make an honest effort to deliver sweet cream to the drivers. This can be done by keeping the separator and everything that comes in contact with milk and cream clean. The separator should be regulated to produce a cream testing 30 to 35 per cent. fat, and the cream should be cooled at once to 50 degrees F., or below, which means a large supply of cold water, or water and ice.

There are other suggestions which might be made to remedy matters, such as pasteurization of the cream, more skillful makers, etc., but, in our judgment, these two—more frequent collecting of the cream, and having the cream delivered in a sweet condition—are the two main points.

The average farmer does not produce cream of as high quality as he should, and might, do. The trouble seems, to us, to lie in two directions: indifference, and because it does not pay. When creamerymen devise some practicable plan to reward labor and skill in caring for cream, we may look for a marked improvement, but not before that time. Creamery patrons (men and women) "are but children of a larger growth." We all remember how reward was an important factor for good work in our childhood days, and most of us have not gone very far from those happy days. We have not yet learned to do things because of duty. Will mankind ever reach that golden age? H. H. DEAN.

O. A. C., Guelph.

How to Improve Gathered-cream Butter.

Editor "The Farmer's Advocate":

Butter made from gathered cream should equal in quality that made from whole milk. That it does not, under average creameries, is not a sufficient reason for assuming that it could not. Where patrons and buttermakers co-operate in caring for the cream, each doing his work properly, the product from gathered cream will equal that from whole milk.

Poor conditions have their effect, more or less as to contact, on the good. The price of the best cream-gathered butter suffers because of the inferior quality of the product of the average cream-gathering creamery. Of course, in the local markets, a class of butter called "separator dairy" comes in competition with creamery, due to the introduction of cream separators and the advertising of a number of commission merchants, with their offers of a premium over ordinary dairy, thus affecting the price to some extent. The main cause, however, for lower prices for cream-gathered is its reputation, a reputation sustained by the quality of the average output.

Indirectly, farm separators may be responsible for the inferior product and the consequent lower price. But most directly, the onus should rest upon a number of separator agents, a number of careless buttermakers, and a large number of negligent patrons; the separator agent by instructing the purchaser that the separator required cleaning but once a day, or two or three times a week, also in advocating skimming a thin cream, not over 20 per cent. fat; the buttermaker is to blame in accepting inferior cream, and in not availing himself of the best methods of handling the cream at the creamery; the patrons' share in the responsibility is in sending a thin, sour cream, and in a lack of scrupulous cleanliness. The average per cent. of fat in gathered cream of Western Ontario last year was 22 per cent. (Chief Instructor Hern's report in "The Farmer's Advocate" of January 28th.)

The question right now is how to make cream-gathered butter equal to the best! How? The buttermaker must reject all inferior cream, and pasteurize all cream accepted. The patron must separate a rich cream, testing 30 per cent. fat and upwards. The separator, utensils and surroundings must be kept clean all the time, remembering that in the dairy business, "where there's dirt, there's danger."

It is not altogether price the dairy business needs to-day—prices are good—but a better selection of cows, a more careful study of production and manufacture, that the best quality of butter may be made.

Let us have clean, sweet, rich, untainted cream for our creameries. And, to make more money out of the business, let us make more butter.

Huron Co., Ont. W. G. MEID.

Support Well-managed Creameries.

Editor "The Farmer's Advocate":

Creameries were obliged to accept lower prices for their butter during the first few years after hand separators came into general use. The operator of the hand separator has caused the value of the cream to lessen, on account of lack of knowledge of the effect of varied speed, different temperature, and hot cream poured into the cold cream, to say nothing of separators half washed, and sometimes that only once a day.

As to remedy, it is evident that separators must be kept clean, and in a clean and airy place. Speed must be retained even and high. Milk must be let into the machine slow enough to throw a rich cream, if the cream screw lacks that effect. Standard separators only should be bought; a farmer cannot afford to experiment. Cream separated with ice always was cool and nice. Therefore, after separating cream, it should be treated in the same way, chilled down with ice or water before being put in the cream pail, and then kept in a cool place until called for by the cream wagon.

Sending the cream to the creamery has had the influence of raising the price of home dairy butter, as creamery butter is mostly exported. Therefore, every farmer should help to support any creamery that is under good management. Gathered-creameries can manufacture, and make profits, where the separator factory would fail.

Peel Co., Ont. J. B. SMITH.

Length of Cow Stalls.

Editor "The Farmer's Advocate":

Your length of platform, as given in answer to R. J. M.'s inquiry—4 ft. 6 to 4 ft. 9 inches—would not answer for our cows. The back part of our platform is five feet, and the end by the door is 4 ft. 10 inches, from stanchion to gutter, and our cows are just good-sized Holstein grades. You could put all the manure that accumulates on them all winter in a pint measure, if they were not cleaned until spring. Would say to R. J. M. to make front side of his gutter 8 inches, and the back part 6 inches deep, the floor back of the gutter being two inches lower than the platform. Also make the gutter 14 inches wide. The bottom of manger should be 3 inches higher than where the cows stand, then there will not be any stretching or getting on their knees to clean out the manger. A. W. DeFONG.

Oxford Co., Ont.

The Pure Milk Co. have removed their plant from Welland to Silverdale, Ont.

GARDEN & ORCHARD

Radishes in Succession.

Editor "The Farmer's Advocate":

It costs very little to buy enough seeds for a good-sized garden. Radishes and early onions may be made to grow in such a way as to keep the table well supplied the whole season, and, when taken fresh and crisp from the garden, they have proved to be a real help to digestion.

