

pends much on the good seed, so that the young plants may get off to a good start, with as few handicaps as possible. T. G. RAYNOR.

THE DAIRY.

Milking.

Milking is one of the most important operations connected with dairying, and should receive its due amount of care and attention. It is the final operation, as far as the cow is concerned, in the production of dairy products. Milking is almost a trade in itself, and, while the best dairymen lay considerable stress upon all matters connected with it, a large number do not realize its importance to their business.

Kindness is essential. The cow must not be at any time in fear of the milker. No loud-talking, rough, boisterous person should be allowed to milk the cows, if largest returns are to be expected.

When cows' udders are dirty from mud or mire or other filth collected in the stables, fields and pastures, they should be washed before milking; and a thorough brushing off of the legs, udder and adjoining parts should never be omitted.

Regularity in milking is as necessary to heavy yields as regular feeding. The milking must be systematically done. Milking at five o'clock one morning and eight the next is not in the best interest of the milk business. Let each milker take the same cows day after day. Changing milkers, while not as great a mistake as irregularity, has a marked effect on the flow of many sensitive cows, and the heaviest producers are usually very sensitive, so nothing is gained, and generally there is a loss from the practice.

There is almost as great a difference in milkers as there is in the cows to be milked. Some milk fast, others take more time; some are rough, others are gentle; some wet the teats, while others milk dry. As a general rule, it is always better to milk with dry hands. Any person can do better work this way as soon as he becomes accustomed to it. Milking should always be done as rapidly as possible, without injury to the cow. Some experimental work, carried on at the Wisconsin Experiment Station, and cited in Gurler's American Dairying, showed that, when cows were milked in from three to four minutes, and in twice that time, the yield of milk was not materially affected; but where the cows were milked fast, and especially those cows giving large flows, richer milk was given.

Twice per day, under ordinary circumstances, is sufficient to milk even the heaviest producers. A newly-calved, heavy-producing cow may be milked three times per day to relieve her udder, but long-continued milking more frequently than twice per day does not increase the yield.

The pails used for milking should be specially constructed, so as to prevent dirt from entering into the milk. A small-topped pail is advisable. Wooden pails should never be used, and seamless tin or galvanized iron makes the best receptacle for the milk.

English Shorthorn Milking Record.

Some interesting milk records have recently been issued by H. E. Crawford, of his dairy herd in Kent County, England. Last season was poorer than usual by about 15 per cent., owing to the drouth causing shortness of feed. The cows were fed largely on green crops, having but little pasture. The winter rations consisted of cut hay and straw, dried grains (brewer's), cabbage and mangels. The concentrated feed was from three to eight pounds of cotton and soyabean cake, in equal quantities.

The milk record was of 41 cows, and very various are the results recorded. The best record for the year was made by a Shorthorn cow, "Snowball," which was 50 weeks in milk, and gave a yield of 1,192.2 gallons. Another Shorthorn, in 55 weeks gave 1,030 gallons, while still another gave 1,025 gallons in 41 weeks. A cross-bred gave 943.5 gallons in 40 weeks, and another cross-bred 907 gallons in 46 weeks.

The Jersey "Granny," yielded 734.5 gallons in 46 weeks, while a Jersey grade gave 814.7 gallons in 41 weeks. The best Holstein in the herd gave 755 gallons in 35 weeks.

Amongst the low yielders was a fine Shorthorn cow, which, by appearance, should have been a good milker. Her yield in 32 weeks was 147 gallons; compared with the average cow, this is not a bad yield, but Mr. Crawford says that she will go to the butcher.

The average yield for the 41 head was 692 gallons (about 6,900 pounds) of milk—an excellent showing, considering that there were many heifers in the herd. The milk is retailed direct to the consumer at 32 cents a gallon. At this price, the milk from the best yielder was worth \$381.50, and the average per cow just over \$221. Such figures show that it paid Mr. Crawford to keep milk records. P. DEWHIRSE.

