

sawed into lumber. ceased to be an in- was first applied, red up the land," o stand for a com- ller the amount- as the price it ence, was the dis- merchantable wood county. Many ts are bare to-day, ough our remaining of old. Many a wood, now depends ities, builders are the price of lumber dling raises rents, in devastated natural reservoirs and rivers. The ith impunity. She ual irrigation. If e end. The law is ing rills where in ng streams. And es where they saw and effect nothing earn the lesson? N DAVIDSON.

the Farm.

as set in mild and g every minute to orts indicate that usual, and unless ks this will have a crops. In many as good yields as be moist. Every to insure a larger y to the good for

drains and outlets. rk to go till the d. The drainage- unless the outlet cannot get away dging in the tile, a shovel or spade

me to put a light Quite a few have ults. Last year, ad at nine loads double the yield large extent this ve found that this ases the hay crop tion for wheat or ing all the manure practice. A high er returns in the e put on at longer



ails.

Gates left on their hinges are very often sprung by the weight of snow. This applies to both wooden and wire gates. It is good practice to take the gates off and store them in the driving shed or barn, or else stand them up straight against the fence so that the fence will take a portion of the weight of snow off the gate. It does not take mold-boards and plow shares very long to rust, and anyone who has used the plow knows how annoying it is to use one that does not clean properly. It is particularly hard to get them to clean when one uses them in loose soil in the spring. A good deal of trouble will be saved if the mold-boards and shares are given a good coating of grease or oil when put away in the fall. Most of us know that this is a good practice, but comparatively few put it into effect.

If room is available put the implements under cover. The elements are really harder on them than the actual work during the season. If there is no regular implement shed, a good many of the implements can be packed away in the barn after the threshing is done. In several barns we have been in we have noticed that one of the back bents has been used for storing implements at any time. From eight to ten-foot posts are put in to hold some poles or joists, and on these are laid loose boards. The hay and straw can then be put on top and there is room underneath to store any implements outside of the hay-loader. It is a good plan to go over the implements and give them a thorough cleaning and note what repairs are needed.

Boards and sticks have an uncanny way of collecting around the buildings and yard. These may be picked up now and any that may be useful put away for future use and the rest broken up for firewood. Once the frost tightens the ground, boards and sticks left lying around are there until spring.

In seasons of considerable snowfall, it is not unusual for the mice to girdle the young trees in the orchard. Fine wire netting or building paper wrapped around the trees helps to protect them. Do not wait until the snow comes to do this work. Banking the trees to a height of fifteen or eighteen inches sometimes affords protection.

There should be roses and perennials grown around every farm home. Some of these are not hardy enough to withstand a rigid winter. Some of these may be laid on the ground and covered with straw, while those which do not lend themselves to bending may be wrapped with burlap or sacking. If straw is used along with the burlap it will afford considerably more protection.

The putting on of storm windows and doors is generally left until the temperature is near zero, and then one nearly freezes when doing this work. Why not make an effort to put them on on a fairly mild day? The work can then be done with a great deal more comfort than if a forty-mile gale were blowing.

THE DAIRY

Dairy Notes From all Over.

The skimming of whey and the manufacture of whey butter are important economies now in the cheese industry. This is evidenced by the fact that in Wisconsin, the leading dairy state of the United States, 4,500,000 pounds of whey butter were manufactured in 1919, at a conservative valuation of \$2,000,000.

Every step taken to improve the quality of dairy products is either directly or indirectly a step for the benefit of producers. The earnest effort of all interested in the dairy industry is necessary to put the dairy industry on a high plane of quality and quantity.

It is estimated that the quantity of creamery butter that will be produced in the Province of Saskatchewan in 1920 will be 7,000,000 pounds. The production in 1919 was 6,622,000 pounds.

The tendency toward larger centralized creameries is illustrated by the fact that in Minnesota in 1919 the production of butter was 130,785,598 pounds from 714 creameries as compared with 124,816,084 pounds produced in 752 creameries in 1918.

The Auckland district in New Zealand is considered one of the best dairy districts in the world and from 1910 to 1920 the production of butter has been increased from 6,510 tons to 12,294 tons, while the production of cheese has increased from 515 tons to 11,774 tons.

