

milk. There was no sign of any abnormality of any part of the udder.

"I am fully aware that it is extremely difficult to say that a particular cow would have died without a particular mode of treatment, as so many presenting very unfavorable symptoms from the first make good recoveries with or without treatment, while, on the other hand, seemingly benign cases often disappoint us by terminating fatally. With milk fever we are unfortunate in the fact that, up to the present, we have failed to discover any symptoms which are of much use in arriving at a prognosis. I have brief notes of some eighteen cases that were treated with chloral, and with them the only symptom that I have found of any use whatever in forming a prognosis has been the temperature. Where a cow's temperature has fallen below 100 F. within a few hours after showing the first symptoms, I have invariably seen such a case terminate fatally. On the other hand, the opposite does not hold good, as a cow will in some cases die, although during the whole of her illness the temperature has never dropped below 100.

"Of course it is quite possible that a wider experience may disprove this, but, be it as it may, until I have proof to the contrary, I feel justified in attributing the recovery of a cow, with a temperature below 100, to whatever treatment was adopted, and not to nature unaided. The above is the first case with such a low temperature that I have seen recover, and, therefore, I shall certainly use Schmidt's treatment for these cases in future, not neglecting other important points, as keeping the patient propped up on her sternum, taking the urine away, &c. I venture to think that when mammitis occurs as the result of the injection, it is due more to uncleanness of the syringe, or of the udder, than to the irritant effect of the potassium iodide."

DAIRY.

Operations of the Thames Dairy Company.

The Thames Dairy Company, operating four cheese factories near London, Ont., under the supervision of Mr. T. B. Millar, is doing a very satisfactory season's work. On August 1st we visited three of the factories, with Mr. Millar, and took the photograph of the Dorchester factory represented in the accompanying engraving. This new plant was put up last spring, on the site of the old factory, which was destroyed by fire just at the opening of the making season. The make-room, 30x50 feet, is one of the most airy and best lighted cheese factories in Western Ontario. The engine and boiler room is situated to the south, and cannot be seen in the engraving. The make-room, with its vats, sinks, weigh-stand, curd mills, presses, etc., presents a most orderly and clean appearance, which is enhanced by each window sill bearing pots of beautiful flowers. The water supply could not well be improved upon, coming, as it does, from a neighboring spring, and is forced into the factory by an hydraulic ram. The curing-room is capacious, airy, and in keeping with the make-room for cleanliness. During the warm weather the temperature has been kept down to and below 68° Fahr., by an ice box, which is about 3 feet square, 7 feet high, and open at the bottom. The windows are all thrown open in the evenings and closed in the mornings, which, together with the ice in hot spells, produce the most desirable atmospheric conditions for properly curing the cheese. The output of this factory has reached 160 cheese in a week, but the milk supply at all the factories has fallen off fully one-third during the last few weeks, owing to the failing pastures and torments of the horn fly. A few provident patrons are preventing this serious loss by making provision to supplement the failing pastures at this season with a green soiling crop or ensilage held over from last winter. We did not learn of anyone combating the flies, but surely there would be profit in applying one or other of the remedies recommended in our issue of July 15th. To allow cows to run down in their milk flow at this season is more expensive than one is inclined to suppose at first thought, as they will be very slow and difficult to raise in their future yield, and the high price of nine and a half cents per pound now being received for cheese would, on a full flow, add materially to the season's returns. The labor of caring for a full flow is very little more than a two-thirds flow, while the extra profit in the first case goes largely into the patron's pocket.

The Nilestown and Pond Mills factories each presented the same spic-and-span appearance as the Dorchester factory. The former has made as high as 164 cheese in a week, and the latter 103. The Nilestown curing-room is held at the desired temperature (not above 70°) by means of an inch pipe attached to the wall around the inside of the room, and through which flows cold spring water. A supply of ice was put up at this factory, but so far it has not been needed. The Pond Mills curing-room is cooled with the ice-box system and the open windows at night. While the curing-rooms of all the factories are kept in the best possible condition for curing the cheese, the curing is

not allowed to advance beyond from two to three weeks old, as each Tuesday a carload is sent forward to the headquarters of the firm in Liverpool, Eng.

