a great advantage besides that noted, of giving the man in the silo a chance to work without being constantly hit with heavy butt pieces of corn, or being showered with litter all the time, at the same time giving the most favorable conditions for filling uniformly and tramping.

In the opinion of the writer, the cement silo will surely grow more and more common in future. I know of such silos in Ohio, and I have never seen better silage than that taken from them. They are comparatively easy to construct and are far more durable than the wooden ones. They have been used but comparatively little in the United States until recently, Canada taking the lead in thus using cement. To be sure, the cost is more at first, but in durability and future promise, cement seems to be the coming silo material.

For a herd of about twenty cows I should recommend a round silo about 15 feet inside diameter, and 30 feet high. This will hold a little over 100 tons. The general opinion of the users of silage is that two smaller-sized silos are preferable to one large one, for unless it is kept fed down constantly and uniformly on the surface, more or less silage will become injured and perhaps mouldy in the big silos, a condition less likely to occur with the small one.

Reduction of Freight on Australian Butter

The Victorian Department of Agriculture, acting in conjunction with shippers representing 80 per cent. of the butter output of this State, has just completed a most important contract with the White Star, Aberdeen and London lines of steamers for the carriage of butter from Melbourne to London.

The contract entered into is to have a currency of three years, from October 1 next, provided the conditions will be satisfactorily performed by the shipping companies. The refrigerated butter tonnage of the combined fleets amounts to 35,000 tons, so allowing for a considerable increase in production, there will be ample accommodation for shippers. Victorian butter will, from the date indicated, be carried to London for ¾d. (three-quarters of a cent) per pound, which is exactly half of what is at present being paid to the mail steamers, viz., ¾d. (one and one-half cents) per pound. One effect of this contract will be to establish practically another weekly service to London—via South Africa—outside that of the subsidized mail steamers, via Suez.

Irregular Supply as it Affects the Trade.

A Manchester, Eng., firm has these words to say about the evils of irregular supply, words which Canadians should take to heart:

"We have often had reason to complain of the irregularity of shipments from many creameries, there being, of course, a large number of honorable exceptions. From every other source of supply in the world except Ireland we obtain shipments of the dairy's produce right through the season, or, as in the case of Denmark, throughout the year. We may say, in passing, we have Danish butter from dairies that we have never missed receiving a single week for the last 18 or 20 years, and have customers who have taken the same during that time! We would very strongly urge managers to give this matter their serious consideration. We have many a time been tempted to throw over the Irish creameries altogether, and during the summer time take our supplies from Canada, where we can always get butter in quantity and with regularity, the quality now being equal in every respect, and packing superior; but feelings of loyalty prompt us to struggle on, even against our own interests, the Canadian butter being much more profitable to us to handle. We still have hopes that Ireland will come into line with other countries in respect of regularity of supply."

Customers using butter from the same dairies for twenty years! When Canadian creameries get customers in the Old Country who can depend upon receiving their produce the year round, there will be more money in keeping cows.

The Dairy Cow.

Someone has said that a "cow is partly born and partly made," and that will appeal to everyone as being exactly true. We hear a good deal about feeding and we hear a good deal about breeding, and the advocates of each claim for them about all the virtues that are discoverable. The fact is, however, that it is a combination of the two that will produce the kind of cow we must have. It is the combination of the two that has produced the cow we now have, whether she be good or bad.

A naturally poor dairy cow badly fed will prove continuously unprofitable. A poor dairy cow well fed may yield a small revenue. A good dairy cow badly fed will produce only a little revenue, and it is probable that she will never have her full capacity developed. One of the things that has been brought out by good feeding is that many cows that were supposed to be poor cows were simply cows that had been always so poorly fed that they had never had their full capacities developed.

The man that is bright enough to study breeding till he can get a herd of highly-bred cows, and study feeding till he can get every cow to giving milk to her full capacity, is the man that will make money out of his dairy herd.—[Farmers' Review.

POULTRY.

Increasing the Size of Eggs.

During the week we received from a Co. Cork correspondent, a query on a subject of importance to poultry-keepers. The terms of the problem are as follows: I would be glad to know if it might be possible to increase the size of eggs by any special feeding or by any means? My fowl are all in splendid condition, some being 2½ years and other 1 year; also pullets of 8 or 9 months; and the kind of fowl consists of pure-bred Faverolles and some of cross-breeds from good birds, i. e., White Leghorns, Golden Wyandottes and Buff Orpingtons. But none lay large eggs, and some not larger than bantam's. Their food consists in the morning of hot mashed potatoes mixed with barley meal and pollard, and some scraps from table (would cracked corn be a good addition?), the evening meal consisting of oats. They have a splendid field of good grass and a plentiful supply of fresh water daily; also grit. The laying fowl, each day, are in a very large, covered run until they lay, when they are turned out into the field; and while in the run they have a mangel or two to pick, and often cabbage, and plenty of fresh water. There house is always scrupulously clean, being done out daily and limewashed regularly, and the birds themselves are dusted with sulphur, and are perfectly free from parasites. Having done all in my knowledge for them, I should be glad to know if you could suggest anything to increase the size of the eggs; the quantity is splendid while pullets. Should there be any special management?

Regarding these points, our poultry expert expresses the following views: "I cannot find any fault with your methods of feeding and general management, as described, and there is no alteration which I could suggest that would improve the size of the eggs. I would not advise the addition of cracked corn to the mash, as it is sufficiently heating and fattening with the potatoes and barley meal for a summer ration. In winter you might feed cracked corn, dry, two evenings per week. Oats are, however, excellent at this season. The breeds you mention ought to lay large eggs, but the size of the eggs depends more upon strain than on breed. A very great improvement can be effected in a few years by carefully selecting large eggs for hatching, and keeping the pullets hatched from these for stock. It is impossible to keep a flock up to a good standard if you set the eggs from all birds indiscriminately, and what I would advise you to do is this: Set up a separate breeding pen, which can be cheaply made of wire netting, and need not be larger than 15 or 20 yards square, and in it put a portable wooden house of small size, say 5x7 x 6 feet, high; then select eight or ten of your best-laying hens—those which lay large eggs and a good many of them—and keep them in the pen for breeding. Such a breeding-pen will furnish all the eggs you are likely to require for hatching, and it will not