

horses, and may be used for this purpose. Many object to turnips for dairy cows, but this is a disputed question, and here is not the place to discuss it. They are, however, better suited for fall feeding, while mangels will keep fresh until summer if kept in a proper place.

There appears to be as much difference of opinion among farmers in regard to pitting roots as in the question of harvesting the crop. When turnips are used largely for fall and early winter feeding, it will be found more convenient to have them in the cellar. The mangels, if pitted, may remain there until spring, and can be used at a time when they are most required for the cows. Numerous experiments have proved that mangels are more troublesome when pitted than turnips. Here is a new difficulty to be overcome. Even if they should happen to be well preserved in the pit they decay very rapidly after being exposed to the air. Though turnips will keep for a longer time after coming from the pit, they too will soon decay, and they are not suitable for spring feeding. In pitting roots the principal requirements are a suitable covering, and proper ventilation. An abundance of straw over them will absorb the moisture if they should become heated, and at the same time will serve the purpose of keeping out frost. Only a light covering of soil is necessary at first, to be increased afterwards as the weather becomes colder. Where the weather shows signs of becoming severe, a coat of straw manure will assist in keeping out the frost. In regard to ventilation many root-growers leave the top without any covering, except a few boards to keep out the wet, while others put tiles through the covering at intervals of eight or ten feet. Since pitting roots was first practiced in this country many schemes have been tried for their preservation, and yet every year there is a large portion of the crop lost. With the great amount of labor expended in pitting, it is doubtful whether it pays farmers to raise roots, unless they have a suitable cellar for storing the crop.

Harvesting the Potato Crop.

Owing to the prevalence of the "rot" in the potato crop this season in many sections the work of harvesting is likely to be delayed later than usual. It is a matter of considerable importance how to gather and sort the crop to the best advantage. The potato-digger is used in some parts of the country, especially where potatoes are grown extensively. This implement has given good satisfaction, and is increasing in popularity, as it reduces the labor of harvesting to a minimum. The system of turning the potatoes out with a plow, though more laborious, is still in vogue where the diggers have not been introduced. By this means it is necessary to search for the potatoes either by hand or with a cultivator. If the potatoes are all picked off the top the cultivator can be used to good advantage afterwards, by going over the ground a few times and gathering the potatoes after each cultivation. If the potatoes are to be drawn off the field instead of being placed in pits on the ground, a wagon with a team hitched to it should be kept close to the pickers to avoid carrying any distance. They can then either be drawn to pits or cellar.

This season it will not be advisable to put the potatoes in the cellar at once. They should be placed in small pits, not more than ten bushels in each, and covered with a liberal supply of straw, with just sufficient soil over it to keep out the wet. A few boards may form the top covering to allow ventilation. The potatoes will require sorting once or twice before they are taken to the cellar, in order to keep the disease from spreading. By taking pains in keeping diseased potatoes from going to the cellar with the good ones they will give less trouble during the winter. This is a season of scarcity in the potato crop in many parts of the globe, and those who are able to supply the market with sound potatoes will receive a good compensation.

Machinery at the Western Fair.

If there was a falling off in some of the other departments it was fully made up in the display of machinery. A number of exhibitors were unable to find room in the extensive and commodious building, and were very glad to be allowed the privilege of showing in the open air. Although no prizes are now offered for machinery, the different manufacturers find their goods well judged by the farmers and others in attendance. All the machines shown were of the most improved pattern, and fitted up so as to do away with hand labor as much as possible. Among the new inventions exhibited here was a device for brushing off potato bugs.

Mr. D. Maxwell & Son, of St. Mary's, exhibited a corn and potato weeder, which has been used extensively the past season with satisfactory results. Deering & Co., Chicago, had a new machine for cutting and binding corn, and outside of the hall a simple device for tying corn bundles was on exhibition, each exhibitor endeavoring to explain that his article was the best. A very convenient food boiler was also among the later inventions. Where boiling food is practiced it will be found very suitable. Numerous other new implements were on exhibition, but lack of space forbids our reference to them.

Farming in New Brunswick.

