

and butter; cause the calves to be much more thrifty—owing to the better condition of the skim-milk; and in various other respects add to the comfort of the farmer, his stock, and the consumer of butter. It has, however, been estimated that at its present price, about \$1.50, it would not be very profitable with herds of less than ten cows. For the benefit of those who have not read our remarks on this machine, or those who would like to hear the opinion and experience of others on this subject, we quote the following from the pen of G. H. Whitchee, Agricultural College, Hanover, N. H.: "I have run a DeLaval Hand Separator for 5 months, morning and night, separating on an average 200 lbs. of milk per day. That it is a complete success no one can doubt if he has ever seen it work. A perfectly steady, uniform speed is easily kept up by either one or two men, as is most convenient. I have repeatedly separated 100 pounds of milk with no help except that of the men who were milking and who keep the milk tank filled up. The following figures may be of interest to your readers: Average time required in getting up full speed of 7,000 revolutions per minute, 2 minutes; time required to separate 100 lbs. of milk, 22 minutes. My machine first took out 20 per cent. of the whole through the cream tube, but I was satisfied that this was too much, so had it adjusted to take out 12 per cent, which in my opinion is about right.

"Our separator is in the grain room adjoining stable. Two men milk, and then separate the cream. The skim milk is immediately fed to calves or hogs fresh and warm, within an hour of the time it left the udder. Instead of having to carry 100 pounds of milk to the dairy room, we only have 12 pounds of cream, and instead of handling ice to cool 100 pounds of warm milk, and then furnishing fire to warm 88 pounds of skim milk from 40 degrees to 80 degrees, we feed this skim milk before it has ever been cooled. I think we get more of the fat out of the milk; we certainly get as much. Experiments are being made on this point. The Hand Separator extracted the cream which made the butter that took first prize at the New Hampshire Dairy-men's Association, Feb. 1-2, 1888. It is a thoroughly practical machine, and but for its high cost would find a large sale in New Hampshire."

Drying Off Cows.

The following novel method is recommended by an English authority:

"Get water from a smithy where iron has been cooled for some days. Give your cows a dose of salts, and two days after, a pint and a half of linseed oil. Warm your smithy water, and bathe their udders three times a day commencing immediately after you give the salts. If the milk is not away in three days, rub the udder with vinegar."

It has been proved that the administration of iron compounds tends greatly to the lessening of the flow of milk. A dose twice a day of one dram of iodine of iron will help greatly to dry up a cow. It is a good thing also to bathe the udder with tincture of camphor and water. If the cow is very hard to dry off feed dry food and lessen the daily ration of water.

Some men are naturally good milkers. They have a firm yet gentle hand and a way of winning the cow's confidence. No man can be a good milker who is indifferent to the cow's comfort, or who is continually startling the animal by hasty words or otherwise.

Garden and Orchard.

Paper on Fruit Growing for Canning Factories.

BY W. BOULTER, PICTON, ONT.

(Read at late meeting of the Ontario Fruit Growers' Association.)

As all fruits used in hermetically sealed cans require to be fully matured naturally before delivering at the factories, the advice given bears more directly in that direction than to marketing otherwise. First, we will take the

STRAWBERRY.

In selecting varieties agents will attempt to show excellence in many new high-priced and untried varieties. I do not nor will I attempt to argue even on the many tried varieties suitable for eating fresh or adapted for different markets. For hermetically sealing, preserving its natural color, flavor and shape, none will bring so much money at my factories or sell for as good a price when put up as the old-fashioned Wilson's Albany. Many others have been tried but none will so far compare with it.

Strawberries will grow on any kind of well-drained soil, provided the season affords the requisite moisture. A sandy or clay loam is the natural home of this plant. Do not confound a moist soil with a wet or springy one; better a dry soil, that would suffer during a drouth, than springy land, as it would generally prove a failure. Land sloping to the south will produce earlier berries, but would not be of any advantage in growing for factory purposes; for early marketing it would have some advantages. The ground must be thoroughly tilled the season previous by a hoed crop, such as potatoes or beans, or early crops, so as to get it off early in the season; then plow as many times as possible before frost sets in, care having been taken to put a heavy coating of manure on before the hoed crop is put in, it is hardly possible to get too much manure on the land, at least thirty wagon loads to the acre would not be too much.