As evidence of the superior place that silage now holds as a dairy feed as compared with twenty years ago the following is asserted to be a clause in a contract signed by a New York milk producer in Sept. 1896, with the Anglo-Swiss Condensed Milk Company: "The producer agrees not to feed his milch cows or dry cows wholly or partly on turnips, cabbages, brewer's grains or starch grains in any form, ensilage, sour feed of any kind, rancid oil-cake, sprouts, or any other substance which might taint or in any way deteriorate the quality of the milk; and the possession of any of these feeds shall be accepted as evidence that they are being fed to the cows."

For pure, unadulterated foolishness the following clause of a contract signed by some Pennsylvania dairy-men with a condensed milk company, takes the cake. The clause reads: "The said party of the first part (the producer) agrees to sell and deliver as above all the milk until January 9, 1921 for the ruling price per hundred pounds as fixed by the party of the second part (the milk dealer) and published." This is something like hiring out one's self and family for a year without stipulating anything as regards wages.

Nichols' Sale of Jerseys.

On Wednesday, November 24, a sale of 27 registered Jerseys was held in Woodstock, and brought a total of \$2,940. They were the property of Ira Nichols, Burgessville, Ontario, and consisted for the most part of cows from three to eight years of age. Included among the lot were eight animals calved in 1920, and four calved in 1919. The attendance was not very large and large buyers were not well represented. It will be noticed from the accompanying list of animals which sold for \$100 or over that prices were not high. This was due partly to the small attendance and partly to the fact that the animals were more or less undersized, probably as a result of having been bred too young. The following is a list of sales for \$100 or over:

Daisy John Reid, Tara, Ont.	\$130
Agatha's Leone—H. A. Bishop, Norwich, Ont.	125
Bell's Raleigh Fairy—Carswell and Sons, Thamesville, Ont.	175
Model Sultanne—H. D. Vance, Thamesville, Ont.	105
Mabel's Poet's Snowdrop—John Reid, Tara, Ont.	310
Snowdrop 2nd—Harry Cockshutt, Brantford, Ont.	260
Rioter's Polly Anna—R. & H. Baird, New Hamburg, Ont.	155
Premier's Polly—H. Cockshutt	110
Oxford Silver Bell—W. Otto, New Hamburg, Ont.	125
Maple Lea Noble Sue—Wm. Curry, Woodstock, Ont.	165
Maple Lea Pearl—Arthur Simpson, Atwood, Ont.	185
Majesty Madge Oxford—John Rainsburg, Petrolia, Ont.	180



Veneer.

First prize: two-year-old Jersey heifer for R. J. Fleming, Pickering Farms, Whitby, Ontario.

Burford Plant of C. M. P. to Resume Operations.

A letter sent to patrons of the Canadian Milk Products, Limited, in the vicinity of Burford and New Durham, announces that if a sufficient daily quantity of milk can be secured to operate the plant economically the Company's milk powder plant at Burford will begin operations on Monday, November 29. The following is quoted from the letter sent out to the patrons by the Company under date of November 23.

"We are assured of a market for a high quality powdered whole milk in quantities that warrant the resumption of operations at least at one plant. We thoroughly believe that a resumption of operations at Burford will not be temporary but will be permanent. We feel that we are warranted in giving you assurance to that effect.

"In furnishing our product in this market there are, however, certain conditions in regard to quality, not only of the finished product, but of the whole milk from which our product is made, which must be met. This product is eventually to be sold in small packages to household consumers, and will be used in large measure for infant feeding.

"Beginning Monday, November 29, and until further notice we will pay for whole milk delivered at our receiving station at New Durham, \$2.75 per hundred pounds of milk testing 3.5 per cent. butter-fat, with the usual addition or deduction of 3 cents per each 1/10 of 1 per cent. of fat over or under 3.5 per cent. We will pay an additional 15 cents per hundred or \$2.90 for 3.5 milk delivered direct to our plant at Burford.

