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Cheese Curing and Other Problems.

The "Farmer's Advocate," the other morning, found Mr. W. A. Bothwell, of Strathallan cheese factory, in Oxford County, a few miles north of Woodstock, turning out about 27 cheese of standard size per day, Monday's make numbering 45. This season's make will run to about 212 tons. The factory, though not so young as it used to be, was clean and fresh as a new pin, and the bright-flowering plants in the windows were an index of the general tone of the establishment. Mr. Bothwell has been twenty years in cheesemaking—twelve years at Spring Creek factory and eight at Strathallan—but he seems as open to make improvements and as ready to keep step with the profession as the newest graduate of a dairy school. The factory sells its whey at the rate of \$6.12½ per ton of cheese made, to Messrs. King and Graves, who feed hogs on a large scale, and it is pumped away underground 100 rods as fast as made. Some 33 patrons also buy whey at the same rate, and haul it away themselves. Their share is run from the vats into an elevated tank, regulated by a float, and each man's share is measured out to him according to the milk delivered—so many inches of whey in the can corresponding with so many pounds of milk delivered. When emptied, the tank is thoroughly cleaned out every morning, even the washings running away in the pipes to the swine-feeding establishment. We found no bad smells about this factory. Leaving the large make-room, with its flowing vats, curd sinks and special vat for washing curds, next comes the press room, which is about 38 feet square, and still further back, in direct line and connected by a narrow-gauge track over which a car carries the pressed cheese, is

THE CURING ROOM,

which was really what the writer came out to see. The first section of it is a storeroom for boxes, etc., 25 x 32 feet, dark as night. Its capacity is 1,200 cheeses, and the track and car run along the east side at right angles to the

shelving, thus saving much labor. The ceiling is 11 feet high, and to shut out light and heat there are shutters inside and out. The walls, resting on stone foundations, are of brick, strapped on the inside and lathed and plastered. The ceiling is lathed and plastered on an 8 inch joist. Above it is laid ordinary matchboard flooring, then a coating of asbestos paper, and above that another layer of flooring. The hot afternoon sun shining on the long west side of the curing room was found to have a decided effect in raising the temperature within higher than it should be for the good of the cheese. To overcome this difficulty, 4-inch scantlings were fastened up and down on the outside of the brick wall, and upon these siding was nailed, left open under the eaves and also at the bottom, so as to allow a circulation of air. Opposite three of the curing-room windows this siding is converted into shutters, which swing out, to be opened at night if a circulation of air is wanted through the curing-room. The sun-break, which was painted white, has had an excellent effect, and the idea might be applied to advantage to many curing-rooms. The windows of the cellar below the curing-room are also protected from heat by board shutters. In the room are two ice boxes, 7 ft. high and 3 ft. square, which are kept filled with ice in specially hot weather. Outside is an ice house of 40 tons capacity. Two ventilators one foot square each extend upward to peak of roof, from the curing-room ceiling. They are, however, kept closed a good deal of the time in hot weather. On the forenoon of our visit the temperature stood at 63° Fah., the variations this season having been from 57° to 70°, the latter occurring only on one or two extremely hot days. In the storage section of the same building, where the temperature was not controlled, it had run up to nearly 80°. The cheese were free from mould, and presented a very fine appearance, and under the trier the



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quality proved to be equally good, being very meaty and rich and of good texture. The cheese made are all white. In cold weather a coal furnace, standing in the room, is used, with a small water pan in rear to furnish moisture. Two ordinary scuttles of coal lasts 24 hours. The brick chimney is brought right down through the ceiling into the curing-room, so that no furnace heat is lost, and there is greater safety from fire. A proper coal furnace is thought to be far superior to wood, and affords a much more uniform heat. Throughout both make and curing rooms strict attention is paid to cleanliness, and liberal use is made of paint and whitewash. Curing room floors, shelves, etc., are thoroughly scrubbed with caustic soda, the aim being to cure the cheese in a pure atmosphere, at a low temperature.

THE GOVERNMENT CURING STATION.

Our next call was at the Dominion Government "Illustration station," as it is called, alongside the C. P. R. tracks, Woodstock. It is a modest, flat-roofed building, painted white. The curing-room proper is a basement, seven feet below ground and two feet above, making a 9-ft. ceiling. The site is practically on a gravel bed, ensuring natural drainage. On the other floor are the offices, receiving room for cheese, and ordinary experimental curing-room, boxing and weighing room, space for dipping the cheese in melted paraffine wax, and the room containing the gas engine and other plant connected with the Linde British Refrigeration System, which generates the cold air supplied to the tanks in various apartments, on which could be seen several inches of hoarfrost. The walls proper consist of six thicknesses of boards and four of paper, and the windows of the cold rooms have four thicknesses



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of glass. The idea is to shut out either heat or cold, and control temperature absolutely. Everything is up-to-date, and would represent an outlay of probably \$7,000 or \$8,000. The institution is under the efficient direction of Mr. Burgess (formerly of Bluevale, Ont.), for several years in the P. E. I. Dominion dairy service, with several assistants and an engineer. Six teams are engaged hauling in the cheese made and taken out of the presses every day by the following nine factories: Spring Creek, Embro, North Oxford, Anderson, East and West Oxford, Brookbank, Sweaburg, Harris Street, and West Oxford. The Government is assuming all the expense, and only asks for the saving in weight or shrinkage effected by means of curing under perfect conditions at low temperature, coupled with the waxing or paraffining to which all the cheese is now subjected. The cold storage curing room has a capacity of 3,000 boxes of cheese, and the boxing room 1,000 to 1,500. Since July 1st about 6,000 cheese have been taken in and some 3,600 sold out by the salesmen of the factories. They are, of course, weighed in and weighed out. The cheese is cured at a temperature of from 56 to 57 degrees Fahrenheit, and at the time of our visit moisture stood at 89 degrees. A great deal of trouble was at first experienced with mould, which Mr. Burgess attributed, partly at least, to the dampness of the new room. This trouble has now disappeared, and it would seem about simultaneously with adopting the system of waxing the cheese with paraffine. A good many dealers have been paraffining their cheese, which prevents mould and saves the heavier expense of scraping and re-scaleboarding. About 3-16 of a pound of paraffine (a by-product of petroleum) will wax a cheese at a cost of about two cents. It can be bought from the refiners at about eight cents per pound. Paraffine that will melt at about 120 degrees of heat is used, and the cheese are dipped at 200 degrees. In the Woodstock Station three cheese are lowered at a time, on a wooden three-bar rack, by a crane, into a galvanized-iron tank in which the paraffine is melted over gas. It is submerged for about 30 seconds. On rising in the air, the thin transparent coating, impervious to air, instantly hardens, so that no mould can form and evaporation of moisture from the cheese is prevented. If kept in a warm atmosphere the wax would soften and probably



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