The summer of 1897 will be remembered by the farmers of New Brunswick as one in which they have conducted their operations under exceptional conditions. In April, May and June the weather was unusually cold and wet, and the area of land planted and sown was hardly more than three-quarters as large as usual, and much of the seed that was planted and sown failed to germinate. Rain fell nearly every other day in July; in consequence, vegetation was retarded, and crops that required cultivation had to get on as best they could. Ordinarily, under these circumstances only a very limited crop from the limited area planted could have been expected, especially of corn and roots. Much of the hay is still standing, in consequence of the wet weather that continued through the month of August, but in many sections of the Province the crop is much better than was anticipated, and on the whole it is thought it will exceed the average. The crop of small fruits was light. Fields of strawberries where 6,000 boxes per acre are usually grown yielded only about 3,000, and raspberries, blackberries, gooseberries, etc., were reduced in their production in about the same proportion. Farmers on the St. John and the Kennebecasis who raise tomatoes and vegetables for this market have good crops on the ground they were able to cultivate. Better celery, cauliflower, and cabbage was never shown in any market than is shown here from year to year, and in size and quality those products are as good this year as ever. The crop of apples is light and inferior in this Province and Nova Scotia, and exports will probably be reduced one-half. As is the case in Aroostook Co., Maine, potatoes are badly struck with rust and are rotting considerably; grain of most kinds in some localities is black with rust, and that which is not will be sure to suffer should an early frost occur. Altogether, so far as his crops are concerned, the outlook of the New Brunswick farmer is rather discouraging. There is, however, a good market for the products of the dairy and the poultry yard, and both occupy a much more important place in the agricultural districts of the Province than they did a few years ago. Twenty-five years since there were few thoroughbred cattle in the Province. Now we have many excellent herds of Jerseys, Ayrshires, Holsteins, and Durhams, and grades are kept by the small farmers generally. Yet it is in the cultivation of the soil that our farmers in most instances have made the longest stride forward during the last two or three decades. They save their fertilizers with more care and use them with better judgment. They have found that it is better to raise three tons of hay or 60 bushels of grain from one acre than from three. They have found that there is a good market in the cities and towns for all kinds of vegetables and fruits, and that our soil and climate are peculiarly suited to their growth. They have found, too, that no matter how liberally they use barnyard manures it is advantageous to supplement them with chemical fertilizers in order to keep the soil supplied with those elements essential to vegetation which are lost in the air and retained in the strength, blood and bones of the animals by which it is consumed. To cultivate, cultivate, cultivate, and fertilize the soil judiciously is the secret of success in farming in New Brunswick, as it probably is elsewhere.

St. John, N. B.

H. L. S.

DAIRY.

Fall Management of the Dairy Herd.

The proper management of the herd is very important at this season. In most of the cheese districts it is the custom to have the cows fresh in the spring, and unless great care is now taken the supply of milk will decrease very rapidly as cold weather approaches. A cow usually increases her quantity of milk during the first two months; afterwards the quantity naturally decreases, and the percentage of total solids in the milk increases. It has never been satisfactorily proved that the butter-fat increases with richer food, but the quantity of milk is increased, which, of course, gives a larger yield of butter-fat.

The past summer, in many parts, has rendered extra feeding of the herd almost unnecessary. There is a danger that dairymen may put off feeding too long now, which will result in a serious loss in the products from the herd. As the corn crop is later this year than usual some other food should be used as a substitute. On nearly every farm there is usually a large quantity of roughage in the shape of straw and chaff accumulating around the barn at this season. In order to get rid of it, and at the same time practice economy by feeding the roughage first, many men resort to feeding it to the dairy cows. Although it is certainly economy to feed this coarse fodder first, so that it may not be wasted, it is not wise to feed it without adding some other foods to make a properly balanced ration. There is an abundance of good food this year, which should enable farmers to procure a variety for the stock throughout the entire winter. Hay or oat straw is the best food for the bulky ration. To this may be added mangels or sugar beets, with a small quantity of ground oats and peas; and where the roots are not available wheat bran will be found a good substitute. If the cows are fed a liberal ration of this food during the autumn, the supply of milk may be kept up, and at a reasonable cost.

