

Testing Dairy Herds.

The Department of Agriculture, Ottawa, has for some time been recommending the establishment among Canadian dairy farmers of co-operative testing associations, somewhat similar to those which have had such a marked effect in increasing the milking capacity and reducing the cost of production in Danish dairy herds. Under the direction of the Minister of Agriculture, an object lesson along that line is now being given in the district about Cowansville, Que., with the Government Cool-curing Room as the center where the testing is done and the records kept. Arrangements have been made whereby 82 farmers in the vicinity undertake to keep accurate records of the daily milk yield of each cow in their herds. Samples of both morning and night's milk are taken three times a month and tested for butter-fat at the cool-curing room. The milk-record sheets are collected monthly, and these are compared with the books of the cheese factories to which the farmers send milk, so that a fairly efficient check on accuracy is provided. Some 1,450 cows are concerned in this Cowansville cow census, which shows that the large dairymen of that district are alive to the importance of weeding out the unprofitable producers. This testing association is, as yet, merely in the experimental stage, but if it works out satisfactorily, it will doubtless lead to a considerable extension of the movement.

W. A. CLEMONS.

Remedy for Hard-milking Cow.

To the Editor "Farmer's Advocate":

Having seen many enquiries in the "Farmer's Advocate" for a remedy for hard-milking cows, I give you the plan I use, and if properly done, it is a perfect cure. It is this: Slit the teat a little at the outlet. To do this, use the small blade of a common pocket knife. Take the teat in one hand as if about to milk, with the milk forced down to the end of the teat; stick the end of the blade in the outlet, and with a quick movement force the blade into the teat not more than a quarter of an inch. If the blade is wide enough, the work is done; if not, give it a little pull toward the edge. If the cow still milks too hard to suit you, repeat the operation in a week's time, turning the edge of the knife the opposite way to what it was used first time. Just before milking is the best time to operate. "Will it bleed?" Only a few drops. "Won't it make the teat sore?" Not to interfere with milking. Only, in stripping the cow, the milker should not let his finger slip down over the end of the teat until the wound heals—a matter of four or five days' time. The operation is simple, anybody ought to be able to do it, and I have found it a sure cure.

J. H. D.

Welland Co., Ont.

GARDEN AND ORCHARD.

Attention is directed to the offer in the Home Magazine department of cash prizes for the best amateur photographs sent to Farmer's Advocate office before Oct. 1st, 1904.

Fertilizing and Hardiness.

The effects of the past severe winter on fruit trees, resulting in the loss of a great number by winter-killing, suggests the question, "What effect may fertilizers have upon the hardiness of a fruit tree?" Will not the use of too large a proportion of nitrogen have a tendency to promote a late and succulent growth that will make it more liable to injury from severe low temperature? The skillful, intelligent stock-feeder can tell you what constitutes a balanced ration for the animals he is feeding. But it is a much more difficult problem to solve what would be a balanced ration for a fruit tree, bush or vine. We have to consider the elements of fertility already in the soil, and the amount that may be made available by proper cultivation and the furnishing of sufficient humus. The variations of soil are such that no two orchards might need exactly the same treatment. For apples and pears, potash is no doubt the most important, while plums require a larger proportion of potash. It is generally conceded, however, that for fruit plantations, potash and phosphoric acid are the most important elements. Potash constitutes a large proportion of the ash of the wood of the apple, pear, cherry and plum, and more than fifty per cent. of the ash of fruit, and it also forms the base of the fruit acids, while phosphoric acid is required for the formation of the seed as well as the proper nourishment of the tree, and also to ensure the proper ripening of both wood and fruit.

This question of fertilizing so as to provide a properly-balanced plant food, is a problem for the fruit-grower to study carefully, and the thoughtful, intelligent man will learn much from close observation.

If the foliage is pale in color, and the growth puny, it indicates lack of fertility, or moisture, or

both. There may be a lack of nitrogen, which the plowing in of a clover crop and thorough tillage may supply. If, on the other hand, there is a rank growth of wood and failure to fruit, and a considerable amount of injury from severe winters, it is probable there is an excess of nitrogen, and the fertility applied subsequently should consist largely of potash and phosphoric acid. Lime is a constituent that is seldom considered in fertilizing fruit, and its importance is overlooked. Its use is particularly indicated in the case of stone fruits. Soils that are deficient in lime are not likely to produce satisfactory crops of fruit. Its function is to strengthen the stems and woody portion of the tree; to shorten the period of growth and hasten the time of ripening. Fruit trees growing on soils that are rich in lime have

When orchards are bearing well they must be fertilized in proportion, or they will soon begin to fall. Many of our orchards are starved, and we wonder what ails them.

And along with proper fertilizing, of course, there must be pruning, cultivation and spraying. If we can by thought, study and experiment get to understand the proper fertilizing of our fruit trees, we will not only add to the profits in the increase of quantity and improvement of quality, but will suffer less from losses and damage in seasons of unusually low temperature, like the one we have just passed through, and that has caused extensive damage to the fruit trees throughout the country.

Sow a Cover Crop.

