

following crop is planted, as the rye heats in rotting, and is apt to burn the tender rootlets of the young plants and so stunt them. No trouble need be apprehended from this source after the time mentioned elapses. On the other hand, the warming of the soil is what is needed for spring crops, which, when planted on the hot bed formed by the heating rye, are given a grand start.

I understand several American agriculturists grow rye for bedding material. They have abandoned wheat-raising until better prices prevail, and as a certain amount of bedding is required, they use rye straw, which "fills the bill" exactly. It is mown just before the grain forms, thus, while making a No. 1 bedding, it leaves the land undivided of those costly elements that go to form grain. The young clover, with which it has been seeded the previous year, gets an early start, and as a result we have a fine lot of clover-hay of just the right kind for feeding calves, sheep, etc.

However, if grain be the desired object, it may be pastured until the latter part of May or first of June, when all stock should be removed, and a crop that will turn off nearly bushel for bushel with wheat will be the result, and for which we, of late years, have been receiving better prices.

But should it be used for stock feeding—and I believe this way the most profitable,—it should be mixed with other coarse grains and ground, when it may be fed to any farm animal with the best of results.

DAIRY.

Preparing Cheese and Butter for Exhibition.

BY J. W. WHEATON, SECRETARY W. O. DAIRYMEN'S ASSOCIATION.

Dairymen will have ample opportunity for publicly showing their goods this year. Besides the provision made for exhibits of dairy cattle and dairy products at the Industrial Fair, Toronto; the Western Fair, London; Ottawa, Montreal, and other exhibitions, a special dairy show will be held at Gananoque, Ont., early in October, and the Dairymen's Association of Western Ontario have decided to give a small grant towards prizes for a dairy display in connection with the Provincial Fat Stock Show at Guelph in December. Breeders of dairy cattle and manufacturers of dairy products should show their appreciation of these efforts by making a liberal display in the different departments. The prizes offered are large and numerous, and should afford everyone an opportunity to win whose exhibit is worthy. The prize itself is only a small proportion of the value to be derived. If a man has a product of fine quality which reflect his skill and intelligence, it will benefit him in many ways to have it on exhibition at leading fairs, even though he does not win. If his goods are not perfect, he is able to find out, by comparison with other exhibits, wherein they are lacking; and, on the other hand, if his are the best in their class, he has the satisfaction not only of carrying off the prizes but of setting standard of quality for his competitors, and to that extent he is a public educator.

All exhibits reflect the intelligence and skill of the exhibitor, and should therefore be arranged in as attractive a manner as possible. The selling value of butter and cheese may be enhanced or diminished according to the way they are presented to the purchaser. The standard by which such products are judged at the exhibitions is as to how they will suit the market. No exhibitor can get his skill into his exhibit by chance. He must plan to put his knowledge into practice. If another display is superior to his it is because a competitor's exhibit represents more applied knowledge of the work, and he will have the satisfaction, at least, of knowing that he has done his best.

Every cheese or buttermaker, therefore, who contemplates exhibiting (and it is hoped for their own good that a great many will do so this year) should plan first to secure the best possible quality of milk to begin with. A good way to secure this is to ask the patrons to give the milk special care. Nearly all patrons have sufficient interest in their factory's reputation to do this. Then utilize the best practice of modern dairying, or those you consider best in conversion that milk into the finest quality of cheese and butter. When the curd or butter is salted don't allow your vigilance to slacken in the least. From this stage till the product is finished is when the finest touches can be given to its outward appearance.

Put the curd to press at from 80 to 85 Fahr., so that the particles will be in the best condition for adhering. Before doing so examine each hoop and follower so that the cheese will not become defaced in pressing. A cheese eleven or twelve inches high presents a better appearance than one flatter and wider. Have the cheese weigh, if possible, at least 25 lbs. If all exhibitors would make their cheese as indicated and as nearly the same size as possible, exhibits at fairs would be much more attractive. Be sure that the bandages are pulled up properly and that the head-cloths stick well. Nothing is so slightly, either in a curing-room or at an exhibi-

tion, as a lot of cheese with bandages down, or the faces cracked, or not having a proper rind. Defects of this kind will knock off three or four points in the total score. See that the cheese are perfectly straight and symmetrical when taken out of the presses, and that there are no flanges or eaves-troughs projecting from the edges. To prevent these it is always wise to turn the cheese in the hoops in the morning. Leave the head-cloths on till they are ready to be shipped. Then remove, and rub the ends of the cheese with a little hot, clean grease. Too much grease will spoil the appearance.

