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market of some Ontario
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able concessions in
ber 13, 404,663 lbs.
ce from New York,
a. Seventy carloads
e loaded at West St.
ain consigned to the

regarding the cheese
ber 20 receipts of
018 boxes, against
period last year, a de-
York cheese exporting
s of white Canadian
ents f.o.b. Montreal,
ending December 13,
ed from New York to
78 lbs. to Scandinavia,
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of ice for the dairy.
stroy disease germs.
a space thirty-five by
ice. Very often one
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ge Quantities.

when insulated with sawdust, will keep well during the summer. If it is impossible to get sawdust, straw or hay may be used although these materials are not nearly so satisfactory as sawdust or shavings.

Do not neglect this important winter's job. If you get in an adequate supply of ice now you will be glad next summer that you did.

Handling Cows on Yearly Tests.

In a recent bulletin of the Michigan Agricultural College, J. E. Burnett, of the Dairy Husbandry Section has written the following paragraphs on the handling of dairy cows on yearly test work. We pass them on for the benefit of readers.

"The yearly test of dairy cows is to be strongly recommended both as a basis of selection in breeding operations and for the effect upon the cow herself.

It is the production for the entire year that the dairyman is interested in. He needs a record that is an index of the cow's productiveness throughout the year, even though she will not produce the same amount under herd conditions that she did in the test.

"The increased production of the cow that is on test throughout the year will more than pay for the extra feed and labor required, and the effect upon the cow alone is oftentimes worth the time and trouble necessary to complete the test. The cow will deepen, have more capacity in her middle and show development in her udder as a result of the heavy production while on test. As a basis of selection, it is the best measure we have of the cow's ability, because while the cow is in all probability not under the same conditions as the rest of the herd, yet the length of time that she is under test corresponds more closely to the normal lactation period and enables the breeder to weed out the cows that only produce well at the fore part of their periods. There is a marked tendency on the part of many of the leading breeders of the country to do more of the long-time testing, and there are more and more men of recognized ability as breeders of producing cows that are demanding that their herd sires be from cows with yearly records. Like the short-time test, however, the year's record of the cow should not be taken as the normal herd production, as most cows will produce nearly half as much more than under herd conditions.

"In the feeding and handling of test cows for yearly production it is necessary to use more thought than in feeding for any other kind of record or in feeding for ordinary herd production. The test extends over a long period of time and the cow cannot balance her ration from her body fat. The best and oftentimes the most expensive of the ingredients to be found in the ration is the thought that the man responsible puts into it. Good records cannot be made consistently unless the feeder puts his best effort into the work. The cow should be in good condition before freshening and should be fitted with just as much care as the cow that is intended for the short-time record.

"A cow should have a rest of two months or more before starting her year's work to insure the best results. A cow that is not accustomed to grain in liberal amounts before the conditioning period, will respond to the fitting ration much more quickly than one fed grain the year around. A good fitting ration should have a fairly wide nutritive ratio. One composed of equal parts by weight of ground oats, bran, oilmeal and corn, is fairly satisfactory. Hominy may well replace the corn if it is available. As with the cow on the short-time test, it is well to change this to bran and oats, or bran alone, a short time before freshening as a help to proper calving.

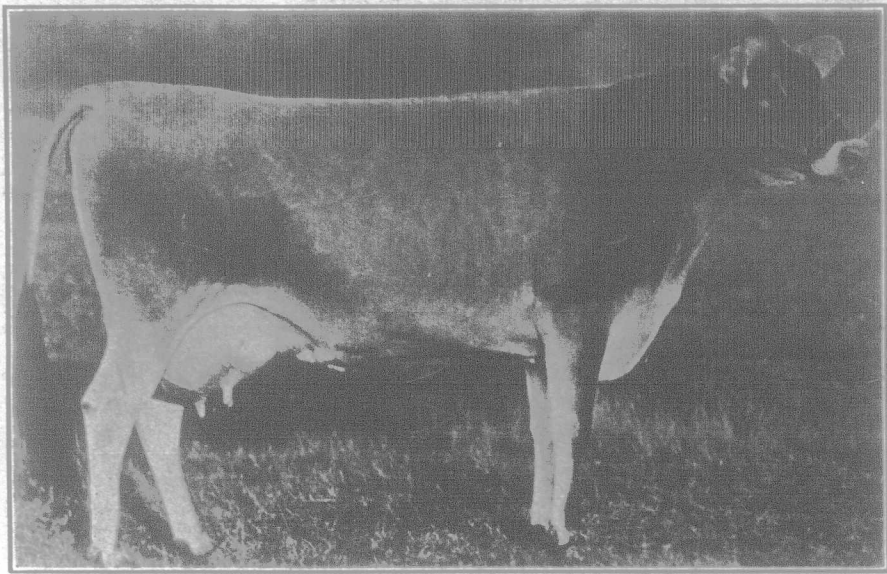
"After the cow has freshened properly she may be gradually started on her test ration. It is a good plan to make this a rather scant allowance of grain at first. I believe in not trying to get the cow to her greatest flow of milk until at least a month after she freshens. Consequently, it is best to start her at about one pound of grain to seven pounds of milk, or even less than this. If it is desired to give the cow a seven-day or other short-time test, it is, of course, necessary to change this plan to suit the conditions.