"This offer is contingent upon receiving at Burford and New Durham a sufficient quantity of milk daily to run the plant economically. Moreover, it would be impossible to operate the plant partially upon whole milk and partially upon a butter basis with the skim-milk returned, and, therefore, we shall be obliged to discontinue handling milk or cream on a butter basis. We realize that many patrons during the past two months have purchased stock to which they feed returned skim, and that it would inconvenience them materially to have

their skim supply suddenly cut off. We, therefore, offer 3rd. grade skim-milk powder at 4 cents per pound (equivalent to 34 cents per hundred for liquid skim-milk) to be used for feeding such stock."

Farm-Grown Grains for Dairy Cattle.

While the economy of the dairy cow rests largely upon her marvellous use of roughages, such as hay, roots and silage, it is recognized by every progressive dairyman that a sufficient proportion of concentrated feeds is necessary for maximum economy in milk production. The reason for this is that milk is a food that is high in protein, and therefore some feeds must be fed which will supply this protein as economically as possible. It is good economy to use farm-grown grains wherever possible, although these can often be supplemented with still further profit to the owner by concentrated feeds such as gluten feed, bran, oil cake and cotton-seed meal.

Among farm-grown grains in Eastern Canada, oats occupy a very strong position, owing to the large quantity of this crop which is produced annually. Oats are suitable as a feed for dairy cattle of all ages, but are perhaps more valuable as a growing feed than as a feed for milk production. Nevertheless, oats contain a larger proportion of protein than any other farm-grown grain except peas, while the larger proportion of hull which they contain, in comparison with other grains, adds bulk to the feed and takes away that heaviness which is not desirable in a feed for milk production. Moreover, oats are very palatable to all classes of live stock, and for these reasons no other single grain is so satisfactory or can be used with equal

safety with live stock of all classes. The Wisconsin Agricultural Experiment Station reports experiments which show that oats produce ten per cent. more milk and fat than an equal weight of bran, when fed with clover hay and corn fodder as roughage. Bran, however, contains a larger amount of digestible protein than oats, for which reason the bran would be more valuable as a concentrate if it were to be fed in conjunction with timothy hay and corn fodder, since timothy hay is a low-protein, non-milky feed. From the Massachusetts Station comes a report that 4.5 pounds of oats was equal to the same weight of cornmeal for milk production, when the oats were fed with 3.2 pounds of bran and 14.5 pounds of mixed hay.

One of the reasons why oats are suitable for growing calves and young cattle is the fact that this grain combines a good protein content with a considerable amount of ash, both of which are essential for the production of muscle and bone. In addition to these valuable ingredients, the lightness of oats as a ground feed adds to its digestibility. Bulletin 253, of the Ontario Agricultural College, states that during the time the calf is under seven or eight months of age whole oats give equal satisfaction with ground oats, but that after this age the ground oats are preferable for the reason that mastication is not so thorough. At the Iowa Experiment Station it was found that 1½ pounds of oatmeal, when fed along with skim-milk, made as large and cheaper gain than 1.2 pounds of linseed meal, or 1.2 pounds of cornmeal, and .1 pound of flaxseed, when fed to calves over two months old. The feeding value of oats usually warrants its use at a fairly high price, especially for growing animals, but because the demand is very great for oats as horse feed and for oatmeal, it may occasionally be unprofitable to use oats for milk production. Under these circumstances, oil meal and cottonseed meal may provide protein more cheaply, while gluten feed or brewers' grains can be used to add lightness and bulk to the ration.

Corn is not a high-protein feed, although its carbohydrates and fat are present in considerable quantity and are easily digested. While quite palatable for live stock and easily eaten, it is not advisable to use corn as more than half of the grain ration because of its heavy nature and low-protein content. Bran or oats will lighten up a grain ration in which corn is used, and will give greater bulk for the same weight of feed. Thus, at the Maryland Experiment Station it was found that cows gave 33 per cent. more milk and 45 per cent. more butter in one year when the ration consisted of wheat, bran, gluten feed and corn, than when the grain ration consisted merely of cornmeal in the same quantity. Similarly, corn may be fed heavier where high-protein roughages, such as clover hay or alfalfa are fed than where timothy is used. For this reason corn, when used for milk production, has its greatest value when fed along with bulky, protein concentrates, such as bran and oats, and the high-protein roughages such as clover and alfalfa hay. Sometimes corn and cob mea