

cows up without the services of a dog. As a rule cows will head for the barn the moment they see the dog, but when they do not see him they slowly pick their way homeward. This is aggravating, especially when a person is in a hurry or the grass is wet in the morning, consequently there is a strong temptation to dog the cows. A good dog is valuable on every stock farm, but he should be trained to round the cows up quietly and not run them. Some dairymen who keep daily records claim that when cows are driven rapidly the milk yield is decreased by several pounds. The average production of many herds is low, due to failure to cater to the cow's comfort and to provide sufficient feed at certain seasons of the year. It pays to keep up the milk flow during mid-summer. If it drops then, the best of feed and care later will not bring it back to normal.

POULTRY.

Mites.

Red mites frequently become a serious pest of the poultry house in warm weather. They hide in cracks and crevices of the perches and nests and attach themselves to the birds' bodies at night and lower their vitality by sucking the blood. As a rule the mites leave the birds in the morning, consequently dusting is not so effective as for the hen louse. These tiny, red insects can be controlled by spraying the pen, roosts and nests in particular once a month during the summer with kerosene to which has been added sufficient carbolic acid to make a five per cent. solution. The work should be done thoroughly, as a small place escaping the oil may become a breeding place. Keeping the pen clean will go a long way towards preventing it becoming infested with mites or lice. Poultry cannot do well if bothered with vermin.

More Than a Maintenance Ration Required.

Some claim that there is money in keeping poultry on the farm while others are positive there is not. Feed was exceptionally high in price last winter, but so were eggs, however, more than one farmer has admitted that he fed a limited ration to the hens and could hardly expect to get eggs. It is a question whether this system was altogether justifiable. It requires so much feed to maintain a hen whether she is laying or not. In many cases a trifle more feed or a little more attention would have resulted in eggs being produced. On the small ration there was no production and the hens will have to do extra well this summer to make up for the idleness during the winter. But, feed is still high, consequently there is considerable complaint that the production is low for this season of the year. Under these conditions poultry is kept at a loss, but is it entirely the fault of the fowl? An extra dollar's worth of feed might have given a dollar-and-fifty-cents' worth of eggs.

Regularity in feeding is also essential. On one farm that came to our notice the birds refused to lay and were considered a bill of expense. After hearing an address on poultry raising one member of the family took entire charge of the poultry. The pen was cleaned and fresh litter placed on the floor. The ration was not increased in quantity but the grain was buried in straw and the hens were forced to work for it. A mash was fed at noon and a supply of water always kept in the pen. Grit and shell were supplied and green feed of some kind was fed every day. By a little extra attention and rearranging of the system of feeding, but with little extra expense for feed a few birds commenced laying within a week, and by the end of a month there was a fifty per cent. production, which increased to seventy-five per cent. early in April. This goes to show that there is something more to feeding poultry than just throwing in a little grain.

It is a well known fact that a pullet must reach a certain stage of development before she will commence laying, and that if this stage is not reached before cold weather sets in production is not likely to start until late in the winter. Feed for growing chicks is even higher than it was for the hens during the past winter, and we know of cases where the chicks are not being fed enough to develop them rapidly. If eggs are to

be gathered next winter it is essential that the pullets be well fed, especially as many were hatched rather late in the season. Wheat and cracked corn make a good grain ration while shorts can be used for the mash. If skim-milk or buttermilk is available use it in mixing the mash. If it cannot be secured mix a little beef-meal or beef scrap in the mash. If you cannot see your way clear to feed more than a maintenance ration to the fowl you had better dispose of them. However, on some city-lots, farms, and commercial poultry plants where all feed is purchased hens have made a substantial profit over and above cost of feed labor, etc., thus proving that it is possible to make money out of poultry which is properly looked after.

The Canadian Egg Market.