GARDEN & ORCHARD.

Tomatoes for the Canning Factory

The first important factor in the growing of any crop is the seed. There are at present on the market over thirty varieties of tomato seed, and it is up to the packer of canned goods to select for his growers those seeds which yield the most and best in quantity and quality from the particular soil in his locality. Tomato seeds are classified under three divisions: Early, medium and late. From experience, we have found that the varieties best adapted to the land surrounding Essex are Chalk's Early Jewel and Bonny Best for the early varieties. The Earliana, perhaps, is the earliest tomato seed on the market, but it is not adapted for canning purposes, and is more particularly grown by gardeners for the early market. It is a medium-sized tomato, and yields about three hundred bushels to the acre under favorable conditions. The fruit is never solid, but the first two or three pickings are firm enough to be salable. After this the fruit becomes soft and watery, and if you puncture the skin, the whole contents of the tomato will run out. Consequently, this variety is justly condemned by the majority of canners.

The medium varieties of tomatoes grown here are Royal Red, Greater Baltimore, and Success; and the later varieties, Ignatum and Stone.

When purchasing your supply of tomato seed, do not pin your faith to only one variety. Each grower should purchase at least three varieties; then he is in a position in the spring to plant the varieties that will fit in with the weather conditions at time of planting.

The hot-bed for the reception of the seed should be made ready about April the first, and the farmer should plant at least one ounce of seed for every acre he intends growing. If the season is a little late, or if you are late in sowing, you can gain a little time by soaking the seed before planting. When the tomato plants are up about an inch, the hotbed should be thinned out, so that the strength of the earth will not be sapped out by overcrowded numbers, and it would be a very good thing if the farmer would prepare a second hotbed about ten days later than the first, to receive the plants that he is obliged to take out of the first. This will insure plenty of plants, and, if more than required for the grower's use, he can readily dispose of them at about \$3 per thousand.

About May 5th the plants should be taken from the hotbed and put under cotton or cold frames. The cotton should be removed during the warmest part of the day to give the plants light and air. If you propose raising a number of tomato plants for market, for convenience, it is a good idea to run the water pipe so you can connect with hose to give the plants a shower-bath. If plants are growing well, do not water at all, and remove the cotton when it is safe to do so, without freezing the plants. This will stop the growth of the stem and develop the root, and this is exactly the part of the plant that needs to be well developed. Once you develop a good root, the stem will take care of itself.

It is a good idea, while the plants are in the cold-frames, to sprinkle them with a sprinkling can with a mild preparation of Bordeaux mixture, and this will kill any germs or fungus that may have started to develop.

Transplant plants at least once, and the oftener the better, as this retards the growth of the stem and strengthens the root. If you wish to raise tomatoes for the early market, pot your plants and leave them in the pots until about the middle of June, and by the last of June they will have good-sized green fruit, and give you ripe tomatoes about July 12th.

An important point I wish to emphasize is to set plants in the field just as early as weather conditions will allow. Plants should be set from May 20th to June 1st, but in the month of May, not the middle of June. If the spring is cold and backward, or very wet, so as to prevent early planting, do not plant late varieties, such as Ignatum and Stone. And this is where the wise farmer, who has planted plenty of seed of different varieties, wins over the farmer who trusts to one variety under all conditions. If the spring is favorable, and a farmer wishes to plant four or five acres, he should plant at least three varieties, one of late, so that he will be sure to strike a splendid crop from one variety, and very little from all. If he is able to pull all the late variety, he will have a crop which will satisfy both himself and the canner, both in quantity and quality.

