

to cope with even the second year's business, they build and equip for about four times the first year's capacity, and I believe it pays in the end.

Although they ship the butter regularly to the central factory at Buenos Aires, they have a freezing-chamber capable of storing 2,500 boxes of butter in case of emergency. Although Mr. Reynolds has been in the country for about five years, he does not seem to give his pointers on butter-making away to his opponents. I found the system adopted in his factories more on the lines of New Zealand butter-making. In referring to Mr. Reynolds's business I cannot pass without stating that I am deeply grateful and very much indebted to him for his kindness to me during my stay in the Argentine. Mr. Reynolds did not spare time or money to assist me in gaining information; he was also able to secure passes over one of the railways for me.

The most important factory in the Argentine, and perhaps the largest butter-factory in the world, is La Union Argentina, which is situated in the City of Buenos Aires. The cream comes into this factory from three different provinces—viz., those of Buenos Aires, Santa Fé, and Entre Rios. This factory in the flush of the season turns out about 20 tons of butter per day. At the time of my visit in March they were making close on 16 tons of butter per day. Cream is received from over fifty skimming-stations, besides the large number of estancieros who send their cream in direct to the factory. The skimming-stations are, generally speaking, pretty well equipped, but not properly managed so far as close and careful skimming is concerned. The separators used in the Argentine are of the Alexandra make, the Sharples Tubular, the Baltic, and a very few Radiators. The Alpha De Laval predominates in the Argentine, but so far as I could learn the tubular Sharples machine takes a lot of beating. La Union Factory is fitted out with an enormous amount of steam, engine, and refrigerating power. The freezer is of about 50 tons capacity. The boilers are upwards of 100-horse power. Eight large trunk churns are installed; the churns are practically the same as those in use in New Zealand. The butter in the butter-making room is worked by two enormously large circular butter-workers, and they work four times as much butter at one single working as we do in New Zealand.

After taking careful note of the building and plant of La Union I came to the conclusion that with very little extension of the butter-making room nearly double the quantity of butter could be turned out with the present boiler, engine, and freezing-power. In other words, in order to make 35 or 40 tons of butter per day the extensions need not be on a larger scale or very expensive. In La Union they have splendid freezing and chilling chambers, which are capable of holding large quantities of butter in case they need to store at any time.

In 1902 this company issued an illustrated pamphlet in Spanish, giving a description, or, rather, the history of the company. I have much pleasure in quoting a few particulars from this pamphlet. They estimate in connection with this concern the rent of one cuadra (150 square yards) of camp land at \$15 per annum. The care and milking of 120 cows requires three practical men. The wages of each man is \$35 per month, with board and lodging. Ninety-five per cent. of the cows are of a Durham cross and type. Taking as a base the production of 13,000 kilos per day already reached by the company, the following data will show the importance of the establishment: The daily output represents 312,000 litres of milk obtained from 81,000 cows, the value of which is \$5,265,000, and the rent of which amounts to \$800,000 per annum. In the dairies contributing to the production of the society are employed 2,025 men. The management and staff of the factory and branches is composed of 156 employees.

The above company was registered in June, 1899, statutes reformed in October, 1901; capital, \$500,000 in 5,000 shares of \$100 each. No shareholder can hold more than 100 shares. The business is conducted on co-operative lines. In 1901 the company acquired the rights and properties of the Compania Escandinavia Argentina (Limited). The directors are Señor A. Yrazu, president; G. Munoz, manager. The vice-president is Señor Agustin de Uribe. The board of directors is composed of eight directors in addition to those already mentioned; amongst them are Dr. Augusto Tiscornia, and Señor Martin Pezoimburu.

I wish to express my thanks to Señor Yrazu, the president of the company, for his kindness in showing me over the whole premises.

It is claimed that the increase in the production of butter in the Argentine between 1891 and 1901 was over one hundred and fifty fold; in Australasia for the same period, according to Mr. Bateman, it was only thirty fold. In 1891 only 1,320 kilos. of butter was exported from the Argentine, while in 1902 4,125,000 kilos. was sent abroad.

Most of the cream is purchased on a commercial butter basis; that is, the estancieros have not become educated to accept so much per pound of butter-fat according to test. They demand so much per pound of butter, with 10 or 10½ per cent. added to the Babcock test, whether the manufacturer can turn out sufficient commercial butter to correspond with the test or not. This, in my opinion, is a wrong and unfair basis of carrying on a dairy business from the manufacturer's point of view, for the reason that a large quantity of the Argentine cream is injured in transit, thereby rendering it impossible to get a decent overrun. We in New Zealand think we have trouble with the testing and with our suppliers, but I believe we have the finest system of testing and paying for butter and cheese in the world; further, I think we have the most contented lot of factory-suppliers I have ever seen. In the Argentine nearly every large estanciero has a milk-tester. The one in use all over the country is the Gerber. The client sends in a slip with his cream each day, giving the test as made at the estancia, and if the factory's test does not come up to this there is trouble. They, of course, do not take into consideration the obsolete methods of carriage, &c., which the cream is subjected to, which nearly always causes the cream to become partly churned, and which renders it impossible for the butter-maker to get a 10-per-cent. overrun according to the farmer's test. I have almost become disgusted with articles appearing in dairy papers with reference to 16 to 19 per cent. overruns. When overruns of this kind are made there is, in my opinion, as a rule, cheating in the weighing going on, and too much water and salt left in the butter.