

Provinces that first-class butter can be made from hand-separator cream, but that, also, a saving of at least 6 to 8 cents per hundred pounds, which would go direct into the farmers' pockets.

If those who are so busy in devoting so much time and energy in condemning the hand cream separator were to instruct the people how to manage a separator, and care for the cream after it is separated, they would be doing some good. But do not think of manufacturing the butter at home; send it to your creamery, where the butter from 100 or 200 patrons can be manufactured and placed on the market a uniform article. Here is just where the hand cream separator has done the mischief, and, after all, the separator is not to blame. Many farmers have tried to take the mean advantage of the high-priced co-operative creamery butter, and, instead of sending their cream to the creamery, they have been manufacturing it at home, and this butter has been placed on the market in a hundred different shades, and of various qualities, some, no doubt, quite inferior. And this, no doubt, has helped to lower the price of our butter to-day in the home market.

C. C. CRAIG.

Prince Co., P. E. I.

The Lambton Creamery Co., of Petrolia, Ont., have made arrangements to operate and finance the Glencoe Creamery for the coming season, retaining Levi Smith as buttermaker.

POULTRY.

The Spread of Poultry Diseases.

Editor "The Farmer's Advocate":

A few years ago, yellow fever was the most dreaded of all human diseases in the States about the Gulf of Mexico. For years it baffled all attempts to discover the manner of infection. People lived in the same houses with those suffering from the disease, sometimes even slept in the same beds with them, without taking the disease; while others, who had not come in contact with diseased persons, were attacked by the hundred. It was finally discovered that the yellow fever was spread by mosquitoes, which bit diseased persons, and then bit well persons, who soon afterwards contracted the disease. Since the Government has taken the matter in hand and killed the mosquitoes, by draining and the use of petroleum, yellow fever is no longer dreaded.

When I was in the university, a report came to the medical department of the institution, of a peculiar disease which was causing the death of many people on one side of a valley in the Rocky Mountains, while no one died from it on the other side of the valley. During the next summer vacation, one of the professors, with others to help him, went to the valley to discover, if possible, the cause of the disease. They found that frequently a person died of it in a family, while none of the other members of the family took it. They were unable to find the manner of infection till they chanced to learn that one of the patients had been bitten by a wood-tick shortly before he was taken sick. Then they observed that the side of the valley where the disease was found was wooded, while the other was not. Investigation showed that the gophers of the valley were dying of the disease; that the wood-ticks bit the diseased gophers, then bit the people, who died of the "spotted fever," as they called it.

Two flocks of poultry have come under my observation that were dying of disease that yielded to no manner of treatment or change of feed. In both cases they were housed in old buildings alive with chicken lice. I am thoroughly of the opinion that the lice carried the disease from fowl to fowl.

Typhoid fever is always spread by food and water; in cities, by sewerage getting into the water supply; in the country, by underground drainage from outhouses to wells; and perhaps the greatest spreader of this disease is the common house fly, which walks across the stool of persons coming down with it, and then lights upon the food placed upon the table for other persons to eat.

Bowel diseases are spread among fowls by eating food which has fallen upon the droppings of diseased fowls. Other diseases are spread by the drinking water. It is astonishing how many farmers keep fowls for the winter in a building where the droppings accumulate till spring, the fowls' food being thrown down upon the droppings. A disinfectant should be put into the drinking water, especially where there are any signs of roup. I have tried several. The best method I have found is to put a little permanganate of potash in the water, as it is a good disinfectant, and nearly odorless and tasteless.

Alberta.

W. L. THOMAS.

Housing, Feeding, and Breeding.

"Housing, Breeding and Feeding of Poultry" is the title of the transcript of the evidence of A. G. Gilbert, Manager Poultry Division, Central Experimental Farm, before the "Select Standing Committee" of Parliament on Agriculture and Colonization, 1907-08, an advanced copy of which has just reached us, bearing date 1909. Why this should not be available until over a year after the evidence was given, is one of those things that must be laid at the door of the slow-coach Government printers. However, the address given by Mr. Gilbert, with replies to questions asked, supplies much information, and may be obtained in pamphlet form on application to Mr. Gilbert, Central Experimental Farm, Ottawa. We would not, however, advise any who entertain reverential regard for Parliamentary representatives to read this evidence for the puerile questions asked Mr. Gilbert by certain members of the Agricultural Committee make the didactic portion of the address read like an elementary lesson to one of the lower forms of the public school. It is really a good thing that the Agricultural Committee has some specialists to enlighten it on the subject of agriculture, but "The Farmer's Advocate" begs leave to suggest that if some of the members were to regularly read the agricultural press, they might be in a position to question the speakers with some semblance of intelligence.

Trap-nesting Hens.

Two years ago, the North Dakota Experiment Station began establishing laying records of hens by means of trap nests. For some years the Station has kept a good laying strain of Barred Plymouth Rocks. The results obtained the first year were very striking in the great variation in egg yields among the birds. In a flock of forty pullets of the same breeding, the poorest layer had 71 eggs to her credit, while the champion hen registered a total of 212 eggs. The poorest-laying bird received exactly the same care and feed as the best layer, and laid only one-third as many eggs. The hens holding the highest records were not the largest, nor yet the smallest, in the flock, but were of medium build, and carried no superfluous flesh. They were vigorous and alert in appearance, with every evidence of a strong constitution.

The second year of trap-nesting included a greater number of birds, and a much wider variation in records was found. The leading hen had a record of 229 eggs.

The practice of trap-nesting is not yet to be recommended to the average poultryman, owing to the expense entailed in furnishing special nests, and the extra labor involved. It is probably of value, however, to the special breeder of poultry who is attempting to produce a heavy-laying strain of fowls, as a means of eliminating unprofitable layers. The trap nest is being used by quite a few poultrymen at least a portion of the year for this purpose.