Have the boxes for exhibition cheese to fit snugly, but not too tight, or the appearance of the cheese is apt to be injured when being taken out. Watch the railway trains and connections to the fair, so that your cheese can be sent in care of the Dairy Superintendent of the fair at the proper time, and so that there will be no delay en route.

Butter for exhibition purposes, whether in firkins, packages, or pound prints, should be as tastily arranged as possible. Cleanliness and neatness are indispensable. A more presentable exhibit would be obtained if all the firkins and packages used were of the same size. It would be well if some regulation size were adopted by Fair authorities.

A word to home buttermakers. Discard that old cotton cloth and those old white rags when preparing butter for show. No matter how white and clean, those old cloths will always present a tawdry appearance. Use parchment paper for covering the tops of the firkins and wrapping the pound rolls. It does not cost much, and will make the butter more presentable. Have rolls the same size, and without any fancy or unnecessary scroll work. A plain, smooth package will always be more presentable. Where possible, use a pound butter-mold. One of the chief faults to be found with dairy butter at fairs is unevenness in salting. An otherwise fine quality of butter is often ruined by being too heavily salted. Weigh the butter before salting, and just use so much salt to the pound of butter; from $\frac{1}{4}$ oz. to 1 oz. of good dairy salt is sufficient. All baskets, boxes, etc., in which butter is sent, should be clean and tidy. Do not lose a point or two in the total score because of neglecting little details.

At the Industrial Fair, Toronto, and at the Western Fair, London, cheese and butter will be judged according to a scale of points, and each exhibitor will receive, or have sent to him after the exhibition, a score card showing the points his exhibit has made. These score cards will be similar to those used at the World's Fair. The standard of excellence for cheese will be that best suited for the British market.

At both Toronto and London there are classes for cheese of June, July and August makes. Where Augusts are shown separately, three cheese are required to fill each entry. Many makers complain that this is too many and that it costs a lot for transportation, and claim that if only one cheese were required for each entry there would be more exhibits. Possibly, but it is doubtful if enough cheese would be secured all together to make a creditable display. With three cheese for each entry the space allotted is now no more than filled, hence the Fair authorities are loath to lessen the number. When cheesemakers can show that there would be more exhibits if a less number were required, there will be no difficulty in getting the change made.

In sections 1 and 2 of the cheese and butter classes at the Western Fair, the prize money will be awarded after a new fashion. The money in each section will be divided according to a scale of points. Each exhibit which scores over 94 points in the cheese class and over 96 points in the butter class will receive a share of this money. The number of points made by each exhibit over the required number (94) will be added together and the sum divided into the total money in that particular section. This will give a value for each point, which value, when multiplied by the total points over the 94, will give the amount to be received by each exhibitor. This plan seems to be a fairer way than having stipulated prizes, as it gives every one whose cheese or butter will score over the standard a share in the prize-money. It is hoped that contemplating exhibitors will not be afraid of this scheme. Send along the exhibits and give it a fair trial.

The prize lists for the Eastern Dairy Show and for the dairy display at the Guelph Fat Stock Show are only temporarily arranged at present, but will be issued ere long.

Promoting the Export Butter Trade.

Prof. Robertson, Dominion Dairy Commissioner, has been superintending the inauguration, at Montreal, of the Canadian cold storage butter trade with England, several steamships being filled up for that purpose. The first of these had 100 tons cold storage capacity, the initial shipment consisting of some 50 or 60 tons. It was decided, we understand, to occupy part of the space with cheese, in order to compare the cheese carried in a refrigerator chamber with that shipped on the same boat in the ordinary way. The walls are about ten inches thick, of alternate layers of wood and asbestos. The destination of the first shipment was Bristol. The steamship people are said to look with favor on the present effort, and every confidence is felt for the development of the butter trade in the near future.

Best Method of Reducing the Cost of Butter Production.