The egg and poultry markets report issued by the Live Stock Branch, Dominion Department of Agriculture, for the week ending June 19, gives the ruling price for extra quality eggs in Western Ontario as 31 to 35 cents; Eastern Ontario 31 to 36 cents; Quebec, 31 to 34 cents; Manitoba, 28 to 30 cents; Prince Edward Island, 29 to 32 cents; Saskatchewan, 28 to 30 cents, and Alberta 25 to 27 cents. During the same week the wholesale price to retailers in Toronto, for the same quality eggs, was 37 to 38 cents; Montreal 36 to 37 cents; Vancouver, 35 to 39 cents; Chicago, 29 to 30½ cents. The retail price to consumers in Toronto and Montreal was 40 cents; in Charlottetown, 30 cents, and in Vancouver 45 cents. Toronto reports that weakness has developed during the past week in the egg market; in fact, all markets from the Pacific to the Atlantic show a tendency towards lower prices. While prices to producers ranged from 30 to 35 cents during the second week in June, they were as low as 28 cents at some points on June 19. Storages are reported to be filling up rapidly and in some all space has been contracted for. Receipts vary, a falling-off being reported in parts of Western Ontario while in other parts they are holding about normal. The quality is reported to be good. The receipts of live broilers have increased during the past week, resulting in a marked falling-off in price. Egg receipts in Chicago show a decline. The large storages there are reported to be filling up rapidly. Production in the country continues quite heavy, but the situation at country points is not reassuring. While good prices were received for eggs during the month of May, the production was not such as to

remunerative. Towards fall when the bulk of the flock is marketed the price drops. For this reason it is advisable to feed for the early market, and thus save feed. If properly looked after a duck will weigh about five pounds when ten weeks old. Up to this age it does not cost any more to produce a pound of duck than it does a pound of chicken, and the price per pound is generally a little higher. Cornmeal, low-grade flour and shorts with ten per cent. of beef scrap added makes a satisfactory mash. To increase the bulk, clover leaves or finely-cut green stuff can profitably be added. Like other classes of poultry, ducks must be properly looked after if a reasonable profit is to be made.

The following directions for fattening ducks were published in circular No. 29 of the Dominion Experimental Farms. "Fattening may be started as soon as the ducks are eight weeks old. They are fattened in a yard or pen. They should be isolated as much as possible in a dark building, well ventilated, and provided with a good litter, always kept clean. The feed should consist of mash mixed with milk, rather thin, composed of cornmeal, barley meal, shorts, beets, cooked carrots and green feed. Ducks are ready to kill when they move around lazily and when they refuse their feed. As a rule it will take about two weeks to finish them.

It is recommended to let the ducks take a bath so that they may clean themselves, and to starve them at least twenty-four hours before killing. Ducks are killed in two ways. By disjuncting the vertebrae of the neck, or by bleeding, which is done by cutting the veins in the roof of the mouth. They should be chilled before packing.

HORTICULTURE.

Arsenate of Lime for Spraying.

The advantages of arsenate of lime over arsenate of lead for use with sulphide solutions are now being realized after two years of experimental work on this material, carried on by G. E. Sanders at the Dominion Entomological Laboratory, Annapolis Royal, Nova Scotia.

When arsenate of lead is added to lime and sulphur it causes the loss of 35 per cent. of the sulphur from solution, and also 5 per cent. of the arsenic so added becomes soluble. Consequently when the lime-sulphur-lead-arsenate combination is sprayed on the trees, most of the poison is in the form of a very poorly made arsenate of lime, most of the lead is in the form of lead sulphide (the black insoluble precipitate found in the bottom of the cask) which is worse than useless as it prevents proper agitation, the lime-sulphur is 35 per cent. weaker, the sulphur that is lost going to form the lead-sulphide sludge mentioned.

When arsenate of lime is added to lime and sulphur it causes no chemical change. The commercial arsenate of lime comes in the form of insoluble powdered arsenate of lime containing less than one per cent. of soluble arsenic, and reaches the trees as such without affecting in any way the lime-sulphur solution.

Comparing the two combinations from the chemical standpoint it would seem that the lime-sulphur-arsenate-of-lime combination should be much less injurious to foliage than the lime-sulphur-arsenate-of-lead combination. In actual practice this proved to be the case on experimental plots in Nova Scotia in 1915 and 1916. It not only caused less foliage injury, but it caused less dropping of the fruit on the fourth spray than the lime-sulphur-lead-arsenate combination. In commercial apple orchards in Nova Scotia four tons of arsenate of lime were used in 1916, and for 1917 twenty-one tons have been ordered by the members of the United Fruit Companies alone, while only seven tons of arsenate of lead are being ordered by the members of the same organization. This is the best proof of the satisfaction that has been derived from a two years' test of the new material.

Fungicidal Value.

In using the arsenate of lime and arsenate of lead alone for spraying apples in 1916, it was found in a small way that the arsenate of lime was practically as valuable as arsenate of lead as a fungicide. While the arsenate of lime gave very severe burning when used alone it gave practically as good control of apple scab and pit as arsenate of lead.