How the Cheese is Made.—Mr. Millar has a first-class maker and necessary helpers in each factory, and not only is the highest quality endeavored to be secured in every cheese, but, by Mr. Millar's oversight, the size and appearance of the produce of the different factories is kept as uniform as if made at one factory and by one man. This is a very important point, as all the goods bear the trade-mark, "Topaz," Choice Canadian Product. On each box is also stenciled the weight of the cheese when shipped. Mr. Millar's experience as manager of a factory for four years, traveling inspector and instructor for the Western Ontario Dairy Association for eight, and instructor at the Guelph Dairy School for six school terms, fits him well to oversee the practical working of the factories, to discover defects and suggest remedies, where such are needed. Occasionally a patron will bring in milk in a faulty condition, and when such is the case the maker makes it a point, when necessary, to visit the patron, assist him to discover the cause of the poor condition of the milk, and suggest means of preventing a recurrence. He recommends regularly aerating always, and cooling in hot weather. The most conspicuous trouble met with in the milk so far this year has been a bitter flavor, which does not become evident till the curds are in the sink. The cause for this condition has not yet been ascertained, but it is not considered a serious drawback, since all traces of it are usually gone before the cheese is ready to be consumed.

The milk is usually all received at the factories before 9 o'clock in the morning. It is weighed into the vats, and gradually heated up to 86 degrees. The rennet test, with which all up-to-date cheese-makers are familiar, is used to determine when the milk in the vats is ready to set, 23 seconds being considered the proper standard of ripeness. A carefully prepared, nice flavored "starter" is used, but only when absolutely necessary, so as to hasten the ripening and control the character of the acidity. The milk is set by adding 3½ ounces of rennet to 1,000 pounds of milk. The curd is usually ready to cut in about 35 minutes after setting, or when it breaks clean over the finger

before the cheese goes into the curing-room. The cheese are returned to the press, and turned at 6 o'clock the next morning, and at 11 o'clock they are taken out, stamped with the date, vat, and the trade-mark, and placed on the shelves in the curing-room. The system outlined is regularly followed by each of the makers, when the milk received is in good condition; but when troubles crop up, the skill born of experience and good judgment has to be called into play, that none but first-class cheese may be produced. So far this season there has been only one small batch of second-grade cheese turned out, and these were branded according to their quality and sent forth under their own colors. The make of the Company up till the middle of July reached 5,000 boxes. The Nilestown factory, which is most central, has a well-equipped butter plant, which will be put in operation by the Company when the cheesemaking season closes. The other factories will be used as skimming stations, so that the patrons can continue to send milk during the entire season.

GARDEN AND ORCHARD.

Experimental Spraying.

GREAT INTEREST TAKEN IN THE WORK—APPLES A LIGHT CROP.

The labor in connection with the experimental spraying carried on by the Ontario Government is over, and the spraying agents have laid aside their robes of green. The work was finished up on July 26th, when the last application was given at Havelland by the agent in charge of the "Eastern" division, and now we will have to wait until the harvest time to ascertain the results of the season's work. Under the supervision of Mr. W. M. Orr, of Fruitland, the work has been carried on at thirty points, distributed throughout the Province, by Major Walker, Ancaster, who had charge of the "Central" division; Joseph McPherson, Stony Creek, "Western" division; and John B. Pettit, Fruitland, "Eastern" division. While, to get the full details of the work, the public will have to wait until the superintendent has made out his report, there are some points which may prove of interest to the agriculturists of this Province.

