

The Orchard as Part of a System of Mixed Farming.

BY G. C. CASTON.

It is generally the case that where any considerable quantity of apples are grown, the bulk of them are handled by buyers who pay about an average price of \$1 per barrel in the orchard. Under this arrangement the grower picks the fruit and leaves it in piles in the orchard. The buyer brings his barrels and packs and grades the fruit, and the grower then delivers them at the nearest railway station. Sometimes in years of scarcity higher prices are paid, but the price paid is not often much above \$1 per barrel. With a good yield and a good sample even this apparently small price would be quite remunerative in a well kept orchard, and is no doubt quite satisfactory to most of the growers who dispose of their fruit in this way. It saves them the trouble of looking for a market for it, or of carrying it till danger of frosts makes trouble, or carrying all or part of it over winter till spring when better prices prevail. More or less loss occurs from spoiling during the winter, even among the best kinds. All this trouble is avoided by selling *en bloc* in the fall, and the grower gets his money all in a lump, as they say.

But I see no reason why the farmer, who, with a snug little orchard as part of his system of mixed farming—one producing say from 50 to 100 barrels of surplus fruit for sale—should not market the fruit himself, and save to himself the profit that the buyer or middleman makes. For fruit, like many other commodities, passes through too many hands between producer and consumer. The middlemen often make a larger profit on the fruit than the grower, and still making the price high to the consumer. The first thing to consider is the kind of fruit to grow, always remembering that an apple of good size and color, free from fungus or other blemish, and of good flavor, is always sure to bring the highest price, and if an orchard already in bearing is not producing apples of that kind, proceed to top graft it with the varieties that bring the highest price, and which are in the greatest demand, while the trees are yet young and vigorous. I have given a list of varieties before in former articles, which I consider advisable to grow; but it may not be amiss to repeat it here, as I deem this matter one of great importance. For early, Duchess; for fall, Alexander, Red Beitigheimer and perhaps the Calvert, a good fall cooker—good for shipping to the Northwest; and for winter, Pewaukee, Wealthy, Golden Russet, Baxter or La Rue, Northern Spy, King and Greening, the last three to be top grafted on hardy stock. I might add the Spitzenburg and Seek-no-Further, both of which are all right in point of quality, but shy bearers, and, of course, not so profitable as others I have mentioned. Then as to the picking and packing. This is a very important matter, and must be properly performed, or else all other work will be in vain. Fruit that is expected to command the top price must be carefully hand picked and selected; every specimen must be perfect and the size as near uniform as possible throughout the package. And just here I may remark that it seems hard to get the average farmer to exercise the same care with his fruit as he does with his grain or potatoes. He does not think of taking these to market without first extracting the inferior stuff. He tells you that it pays him better to keep the poor stuff at home and feed it than to try to sell it among the good, and lose on the whole lot. This is sound reasoning and good logic. Let him apply it to the marketing of his fruit and he will find that it will work to even greater advantage than in the case of other products.

[TO BE CONTINUED IN NEXT NUMBER.]

Dairy.

How Shall we Improve our Dairy Herds?

BY W. J. PALMER.

The average dairy farmer does not, as a rule, take into consideration what a great share his cows have in determining whether his profits shall be great or small at the close of the year. Although much has been written and said during the last few years in regard to the handling of milk and cream, the making of butter and cheese, and the use of improved appliances with which to make these articles cheaper and better, still the very foundation stone upon which the dairyman must necessarily build his future success—yes, and his present success also, has, until the last year or so, been comparatively little understood except by dairy scientists. I refer to the dairy cow. This is chiefly due to the fact that until very recently there have been no accurate tests within the reach of the farmer by which he could determine whether his cows were paying for their board, or simply boarding at his expense. Much has been written on the individual points of good dairy cows, and on the best foods for milk production; but the farmer needs more than this. He should understand how to test his cows, to find out which are bringing him in a profit, and which are kept at a loss. Thus he can gradually weed out the unprofitable ones and greatly increase his ultimate gains.

The profits in dairy farming, whether devoted to the making of butter or cheese or the sale of milk, must necessarily depend largely on the kind of cows that are kept; not on the breed alone, but on the individuality and producing power of each cow in the herd. Each separate breed, however, has its own distinct characteristics, and the dairyman should consider what he requires before introducing new blood into his herd. To make butter or cheese at a profit we must have cows that will produce milk rich in the elements that go to make up these products, at the same time consuming the least amount of food.