"With the long-time test it is necessary to feed a wider ration and one that meets the nutrient requirements of the cow. It should also be one that the cow likes and that stimulates her appetite. It is a good plan to start in with a rather wide nutritive ratio, about 1:5 for the grain, exclusive of the hay, silage and roots, which will, of course, widen it considerably. As the test proceeds, it is well to narrow the ration but to keep the strong stimulating feeds such as cottonseed meal and other heavy protein grains until the later part of the period when it is desired to keep the cow up to her flow. When the cow is well on her feed, the nutritive ratio may be 1:5 inclusive of the roughage. As with the short-time test, everything in the grain

ration should be measured or weighed accurately. This is probably the most important part of the feeding.

"The manger should be kept scrupulously clean and all feed that is not eaten should be removed. Anything that the feeder or milker can do for the comfort of the cow will be well repaid. A good bed of straw in a comfortable stall is a good investment. It is not always possible to have a drinking fountain in the stall with the cow, but it is possible to keep a pail of water in one corner where she can get it. This will often increase a cow's production several pounds a day at very little cost. Water is the cheapest feed that we have, and the one that is often supplied in limited quantity. A cow needs from 300 to 500 pounds of water to produce 100 pounds of milk. A part of this she gets in her feed, but the greater part comes as water she drinks. When a cow is turned out in a bleak, windy yard to go to the creek to break the ice with her nose it is no wonder that she refuses to drink enough to satisfy her requirements. Water should at least have the chill taken off and if the cow will drink warm water it may pay to warm it.

"The ration should be palatable to the cow as this stimulates a greater flow of the digestive juices, which result in more complete digestion of the food. The ration should be fairly bulky, as such a ration is more thoroughly digested. It should contain as many feeds as possible as the cow will stay on it and relish it longer. A ration that has worked very well with us is as follows: 300 lbs. ground oats, 400 lbs. bran, 200 lbs. cottonseed meal, 300 lbs. gluten feed and 300 lbs. of oilmeal. If the cow is getting thin it may be well to increase the amount of gluten or to add cornmeal or some other carbonaceous feed. If the cow is dropping in her milk flow it may be well to add a little cottonseed meal or oilmeal or to increase the root allowance. Another ration that has given very good satisfaction is as follows: 200 lbs. bran, 200 lbs. ground oats, 100 lbs. corn flakes or cornmeal, 150 lbs. gluten feed. In addition to an allowance of this mixture the cow should be given 1 to 2 pounds of cottonseed and 1 to 2 pounds of oi



Lulu Alpha of Ashburn.

An Oregon Jersey recently declared world's champion yearling over all breeds. Her record is 13,668 lbs. milk and 800 lbs. fat at the age of 22 months.

meal daily. This ration should also be varied to suit the needs of the cow.

"Care should be taken when feeding cottonseed meal not to feed too heavily, as it is a very constipating feed and one that has marked effects on the cow. It is very stimulating, however, and may be fed in small amounts to very good advantage. A good way to feed it is to mix it with equal parts of oil meal. Cows fed heavily on cottonseed meal are liable to sudden changes and marked variations.

"Sometimes when a cow is going down in her milk flow and there is no apparent reason for the decrease, she may be brought back to normal by reducing the feed. There seems to be a maximum point in the feeding of a cow beyond which the feed allowance cannot pass with beneficial results. When more grain is fed, the cow is unable to get good from it and simply becomes a machine for the handling of grain. A decrease of the grain may not be followed by an immediate increase of milk. It takes some time for the cow to become adjusted to the new ration. For instance, there was last fall on test at the College, a Guernsey cow fairly well along in her lactation period whose milk flow dropped from 35 lbs. per day to 30 lbs. per day in a two-week period in spite of changes in grain mixture. Her grain ration was reduced from 21 lbs. per day to 18 lbs., and she climbed back up to 35 lbs., but it took her ten days to do it.

"If a cow is fluctuating greatly from day to day in her milk flow, watch out for overfeeding. This is frequently one of the first signs of this trouble. A reduction in the feed when this is first noticed is sometimes the means of saving the cow from going off feed.

"The question is frequently asked, 'how can I feed my cow so as to increase her test?' There is no way that this may be done for any length of time. Dairymen have tried to accomplish this since the Babcock test was invented and have not yet succeeded. When the percentage of fat goes up, the milk flow usually goes down so that any effort to tamper with the test is liable to result disastrously. Moreover, if a breeder is convicted of tampering with the cow by drugs or other

nostrums, he is liable to expulsion from the Association and loss of all his privileges as a member."