In the first place, the agents are greatly surprised at the interest manifested in the work throughout the Province, as evinced by the large crowds that attended the different points on the days of application. At many of the points spraying was an entirely new thing, and a spray pump was a thing that, by many, had never been seen before. The people, eager to learn how to protect their orchards from the ravages of insect pests and fungi, turned out in large numbers, and, as a consequence, the attendance this season will greatly exceed that of any previous year. In some respects the season has been greatly against the success of the work, and the results will not be so marked as they would have been had it been more favorable. Throughout the "Eastern" division it rained almost daily during the months of May and June, and in many instances, no sooner would the solution be applied than a considerable portion of it would be washed off. At some points in the other divisions this was also the case, but in spite of this fact the results, so far, are quite satisfactory. It was found that insects of every description are rapidly increasing in these sections where spraying has not been carried on, and that the state of health and general appearance of the orchards give evidence of the damage that is annually being done. The insects doing most damage this season have been: Tent caterpillar, bud moth, canker worm, green fruit worm, cigar and pistol case-bearers, and codling moth. Everybody knows the damage that can be done by the tent caterpillar and codling moth, but not so many are so well acquainted with the other insects mentioned. In many cases this season the tent caterpillar and canker worm completely stripped whole orchards of foliage, and in some sections the forest trees appeared as they would in winter. It was a most pleasing sight to see a row of trees through an orchard with strong, rank, green growth, that had been operated on by the spraying agent, while the foliage on the surrounding trees was completely demolished by insects. It was a splendid object lesson. The green fruit worm is found to be very rapidly increasing and doing untold damage to the small fruit. The tiny bud moth was very much in evidence, and did much damage at several points, and at one orchard the case-bearers were extremely bad. It has been found that these two insects are very hard to control. Codling moth proved to be more prevalent in the "Western" and "Central" divisions than in the "Eastern," and in some orchards in the two former divisions much damage is reported. At all points those who watched the progress of the work were well pleased with the manner in which the sprayed trees were kept free from insects, and with the extremely healthy appearance of the foliage on the same. Some fruit-growers have made the statement that 4 oz. Paris green to 40 gal. water will not kill these insects. While I think, for all the "green" costs, one, to make sure work, would better put in 6 oz.,



DORCHESTER CHEESE FACTORY. OWNED BY THAMES DAIRY COMPANY.

when forced beneath the surface and gently lifted. The horizontal knife is first used lengthwise of the vat, and the perpendicular knife crosswise and lengthwise, which cuts the curds in cubes about half an inch through. This work is very carefully executed, so as to avoid, as much as possible, breaking or crushing the curds. The curd is stirred in the whey, so as to be free, and steam is turned on below to cook it. The temperature is raised from 86 to 98 degrees in from 40 to 45 minutes. During all this time the mass is kept in motion by agitators or rakes, till the curd shows sufficient acid on the hot iron for dipping, which is from one-eighth to one-quarter of an inch. This is usually about three hours after setting. After the whey is run off, the curds are placed in the sink and allowed to mat, and are cut into blocks and frequently turned until ready to mill. After milling by Barnard curd mills, the curds are frequently stirred, during from 40 to 60 minutes, and then piled up and closely covered for 45 minutes to mellow down. They are now broken up and given plenty of fresh air. All the makers lay particular stress upon liberal airing. It is also stirred somewhat drier than was formerly considered necessary. Each factory is arranged so that the curd sinks can be run outside in the open air when gas or undesirable flavors are noticed in the curd. When the curd shows butter-fat and is down to about 82 degrees, it is salted at the rate of about 2½ pounds of salt to the curd from 1,000 pounds of milk. In adding the salt, care is taken to have it uniformly incorporated. The curd is stirred over twice during the salting, and two or three times more in the following 15 or 20 minutes. It is then weighed and put into the hoops, 100 pounds in each, which makes a finished cheese of about 76 pounds. They are then pressed in the gang press for 45 minutes and bandaged carefully. The seamless cheese-cloth bandage is used, and very carefully applied to avoid wrinkles. Double top and bottom cloths are put on, the outer ones being removed