It is computed that there are about 800,000 cows in Ontario, and that the average cow produces about 3,000 lbs. (300 gals.) milk per year. It will take at least 25 lbs. of this milk to make 1 lb. of butter, or a total of about 120 lbs. butter per year for each cow. Taking this at 20c. we find a return of \$24 per year for each cow—very little, if anything, over what it cost to feed and care for her. Or reckoning 10 lbs. of milk to 1 lb. cheese, the milk from each cow would make 300 lbs. cheese, which at 10c. would bring in \$30, still a very small return, especially when the amount of fertility sold off the farm in the 300 lbs. cheese is considered. While the average cow in Ontario is said to give only this amount of milk, there are many cows that give much heavier yields, while some do not give nearly that amount. The Americans are somewhat afraid of us in this respect. There are many herds across the line which a few years ago produced not more than 120 lbs. butter per year per cow, but which have been so improved that they now produce from 250 to 300 lbs. and over; and how is this done? Simply by careful and systematic breeding and feeding, and by gradually weeding out of the herd all those cows that do not produce a certain amount of milk of a certain quality.

During a trip through portions of Ontario this summer with the Travelling Dairy, I was especially struck with the lack of knowledge among the farmers as to what their individual cows were producing. Some seemed to think it necessary to keep a certain number of cows in the herd to keep up the supply of milk, regardless of the fact that some produced double the quantity of milk with the same consumption of food. By the use of the Babcock test (the practical value of which is now thoroughly proven) we tested at our different meetings nearly 500 samples of milk from as many cows, which showed all the way from under 2 per cent. to over 8 per cent. of fat. A cow giving milk testing as low as 2 per cent. fat would hardly prove a very profitable butter cow, or cheese cow either, unless the owner was making "skim cheese." Still the owner of that cow was keeping and feeding her with the rest of his herd in blissful ignorance of the fact that she was "eating up," and not "adding to" his cash returns. Many people seem to think that the quantity and quality of the milk is regulated altogether by the feed, no matter what the cow is like. Feed certainly does exert a great influence in increasing the quantity of milk, and the quality also to a lesser extent, but the cow must have the ability to apply her food to the production of milk or she will make use of it in some other way, with the result that the milk pail suffers.

The question now arises, how are we to handle our dairy herds so that their productive power will gradually increase from one generation to another? My answer is, weed out all the poor cows systematically, and keep only those cows that produce at least 5,000 lbs. of good, rich milk per annum—milk that tests from $3\frac{1}{4}$ to 4 per cent. fat, and gradually raise the standard till every cow in the herd gives her 6,000 lbs. milk per year. Cultivate the "habit" in the cows to milk 10 or 11 months in the year instead of six or seven, and the profits will be greatly increased. It is not a very difficult matter nowadays to find out which are the unprofitable cows by the use of the Babcock or Beimling test. This can be done at a very small cost. Even those who are supplying milk to cheese factories will find it to their advantage to "grade up" their cows, for in a very short time milk delivered at cheese factories will be paid for according to its quality, to a certain extent at least. Supposing a number of farmers clubbed together and bought one of the testers. They could keep it at some farm house centrally situated, and take samples of milk from their different cows, say once a week, and test them, to find out the percentage of fat. Then by weighing the milk of each cow and knowing the percentage of fat, it can easily be calculated the amount of butter each cow will make in the course of a week. Balance that against the food consumed and it can be roughly calculated whether the cow is profitable or not. Of course, there is the skim-milk and manure to be placed to the credit of the cow also. Then having found out which are the best cows in the herd give them good nourishing food and breed them to some good thoroughbred dairy bull. The calves from such cows if well fed and properly cared for will turn out profitable dairy cows—cows that will help their owner to make a success of his business.

In regard to taking samples of milk it has been clearly proven at the Illinois Experiment Station, and also at the Guelph Experimental Dairy, that just as accurate results are obtained by making a weekly test of a "composite" sample of milk of each cow as by making daily tests. This composite sample can be obtained by putting in a bottle (a quart glass pint jar is a convenient receptacle) a small quantity of the milk given by the cow each day. At the end of the week the jar contains a mixture of the milk given during the seven days, and a test of this mixture will give the same results as the average of seven daily tests. The jars must be kept in a cool place so that the milk will not become very sour and thick.

Both the Babcock and Beimling tests are very easy to manipulate, but the former is generally preferred owing to its being the simpler of the two. Any person with an ordinary amount of brains can manage this test successfully after one or two trials.