The Professor's Harrow.

EDITOR "THE FARMER'S ADVOCATE":

On the way home from morning service in a little country church, Deacon Jones questioned Deacon Smith as to what he thought of the discourse. "Wa'al," replied the other sermon taster, "Brother L.—harrowed over a lot of ground but he didn't go deep enough." The general epistle of Prof. H. H. Dean, in December 4 issue, on the declining cheese industry would not exactly fit into that classification, for his harrow probably dipped down sufficiently in spots to stir up some lumps. The regretted wane in Ontario cheese factory business he attributes in brief to Government-supported officialdom or patronage. The factory inspection system, which he specifies, may have outgrown the needs of cheesemakers, but the real cause of the transfer of milk from cheesemaking to other channels of consumption is surely not far to seek. It lies on the surface—a case of demand and returns. Whole milk and cream for the rapidly growing population of cities and towns, and the spurt taken during the war period by condensed and powdered milk, giving the farmer more money for his raw material, has cut into the cheese business. As a farmer correspondent in these columns pointed out, the branch of dairying that does not "level up" in prices is going to take a back seat, Government "pap" or no "pap." In Ireland an investigation recently closed found that since the beginning of the war, milk supplies there had been diverted to the manufacture of cheese and condensed milk, which gave better returns than other lines for feeds and labor. So here when the producer has a choice of nearly \$1.00 per cwt. more for his milk it soon flows in that direction. The suggestion is offered that the time of officials might be better employed going to the farms and helping dairymen to produce more and better milk. Possibly so, for help is scarce and the gospel of "Breed, feed and weed," though not yet forgotten is always applicable. However, we have heard highbrows on convention platforms telling dairy farmers again, and again that they could do little in controlling the selling end of their business, and that their certain hope lay in producing greater quantities of milk more economically. In one locality with which I am directly familiar, where cheesemaking has been crowded out chiefly by a strong corporation, three local Milk Producers' Associations were lately organized just as they have been elsewhere in Ontario, and I believe throughout Quebec. Millmen or dealers fix the price to be paid for milk feeds, and so by concerted action dairy farmers propose to have something to say as to what they shall receive for their milk. They have grown weary of the old nursery rhyme: "Open your mouth and shut your eyes and I'll give you something that will make you wise." There are other ways of "getting wise."

The cheese industry may be taking a nap in Ontario; it is not dead, by a jugful. "Farmer's Advocate" readers need not come to the conclusion that there is little left for the historic Dairy Associations to do but decently give up the ghost. Revivals and forward movements are the order of the day, and doubtless there will be a going in the tops of the mulberry trees before the big annual meetings. Like Israel's King, in coping with invaders, someone will get a hustle on in respect to cheese. The market quotations are about all we hear of Canada's "finest" dairy product, Cheddar cheese. The promoters of some of the newer products are not asleep on their job. A glance over the big newspapers and other periodicals circulating in centres of population reveals a surprising display of their advertising. The huge bill-boards are utilized in the same way, and it is not likely these concerns are spending their money in such a campaign without returns. They think they have a good thing and make it known. Having excited interest and enquiries, they follow up prospective customers with personal letters and most attractive leaflets, telling how well their product is made and handled from cow to customer. Scores of ways in which to use it are alluringly described. In a representative retail city grocery house I found new Cheddar cheese cut from the ordinary large size of make selling at 38 cents per pound, and from a 13-lb. size at 40 cents; and old cheese at 45 cents. A brand of cream cheese sold at 15 cents per ¼-lb. package, or 60 cents per pound. A brand of powdered milk sold at 45 cents per 1-lb. tin, and a condensed milk of a fluid consistency at 8 cents for ¼-lb. tin (gross), and 20 cents for the 1-lb. for the 1-lb. size. The grocer said the regular Canadian factory cheese was, in his judgment, the cheapest food on the market, and, when people were clamoring about the cost of living, more of it should be used. A pound of well-made cheese was credited with being equal in nourishment to three pounds of beefsteak. There was a demand for an old, tasty sort of cheese, but a far greater call for a milk-flavored, softer brand. There was too much waste in the big 80-lb. Cheddar, and it often too hard. Pointing to a 13-lb. style, 9 inches high and 6 inches in diameter, he said they would sell as fast as he could get them. Instead of a pound slice, people would order a half or a whole cheese at once. His supply came from a Western Ontario factory which put up four of such cheese in an ordinary round elm box. People would willingly pay more for it too. No use sticking in old ruts, he declared. His trade was among working people, and also with the more well-to-do.

From the testimony of this fairly representative dealer, it was apparent that people will readily buy and pay the price for what they want, and nine times out