Where orchards have received the cultivation all season that should have been given them in order to promote growth of wood and fruit by the conservation of moisture and liberation of plant food, the question of cover crops now arises. Referring to this subject, the horticulturist of the Central Experimental Farm, Ottawa, Mr. W. T. Macoun, says that the importance of a covering for the soil was strongly impressed on him after the winter of 1895-96, when many trees were root-killed at the Central Experimental Farm. Since that time the subject has received much attention by his department. The main uses of the cover crop are: to hold the snow in winter, and thus protect the roots of the trees; to furnish vegetable matter to plow under in the spring for the purpose of obtaining humus and nitrogen; and to act as a catch-crop in autumn to prevent leaching of plant food made available during the summer. Mr. Macoun recommends cultivating the soil until near or about the middle of July, when the trees have made most of their growth, and do not need so much moisture, then seeding down to common or mammoth red clover, sown broadcast, at the rate of twelve pounds per acre, or with hairy vetch at the rate of thirty to forty pounds per acre. Sown at that time, these plants usually make a good cover by autumn. At the Central Experimental Farm hairy vetch was sown on June 18th, 1903, in drills twenty-eight inches apart, at the rate of twenty pounds per acre. These received two cultivations, and by the end of the first week of August the plants were meeting between the rows.

By sowing earlier, as in this case, a better stand may be obtained, and by cultivation moisture is conserved while the plants are getting established. Twenty pounds per acre sown in this way were found quite sufficient to make a good cover. There was practically no injury from mice where cover crops were used, as their depredations were prevented by using either ordinary building paper or wood veneers. No fruit-grower should neglect having a cover crop, as fine a bearing orchard in bare soil might be destroyed, which would have been saved had there been a cover crop.

The seed for the cover crop should be sown, if possible, when the ground is moist, as in the summer the seed will germinate quickly if there is moisture. After the seed is sown the land should be rolled, as this will bring the moisture to the surface and about the seed, and hasten germination. It is important to get growth started in good time, as there is sometimes a protracted drought in July and August, which prevents germination and spoils the prospect for a good cover crop. In districts where the conservation of moisture is important the cover crop should be turned under as soon as possible in the spring, and in some parts plants which are killed by winter are preferred, as there is no loss of moisture through them in spring. Leguminous plants are, on the whole, best for cover crops, as they take nitrogen from the air, but often oats and rape are used to good advantage.

About Strawberries.

If the proper course has been followed, and a new plantation of strawberries established, there is nothing more to be gained by keeping the old plot longer. It should be plowed up at once, and the land worked into condition for next year's crop. Strawberries should be renewed every year, as it seldom pays to take more than one crop from a plantation, but that crop should be the second year, all bloom forming the first year being removed and the plants well cultivated to keep them growing.

What our Subscribers Say.

I have been very busy lately, but not too busy to read the "Farmer's Advocate," the best paper on earth of its kind. I do not want to be without it. Wishing you every success. GRANT CRAWFORD. Prince Edward, Ont.

I am quite pleased with the change to weekly visits of the "Farmer's Advocate." It is an improvement. Whithy, Ont. ALBERT E. TINK.



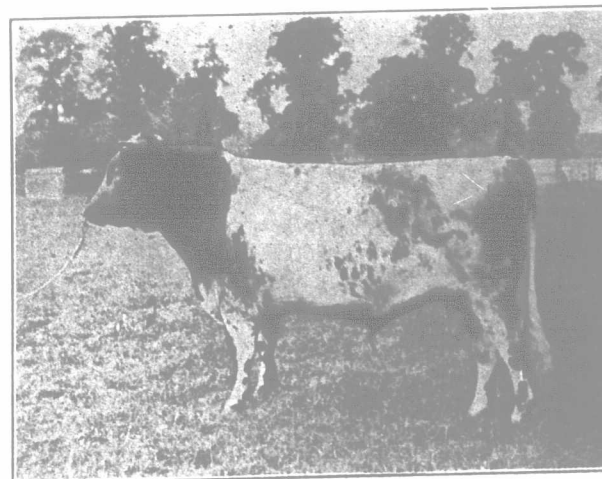
White Heather.

Champion Shorthorn Cow, Royal Show, London, Eng.

a stocky, steady, healthy growth, and the fruit ripens and colors well; while those growing on soils where there is a deficiency of lime usually have a later growth, the wood does not mature and harden properly, and the fruit does not ripen well.

However, lime is not an expensive element. A dressing of twenty-five bushels to the acre once in four or five years would supply the need fairly well. In good hardwood ashes, dry and unleached, we have one of the very best orchard fertilizers, for it contains potash, phosphoric acid and a large percentage of lime. A good sample of hardwood ashes will contain from five to nine per cent. of potash and two to three per cent. of phosphoric acid, and the residue is principally lime. When a grower asks what he should apply to his land, he asks a question which no one can answer with any certainty. He should try to solve that question for himself. But with the facts already stated as to the effects of certain fertilizing materials upon fruit trees, we might summarize in a sort of general statement as follows:

Potash should be paramount in all fertilizing of fruit plantations of any kind. Hardwood ashes is probably the cheapest source of potash and phosphoric acid, and we might add lime. There are many soils that would be benefited by an application of lime. Clays and clay loams usually contain a good supply of potash and phosphoric acid, but to make it available two things are necessary—thorough tillage and the introduction



Elvetham Conqueror.

First-prize Yearling Shorthorn Bull and Reserve for Championship, Royal Show, London, Eng., 1904. Property of Lord Calthorpe.

of humus. Nitrogen can be most cheaply applied by the plowing in of leguminous crops, such as clover, and humus is furnished at the same time. If the wood growth is rank and does not harden and mature well, does not bear fruit, or if it does and the fruit does not color and ripen properly, the treatment should be less nitrogen and more potash and lime. The use of potash is particularly indicated for sandy soils.