Radishes soon grow too strong and pithy, and are not fit to use on the table. To be good, they must be planted in rich and well-prepared soil. My way of having a continued supply is to get two packages of seed, one of the small, turnip-shaped kind, the other of the long kind, that are not quite so early, both being of the red variety. I then plant one-third of each package. This is for a small family, but those having large families will find it necessary to plant more. When the early, little, round radishes are about gone, plant again about a third from each paper. By the time the third planting has been nearly used other vegetables will be ready, and will take their place. The ground, however, should be cleared by removing all the waste ones. I have found that hogs relish these very much.

Give the boys five or more square rods for a garden. Let them plant anything they like, but insist on them keeping down the weeds.

Bruce Co., Ont. LESLIE TAYLOR.

Fighting Root Maggots.

Every season finds great damage to garden crops in some localities, due to depredations by root maggots. Onions, cabbage, cauliflower and other crops frequently are destroyed. The eggs from which this maggot develops are laid by flies less than half the size of the common house fly, on the stem of the plant close to the ground, or near the roots of the plants they attack. In two or three days the eggs hatch, and the resulting maggots bore into the stem.

No practical remedy that always gives immunity has been found. Best results, however, particularly with cabbage and cauliflower, have been obtained by the use of tar-paper disks. It is necessary to place a disk on each plant. Take ordinary tarred building paper, and cut in pieces about three inches square. Split them from the center to one side, so that they can be put around the stem of the plant. It is best to do this when the plants are being set out. The disks are pressed close to the ground, and the creosote of the tar prevents the insect from laying the egg on the stem. With a punch for making the hole in the center of the disk, it does not take long to furnish protection for a great number of plants.

Tomatoes for Shipping.

Editor "The Farmer's Advocate":

We grow tomatoes for shipping only, and use the Chalk's Jewel, as they ripen early and evenly, are firm and smooth, and will bear until the frost comes. For our tomato crop, we like a soil that is easily worked and well drained, which has been in a good state of cultivation the previous year. The fall before planting we manure and plow under; then, in spring, we work ground to a nice, mellow condition, and plant out about May 24th to June 1st, according to the season.

We do not plant on the same ground more than twice in succession, as they are liable to rot and disease. The plants are grown by a florist in pots, until they are 8 to 10 inches high, with bloom on, and usually a small tomato. These plants are furnished at three cents each.

In planting, we run furrows about six feet apart, and place the plants four feet apart in the rows, so they can be cultivated both ways. Then they are cultivated every week, and hoed every ten days or two weeks.

This year we are growing part of our plants at home. The florist starts the seed for 50 cents a box, which contains about 500 plants. We got them the last of March, and planted in regular hotbeds, 2 inches apart each way. We will transplant May 1st to 4 inches apart each way, and by May 24th they should be ready to plant in the field. J. W. SMITH & SONS.

Cucumbers, Melons and Squash.

Among the garden crops that cannot safely be sown until danger of frost is past are, cucumbers, melons, pumpkins, and squash. As a rule, the seeds are not put in the ground before the middle of May, and fair crops have resulted from June plantings. In order to catch the early market, some gardeners start plants in pots, or on sods in greenhouse or hotbed, and have stout, strong plants ready for setting in the open as early as possible. A very slight frost injures the plants.

Cultural methods with all of these crops are much the same. A rich, mellow, sandy loam is desirable. If the soil has not been well manured, it is good practice to incorporate some thoroughly-rotted manure in the place where the plants are to become established. Some dig a hole, put in two or three forkfuls of manure, cover this with three or four inches of mellow garden soil, and place the seeds, covering them about one inch.

The distance apart will be regulated by the habit of growth of the variety used. Cucumbers usually are satisfactory at a distance of six feet apart. Musk melons can be sown four to six feet apart, and watermelons or citrons six to eight feet. Bush squash do not need to be more than four feet apart, while the sorts with running vines require at least eight feet. Six or eight seeds are placed in a hill, but no more than three vigorous plants should be allowed to develop.

Thorough cultivation is demanded throughout the early summer. When the vines begin to run freely, perhaps when they are four to six feet long, the ends should be nipped off the main runners, so as to induce the development of laterals, on which most of the crop is produced.

Arsenite of Lime for Spraying.

From the number of letters we have received during the past few weeks from orchardists, more especially in New Brunswick and Nova Scotia, it is very evident that there is much confusion respecting the preparation of arsenite of lime. As a misunderstanding in this matter might lead to a very considerable loss, through injury to the foliage, it is well that one or two of the essential points in the process should be explained and emphasized.

The first step in the process is the preparation of arsenite of soda, by the boiling together of white arsenic and washing soda (carbonate of soda, in crystals). The proportions generally recommended are: White arsenic, 1 pound; washing soda, 4 pounds; water, 1 gallon. A few minutes' boiling usually suffices to dissolve the arsenic and soda, and the result is a solution of arsenite of soda. This cannot be used as a spray, as it is strongly corrosive, and would very quickly strip the trees of their foliage. It must be converted into arsenite of lime:

The conversion of the arsenite of soda into arsenite of lime constitutes the second and very essential part of the process. It may be accomplished in one of two ways, as follows:

1. Thoroughly slake two pounds of good, fresh quicklime, and stir into 10 gallons of water; then pour in, with constant stirring of the lime-water, one pint of the arsenite of soda solution. The spray is ready for use immediately, as the formation of arsenite of lime takes place at once. This spray contains as much arsenic as one made by adding 4 ounces of Paris green to 40 gallons. The above proportions allow for a fair excess of lime, which serves the double purpose of preventing injury to foliage, and of mak-