Successful dairymen say that a dairy cow is a machine for manufacturing milk. If so, the machine should be kept running each year as long as it will return a profit. To make the best use of the food given, it is necessary that the cows have comfortable quarters when the nights become cold. The shelter which a rail fence or the end of an implement shed affords is not an enticing place for the herd to lodge. Though it is not the rule on well-kept farms to practice this plan, experiments have proved that even one night is sufficient to reduce the yield of milk, when the cows have been milking five or six months, so that they seldom return to their regular quantity. By giving close attention to stabling the herd on cold nights, the loss from this source will be materially reduced. Sudden changes should be avoided as much as possible, both in the feeding and other management of the herd. If fall and winter dairying is to continue a success, and there is no reason why it should not, as the price of both cheese and butter is higher at this season, the dairymen should look closely to the requirements of the herd. There is a larger percentage of total solids in the milk now, which means a larger profit to the dairymen, but unless they succeed in keeping up the quantity the profit of the year's product may be seriously reduced.

Ohio State Dairy Test.

In the 24-hour dairy test conducted by the Ohio Experiment Station more cows were entered this year than at any of their previous tests. The result shows a wider range than any single year since the testing began. The Holsteins have, as usual, won the prizes for the highest number of pounds of milk. A red Polled cow produced the largest percentage of total solids. But first premium given for the cow producing the greatest amount of solids not fat in 24 hours was won by a Holstein. The following table gives the result of the test:

NAME OF COW.	Breed.	Yield of Milk in Lbs.	Per cent. of Fat.	Per cent. of Solids Not Fat.	Per cent. of Total Solids.
Tryste.....	Red Polled	42.68	4.42	9.48	13.91
Lucy Nundine.....	Holstein	81.93	3.20	8.30	11.50
Daisy Nundine.....	"	67.43	3.30	8.31	11.61
Weehawken.....	"	51.31	2.70	8.90	11.60
Lill Lehman.....	"	45.43	2.40	9.06	11.46
Winnetka.....	"	47.56	2.40	8.81	11.21
Scottie 4th.....	"	22.25	2.60	8.29	10.89
Buckeye Girl 4th.....	"	61.87	2.90	8.84	11.74
Langtry 4th.....	"	62.50	2.90	8.18	11.08
Mary Hilton.....	"	54.68	3.00	8.23	11.23
Nancy Dewdrop.....	"	72.02	2.80	7.68	10.48
Kate Spray.....	"	62.08	2.60	7.85	10.45
Annual.....	"	63.08	2.80	7.82	10.62

Dairy Products at the "Western."

London exhibition is usually favored with a good display of dairy products, and this year's exhibit was no exception. The quality of the cheese was considered superior to that of last year. There was more uniformity throughout the exhibits. In many cases the scoring was so close as to lead us to believe that the judge must have found considerable difficulty in placing the awards. Had the weather been cooler the cheese might have scored a trifle higher in texture. The silver medal for the best cheese on exhibition was awarded to Mr. John Morriston, Newry, Ont., for a cheese made in the month of August. It scored 95 points out of 100. The special prize offered by D. H. Burrell & Co., Little Falls, New York, for best lot of cheese on exhibition, went to Mr. Geo. A. Boyes, Evelyn, Ont. The lot was manufactured during the months of June, July, and August.

It cannot be said that there was so much uniformity in the butter, especially that made in farm dairies. The difficulty was attributed largely to the food eaten by the cows, which left a bad flavor in the cream. The scoring in this class varied from 92 points down to 50. Of course the latter received no award. Mrs. Burke, Bowmanville, secured the gold medal offered by the Windsor Salt Co. for the best exhibit of dairy butter.

The display of creamery butter was not what might be expected in number of entries, but the selections were, with few exceptions, very choice. It is rather surprising that the bad flavor in the cream was confined almost altogether to the dairy butter. However, such happened to be the case, and the lack of uniformity in butter made in the private dairy is a strong point in favor of co-operation in its manufacture.

Mr. Henry Johnson, Logan, Iowa, U.S., showed a nice lot of Jersey butter put up in cardboard boxes of one and two pounds each. The Strathroy creamery, although not competing, had a very creditable display. The buttermakers of this district have been quite fortunate in securing a creamery and dairy school under Government control. We think there should be more space given to the exhibit of butter, to enable competitors to display their produce to better advantage. The gold medal offered by Windsor Salt Co. for the best display of creamery butter was awarded to Mr. R. P. Bearman, Desboro.

Dairy Utensils.—Every person who possesses a cow is more or less interested in this exhibit. Although cream separators have been in use for some time, many people are still unacquainted with their use. "Let me try to turn the machine," said a visitor to the agent who was telling the crowd how easy it was to operate. After giving it a few turns