

way. The result has been that Swedish trade in butter has grown from a large excess of import over export into an excess of export over import of more than 8,000,000 kilos. In cheese, however, there is still an excess of import over export of nearly 500,000 kilos.

In Germany there are a dozen agricultural colleges, with large grants of from £3,000 to £5,000 a year from the State; sixteen schools, with grants up to £1,200 a year; and thirty-two farm schools, with small grants. In France there are four colleges and more than fifty other schools, the cost of the principal institution being £10,000 a year. In Belgium the chief State agricultural school costs £4,500 a year. In Italy technical instruction in dairying is most carefully given, each season being utilised for different kinds of cheese. In nearly all these countries, wherever dairying is at all possible, it forms part of the technical instruction provided.

In Canada the cheese is nearly all made in factories. It is now claimed to be at the head of American cheese in the markets of the world; and the statistical tables I am sending show what a hold it is getting on the English market especially. I long ago called attention to the excellence of the Canadian cheese shown at the Colonial and Indian Exhibition.

Consul Sadler, in a report just published (June, 1888), gives instances of the magnitude of the dairy industry in the prairie States of America. In the seven prairie States of Iowa, Illinois, Missouri, Kansas, Wisconsin, Minnesota, and Nebraska there are nearly five million milch cows. Iowa alone produced last year 86,000,000lb. of butter, and Minnesota 40,000,000lb. Chicago alone received in 1887 128,000,000lb. of butter and 46,000,000lb. of cheese. But the supply of butter will soon be unequal to the demand within the United States; and, so far as New Zealand butter is concerned, the competition of neither the States nor of Canada need be feared, only about 52,000cwt. having come thence to the English market during 1887. In cheese, on the other hand, 766,000cwt. came in last year from the States, and 630,000cwt. from Canada, so that here the competition is formidable.

SECTION III.—METHODS AND REQUISITES.

Three factory systems are in general at work in making butter: (1) Milk factories, where the whole milk is brought from dairy-farms; (2) creameries, where the farmer sends his cream but keeps the separated milk; (3) butter factories, where the farmer sells his butter fresh as it comes from the churn, the factory grading, finishing, and marketing it. Each of these systems has advantages and faults peculiar to it. No factory can possibly be a profitable business if the milk is not of the best quality; but the milk is often grossly adulterated, and very often, even when pure, does not show the quality it ought to do. There does not seem to be yet a simple and rapid method of testing milks accurately which could be applied by managers of dairy factories.

Until the passing of the English Margarine Act last year it seemed as if nothing could stop the adulteration of butter. Mixtures containing 20 per cent. of margarine were constantly made to pass for pure butter. At a meeting of the New York Dairy Association the president said that a thousand million dollars had been lost by the dairy industry of the United States in consequence of the manufacture of imitation butters; and there can be no doubt that losses of the same kind have been entailed on the dairy industry of the United Kingdom. Nevertheless the public taste for margarine seems to be growing so steadily here that (as Professor Long told the Dairy Conference of May, 1888), if the taste continues to increase to the same extent, it will soon be a question with dairy-farmers whether they should not turn their own attention to that trade, where the profits are much greater than in the sale of true butter. What is called the "paralysis of native dairy industry" is attributed, indeed, to the constantly-increasing demand for cheap animal fats instead of butter; and complaints are constantly made that the new Act is practically a dead-letter.

So far as genuine butter is concerned, there would seem to be no longer any excuse for saying that just as good butter as the foreign import is not made in England and Ireland: indeed, it is now claimed to be really much better, only that the middleman insists on keeping up the "name" of the foreign brands. The consumption of foreign butter and cheese is increasing so much here that foreign dealers are starting shops in all the large towns, and their cheese, butter, and condensed milk are being sold in every village. Professor Long recommends the English dairy-farmer to meet this by combining and opening shops next door to the foreigners, in order to show that he can not only supply a better article, but can afford to take less for it, theirs being salt and stale, while his own is mild and fresh. There is no doubt that, in the same way, English farmers can turn out cheese quite equal to that of the best dairies of France and Italy. But there can also be no doubt of the real reason why, so far as butter is concerned, the foreigner is beating the English farmer out of his own market. The reason simply is that foreign butter, even if it is not of such high quality as the finest English and Irish, can be and is sent over in immense quantities of perfectly uniform quality, whereas here every dairy makes its butter of a different flavour, colour, and texture. The fashionable colour in the London market now is primrose, and butter of other shades, whether lighter or darker, is not saleable. Going away from London the taste differs. Here it must be quite fresh; but as one goes north it has to be saltier and saltier, until what is in demand there could hardly be sold in London at all. In the London market the one golden rule is to have uniformity of colour, taste, and texture. In that way a top price can be had, and in no other way. The consumer will not give up a brand of uniform quality, and sent over in large quantities, for the variety and uncertain supply of country dairies, in which it is in vain to look for the watchfulness and minute attention to detail which distinguish, for instance, the dairymaids of Normandy. As the English or Irish dairymaid will not give the same minute care to her work, the only thing the farmer can do is to send his milk or cream or butter to a factory; indeed, it may be said in general terms that for ordinary farm-dairies it is all but impossible to make really good butter, of a perfectly uniform colour, flavour, and texture, to compete with butter which is graded, passed through mixers, and blended and worked up to the requisite evenness in a large factory. At the Derby butter-market last year two hundred farmers' wives and daughters and dairymaids found themselves at the end of the day with their butter unsold; the butter itself was really excellent, but there was no buyer