F. J. S.

This is a matter of much import to farmers—of much greater pecuniary import than cold storage facilities or refrigerator transportation accommodation. This subject is immediately under the control of the farmer; the other is not. We shall discuss the subject under the following heads, viz.: (1) Breeding; (2) Weeding; (3) Feeding; (4) Management.

Breeding.—The majority of our herds are grades. It is not, of course, necessary that we dispose of these and buy pure-breeds. But, two rules do not prevail in stock breeding: the one for grades, the other for pure-breeds; in other words, there are recognized principles underlying the successful breeding of grade stock. Our stock of cows are not, so to speak, sufficiently line-bred; they are a compound whole, the parts of which have not always nor regularly tended to increase excellence. Rigid adherence to the use of pure-bred sires of some breed,—the dairy breeds in preference,—and these of known individual power, would materially reduce the cost of butter production. Indiscriminate breeding is a grave mistake. Have an opinion—the result of careful thought—as to the breed of the sire you intend to use. Having decided, say, on the Ayrshire breed, do not then change to a Holstein or a Devon simply because your neighbor says they are the best. *Breed your own stock.* It is risky to depend on buying to keep up a herd, and costly, besides the principle is a speculative one and does not rest upon a firm foundation. To remember that like produces like, or the likeness of an ancestor, is a breeding maxim that would materially reduce the cost of our butter if intelligently applied.

Weeding.—This is of more importance than breed. Without it the best herds retrograde; with it, and breeding, the poorest may be made profitable. Reduction in the cost of butter would be prompt, satisfactory and continued, if intelligent and persistent methods of culling were adopted. To this end the Babcock milk tester and weigh scale are absolute necessities. Two cows do not necessarily give more profit than one—but how few of us practice that precept. Two cows do not necessarily give as much profit as one. One cow, or a number of cows, do not, of necessity, give any profit. Some cows habitually give milk containing no more than 2½ per cent. of fat. Such should have no place in any herd; they are profit-eating intemperers. These things are so because of what we all know—that cows vary in the quality as well as the quantity of their milk, and that the product of many of our cows is wholly insufficient to pay for feed and labor.

We consider the following to be essential in herd-weeding:

(a) Retaining heifer calves from the best cows only. If this is not followed, the unprofitable cows become an added and continuing source of loss. Cheap butter is not made from such stock; they are leeches in the herd, and yet very plentiful. But which are our best cows? Very few think of this, and still fewer do any more than think—act. Very few dairymen know of a certainty which are their best cows and which are their worst. Many judge by quantity of product, and even here they are often widely astray, owing not only to varying quality, but also to differences in length of milking period. Others add to this the color of the product—a wholly misleading custom, since it is well-known that rich milk and highly-colored milk are by no means necessarily synonymous. White-looking milk is oftentimes quite rich in butter-fat. Such methods are unreliable and dangerous. Rear the calf as if you believed it to be the mother of the cow.

(b) Careful, systematic and continued testing and weighing of milk. This essential, intelligently and persistently followed, would materially reduce the cost of butter production in any and every herd. This will enable us to criticize the individual animals in the herd. To know the product of the herd as a whole is of little pecuniary benefit, we must deal with individuals. Knowing with reasonable accuracy the cost of feeding a cow twelve months, we can then state with certainty the profits or lack of profits attending her. We offer a system of testing the cows of the farm, which we think will be found practicable and reliable: Use a Babcock milk tester (a small one will do, costing \$6-\$7 complete) and a weigh scale. For seven consecutive days, each month, immediately after milking, take a small quantity of milk (an ounce will do) from each cow's product and put it into a pint fruit jar marked with the name of the cow. Before putting any milk in the jar, put into it as much potassium bichromate (14-25 cents per pound) as will lie on a five-cent piece, to keep it in condition for testing. Then weigh, and record the weight of each cow's milk separately. At the end of the seven days, test the samples and record the test. Having the total pounds of milk and per cent. butter-fat, the total butter product is easily estimated. We advocate composite sampling because we think it much more accurate than single samples taken at intervals throughout the month, beside being much less labor. We would then fix upon a "standard" or goal—not less than 175 pounds per annum—which each cow must reach, or have her connection with the herd severed.

Upon the questions of "Feeding" and "Management" we will speak in our next.