Now, in setting plants, if you intend to set by hand, and you are sure there are no cutworms in the soil, the best way is to take a small trowel and lift plant, earth and all, and place in a stone-boat; and when the plant is set in the field it will not wilt down, but go right on growing, without any setback. However, if you are, nowadays, set plants with a tomato planter,

which is a much faster way, although results may not be quite as good. Tomatoes should be planted on gravelly soil, as found along the ridge, or they do well on black-sand ridges, as found in the Elford district, or on clay. I would leave the loam for the sweet corn and pumpkins, and the extra-heavy clay for peas and beans. Fall plowing is better than spring plowing, and tomatoes should never be planted on an old pasture field or sod field, for first crop, as the soil is likely to be full of cutworms, which will eat plants about as fast as they can be set out, and perhaps right here it would be well to state just how to protect the plants and get rid of Mr. Cutworm.

The surest way is to wrap each plant in paper. This looks like a lot of work, but the women-folk at the house can put the cone-shaped papers on the plants and keep two men busy setting in the field. This is the surer way of protecting plants, and then you derive the benefit of early setting, with no time lost; and time in the spring means everything to the plants. Another way to deal with the cutworm is to take bran, molasses and Paris green, mix and make balls, and set these among the plants. But this is rather a dangerous practice if your tomato field is near the barn, as the hens are very apt to find the bran balls first—and mistake them for "high-balls."

Tomato plants should be planted at least five feet apart each way. This looks like a waste of ground, but when the crop starts to mature, you will find the branches of the plants fall over and will meet those of their neighbors. The plant must have circulation of air and sunlight, which is denied it if planted four feet apart, and rotten tomatoes or blight-stricken plants result.

Blight is first noticed by a brown spot on the leaf, which spreads over the leaf, causing it to curl up at the edge, dry, and blow away. Just as soon as this is noticed you should treat the whole field of plants promptly, as this disease spreads rapidly, and will ruin your crop. The treatment is Bordeaux mixture, which you use on your fruit trees, known as 4-4-40—4 pounds copper sulphate (bluestone), 4 pounds lime, 40 gallons water; spray. It is a wise precaution to spray your tomato plants about ten days after you set in the field. The mixture used is very cheap, does the plants no harm, and insures you against loss in this respect.

Another pest which may give trouble is the grasshopper, particularly if your potato field lies close to a pasture field. In case it does, it is a good idea to plant about four rows of corn on the outside of the tomato field and next the pasture field. The grasshoppers will feed on the corn, and leave the tomatoes alone.

In regard to cultivation, keep on cultivating until the fruit is well formed, then cease, and do not disturb the plant while fruit is ripening. If the plant grows huge vines and stays green past the time it should be drying up, it is a good idea to take a sickle and clip the terminal branch and bud.

All tomato crops on any soil can be hastened to maturity by ten full days by the use of a fertilizer particularly prepared. This fertilizer is known as Guano, contains phosphoric acid, nitrogen and ammonia, and costs about two cents a pound. It takes from three hundred to three hundred and fifty pounds to the acre, and should be put in the ground before the plant is set. It is very strong, and if the young plant comes in contact with it, death results. A hole should be made just where the plant is to be set, a tablespoonful or a very small handful of fertilizer be put in, then the earth pulled over it, and the plant set on top of this earth. This fertilizer contains just the food the plant requires to mature the fruit quickly, and no barnyard manure will do the same work.

Tomatoes begin to ripen here about August 20th, and the season usually lasts until the middle of October.

The early varieties yield from two hundred and fifty to three hundred bushels per acre, so that the grower realizes, at 30 cents a bushel, from \$75 to \$150 dollars per acre. As the crop is off in October, and the grower gets his money November 1st, tomato-growing for a canning factory is a quite profitable and satisfactory venture.—Address before Essex Farmers' Club, by W. R. Gray, Manager Essex Canning Factory, reported by G. B. C.

Although home-grown seed potatoes are selling at high prices, foreign-grown potatoes should not be despised for them, warns the United States Department of Agriculture. The following statement on the danger of the American potato crop from the use of reported seed potatoes is issued by the department.

"The general potato diseases not now common in America, which, if introduced, would cause losses of greatly reducing the annual crop of potatoes. Should these diseases become common in the country, the cost of producing the crop might be very greatly in-