When the arsenate of lime is added to lime and sulphur no loss of sulphur from the solution results, but when arsenate of lead is added, 35 per cent. of the sulphur is precipitated from the solution as lead-sulphide sludge. From this it would appear that the lime-sulphur-arsenate-of-lime combination should be a better fungicide than the lime-sulphur-arsenate-of-lead combination.

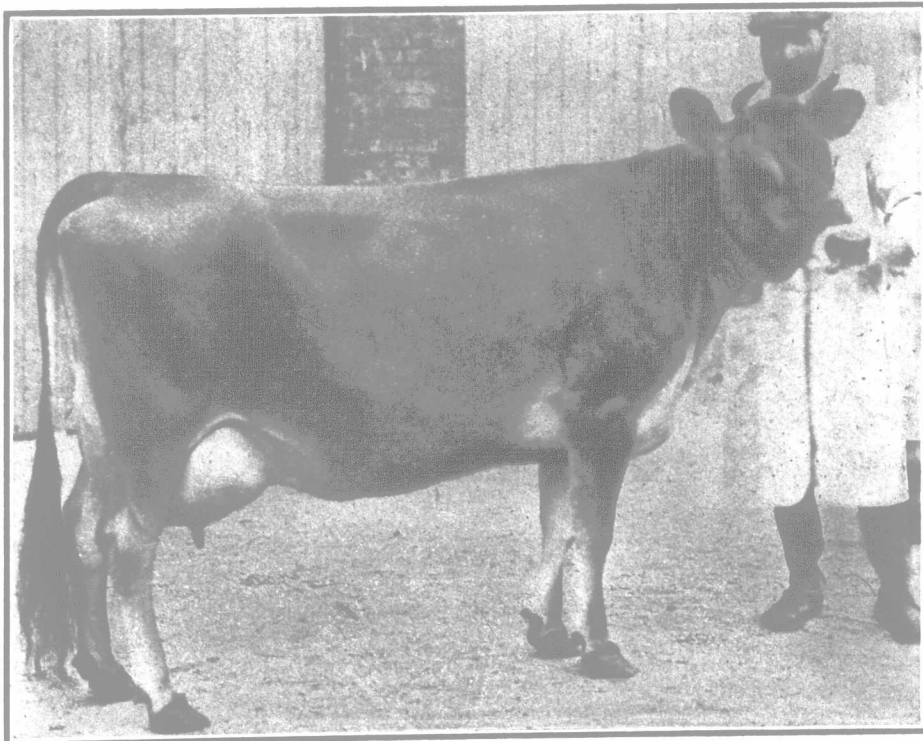
In experiments extending over two years in the Annapolis Valley the lime-sulphur-arsenate-of-lime combination has given better control of apple scab than the lime-sulphur-arsenate-of-lead combination.

Comparative Cost.

The cost according to arsenic content of arsenate of lime is little more than half that of arsenate of lead. Arsenate of lime in powder form contains from 43 to 44 per cent. of arsenic oxide, and is, therefore, about three times stronger in arsenic than paste arsenate of lead, therefore, only one-third as much is required.

Physical Properties.

The arsenate of lime now being used in Nova Scotia is in the form of a very fine powder, one pound of which occupies 80 cubic inches. This degree of fineness in-



Mammet.

Champion butter cow at Dairy Show, London, Eng.

fully offset the unusually heavy expense of carrying the poultry over the winter. Poultry feed is scarce and high in price, and a decline in the price of eggs will no doubt lead many poultrymen and farmers to commence disposing of their hens. The export of eggs produced in Canada for the year ending March 1917 totalled 5,167,343 dozen; not the produce of Canada 5,416,475 dozen, making a total export of 10,583,818 dozen. Imports entered for consumption in Canada were 3,038,838 dozen.

Green Ducks.

There is a time in a duck's life when it can be marketed at a profit to the poultryman; allow that particular time to pass and in all probability the duck will eat up any profit it might have made. As a rule ducks are full feathered at ten or twelve weeks of age and are in condition to market. After that age the appearance of pin-feathers makes plucking more difficult. The food consumed from then on largely goes to produce feathers in place of producing meat, consequently in a few weeks any profit that might have been made is eaten up. At the age mentioned they are marketed as "green ducks." There is usually a fair demand for them and the price is