Get good plants from the first growth of the previous year's setting, and particularly from a reliable grower who has kept his patch clean—*be particular concerning this.* The plant must be put firmly in the ground as deep as possible without covering the crown. The small roots shooting out from the main roots of the plant must not be disturbed. Once a plant is firmly set it must not be loosened; if it is, possibly it might recover, but the chances are against it. Cultivation must be attended to soon after the plant is set. Hoe very shallow near it; many hoe too deeply near the plant, cutting off the small roots that should remain. The ground must be cultivated so that no weeds will show themselves. As soon as the ground is frozen hard enough to bear the weight of the wagon, cover your plants with straw about two inches deep—the object is to keep the ground from freezing and thawing with every change of temperature. No particular time for removing the straw in the spring can be given definitely. It should remain on the berries until there is growth in the ground, but the plants should not be allowed to grow under the straw. If your patch has been properly cultivated the previous year as described, keep yourself and everything else off it until the berries are ready for picking, and they will likely be clean and free from sand; strawberries that have to be washed before hulling are nearly worthless for canning purposes.

The same soil that will grow good strawberries will grow

RASPBERRIES.

The land should not be so heavily manured as for strawberries, if it is it will produce a rapid and long-continued growth of canes, which will likely be injured by the frost during the winter.

In reds, a dark colored, firm berry is required. So far with me, as an all round variety, the Cuthbert fills the bill. Many of the new varieties may be equally as good after being thoroughly tested.

In blacks, the Ohios for early and Mammoth Cluster for late have given good satisfaction. Although the Gregg is some later than the Cluster, and Souhegan and Tyler are the earliest so far tried in this locality. *Not many black raspberries are required, there is very little demand for them,* the reds being principally enquired for.

Cultivation—In reds select ordinary-suckers of one year's growth; in blacks, the tips. In reds, set in rows seven feet wide and about eighteen inches in the row, unless party fancies hill culture; from experience I prefer hedge rows. In setting out I run a deep furrow, pressing the dirt firmly about the plants, finish by plowing two furrows on each side of the plants; many loose their plants when the dry weather comes on by not having covered them deep enough. After cultivation is about same as for corn—keep the cultivator moving. Tomatoes can be profitably grown between the rows the first season. Last year Mr. Wallace Woodrow, near here, from two thousand tomato plants, which would fill about three-quarters of an acre, four feet apart, picked four hundred and twenty-five bushels of ripe tomatoes, grown in this manner, besides a large number of green ones, which make splendid feed for cows, increasing the flow of milk. Should a vigorous growth of cane take place the first season, clipping off the ends in August and September will be beneficial. In the autumn plow through the rows, throwing the furrows towards the plants. In the spring cultivate the land thoroughly as soon as it is fit, hoeing them frequently; keep them clean; do not allow them to become matted. Never throw manure under the rows, keep it in the centre so that any weed seeds it may contain can be destroyed by the cultivator. Unlike the strawberry the more you hoe and dig around the red raspberry the faster it fills up in the rows. As soon as berries begin to form cease cultivating. If the season is likely to prove dry, using clean straw is advisable for mulching your ground. Cut out the canes that bore as soon as the berries are picked. Do not let the rows get too wide as they would generally grow so rank as to exclude the sun and air, which will detract much from the flavor. In blacks, as soon as the new growth gets about three feet high, nip off the ends. Shoots will spring out, then nip these off again, and you will soon get a large and vigorous bush. The old cane must be cut off at the ground every year, either after picking or early in the spring. The secret of success in growing raspberries is cultivation. They cannot grow if choked up by weeds or quack grass.

If you are near a factory it will pay you well to put out red raspberries. Much of the cultivation can be done with the horse, although forking up in the spring is a great advantage. So far we cannot get enough of them. If you wish you can fit your ground up early in the autumn, and set your plants in September or October, or before