White Leghorn Record for Five Months.

Editor "The Farmer's Advocate":

On December 1st, 1908, I started with thirty-six June-hatched pullets, and fourteen hens, and for December they laid 287 eggs; January, 479; February, 663; March, 892, and April, 892. These sold for 30 cents per dozen until March 15th, and down to 20 cents on last of April, making \$73.77. They ate \$33.00 worth of feed, leaving \$40.77 profit. On March 15th I sold four hens, and on April 24th, 12 hens; and two have hatched chickens. GEO. EASTON, Jr.

Nipissing District, Ont.

GARDEN & ORCHARD.

To Repel Cucumber Beetle.

The following, from Country Life in America, may be worth trial: "Some years ago I read that the planting of a few beans in each hill of cucumbers, or other vines that are subject to the ravages of the striped beetle, would keep the pests away, owing, it was stated, to the peculiar odor of a young bean plant being disagreeable to them. It was with considerable scepticism that I discarded screens and insecticides from a part of my vines, but, after five or six years' trial, I am satisfied there is considerable merit in the plan. For some years my vines have been practically free from this pest, and in no year since I adopted this method have I been troubled so much as previously, or as my neighbors now frequently are."

In avoiding damage by cutworms, some gardeners advise surrounding the stems of cabbage, cauliflower, tomato and other plants with manila or butchers' paper, to prevent cutworms from eating the tender stems. It takes only a few minutes, costs little, and in some cases saves the labor of replanting and the cost of new plants.

Hints on Tomato Culture.

Editor "The Farmer's Advocate":

When dealing with the growing of tomatoes, we are discussing an industry that has practically developed in modern times, one that has developed rapidly, until it has reached a proportion little dreamed of by many. The rapidity and extent to which the canning-factory industry has grown has been a great stimulus to the production of tomatoes. Farmers, in sections where the tomato was little known a few years ago, are now producing it by the acre as a regular crop on their farms.

When selecting a spot for a tomato patch, avoid poor land. Soils that are not in good condition will produce small, badly-shaped and wrinkled tomatoes. Sandy or light-clay loams, if well drained, properly fertilized and cultivated, give the best results. Have the soil prepared as soon as possible in the spring. It will then warm up much earlier, and cause a great many of the weed seeds to germinate, and these are easily destroyed by a stroke of the harrows just before planting. Where stable manure is the chief fertilizer used for enriching the soil, it is well to manure heavily, for the crop preceding the tomatoes. Avoid using a large quantity of fresh manure for tomatoes, as it fosters a rank, soft growth of plant at the expense of the fruit, the latter often suffering considerably from rot.

The foundation of success in tomato-growing, as in other crops, rests in good seed. Where seed is purchased from seedsmen, the grower has no control, and must accept what is placed on the market; but if home-grown, a system of careful selection will result in marked improvement in the yield and quality of the crop. Selection should commence with the plant. Pick out the plants showing vigor, productiveness, and a noticeable degree of quality in the product. From these, pick the best specimens, after they have become thoroughly ripe, and remove the seed.

The Earliana holds a foremost place among varieties grown for early-market purposes. This is closely followed by Chalk's Early Jewel. This variety is growing in favor as an early canning-factory tomato. Matchless, Success and Stone are among the desirable varieties for a general crop. The latter is a splendid tomato, but requires a long season in which to mature the bulk of the crop.

Hotbeds are almost entirely used for starting the plants in this section. Varieties intended for the early market are sown from the first to the middle of March. For general crop and canning-factory purposes, from the middle of March to the latter part of March. The plants should be kept growing steadily all the time; avoid too much forcing, followed by a severe check, in order to hold the plants until the conditions are favorable to set out in the open. Allow sufficient room to grow a moderately short, sturdy plant, as one that has become elongated through overcrowding in the bed will prove very unsatisfactory when transferred to the field, such a plant being liable to sun-scald or break off with the winds.

If the weather appears favorable, transplanting to the field usually begins from the 20th to the 24th of May. A short time before commencing to transplant, it is well to soak the beds to the lower extremities of the roots. One will then be able to take up the plants with a considerable amount of earth adhering to each. This will assist the plant in obtaining a foothold in its new position. Set the plant a little deeper than it was in the bed, especially so if it is inclined to be lengthy. A plant with a long stem above ground is often tossed about by the wind until it becomes broken off. A tomato plant, when set out in the field, requires from 15 to 20 square feet of space for proper development. Some growers set out the plants 4 x 4 ft., others 5 x 3 ft. or 5 x 4 ft., according to the variety. The system whereby we have the 5-foot space, I consider to be the more advantageous. This wider space enables one to keep up the cultivation a little longer, and will be found very acceptable when picking time comes. The danger of tramping down vines and tomatoes is much lessened. Tomatoes require considerable moisture at ripening time. It is well to provide for this by frequent cultivation, at the same time keeping weed growth in check. When hoeing tomatoes, keep the soil well tilled about the plant, and see that its branches distribute themselves on all sides. Do not allow them to clump together in a tangled mass in one direction.

Among the enemies most injurious to the tomato are the potato beetles and large tomato worms or caterpillars. If these are found to be doing serious injury, spraying and hand picking may have to be resorted to. Keeping the vines well distributed on all sides of the stem, and spraying with Bordeaux mixture, will help to prevent the ravages of rot. It is advisable to provide for a surplus of plants over what is required for setting out the patch, to be used for filling in, as the cutworm and borers often destroy a considerable number of plants, and, if these are not replaced, a decrease in the yield per acre will result.

W. E. A. PEER.

Halton Co., Ont.