

22 francs (18 shillings) the 1 000 kilos (about 2 200 lbs.), when the contained 12 per cent. This year, sugar being cheaper, it is supposed that those farmers who have no contract with the factories will not get more than 15 francs.

The high-roads are kept in order, by a tax, by a road-master acting on behalf of the commune.

MR. OSCAR BOLLE, Chief Clerk in the Ministry of Agriculture, Brussels, Belgium:

In 1885, Belgium sent to Denmark and France several boys and girls to study dairying. Some of the girls went to the dairy-school at Coëtlogon, near Rennes, others attended the Fribourg school, Switzerland; the lads sent to carry on these studies had received diplomas as agricultural engineers.

Belgium possesses dairy-schools for girls, where there are specially taught the mode of making the different sorts of soft and firm cheese. In this country, the home manufacture of cheese is the peculiar business of the wife.

Nine state agronomes and 10 assistants are employed to give information on all agricultural matters to the farmers; they deliver lectures at the farmers' meeting and at the agricultural comitia (comices). Each comitium has to have one or two small experiment fields, of about 20 acres each; it selects a farmer who agrees to cultivate these fields, but it is the duty of the agronomes to point out the experiments that are to be conducted there.

The state supplies the farmer with the seed and chemical manures needed for the experiments; the farmer, having done the work and furnished the dung, remains proprietor of the crops.

Belgium is divided into provinces, and in each of them, the state has established experiment gardens.

Every State agronomes receives annually 3 500 francs (£140), in addition to his travelling expenses. He has to make an annual report of the results obtained on each experiment field.

During the last few years, the value of farm property has diminished by 20%.

From time to time, the government publishes bulletins indicating the best methods of agriculture; one of them, published lately, treats of the management of manure; it advises the farmer to keep the dung moist and well tramped, to keep it away from the drip of the eaves, and to regulate the fermentation carefully.

During winter, the dung is usually carted away, and put in large heaps, carefully made, laid on a bed of clay and covered with the same. The beautiful of the system is to have the dung thoroughly rotten and to preserve every drop of the urine.

In some parts of Belgium, the manure is allowed to accumulate under the cattle, but in this case lots of straw is used for litter.

Barley, wheat, rye and winter-barley (*éplautre*) may be sown in the fall. On the permanent meadows, especially on those that are sour, lime and phosphoric acid, in the form of *basic-slag*, are used for the purpose of adding their fertilizing properties and destroying weeds. The meadows and pastures are manured with urine and earthy composts; these latter are prepared with lime.

In March, both meadows and pastures are lightly harrowed and rolled: harrowing favours the tillering of the grasses and destroys the moss. In

north Belgium, they sometimes put on the meadows a ton of *basic-slag* and half a ton of kaimit (potash), to which are perhaps added from 380 to 440 lbs. of nitrate of soda (to the hectare?). The *lathyrus sylvestris* (wood vetch) has yielded well on some light lands, but it is bitter in taste, and many animals do not care for it.

The prickly *comfrey* is not approved of. Crimson clover (*trifolium incarnatum*) and the hairy vetch mixed with rye, do well here, and are much liked by the stock. In some districts of Belgium, giant spurry is sown, and is said to impart a fine flavour to butter.

As soon as the grain crops are harvested, the stubbles are cleared, and a deep furrow is given in the fall.

The average yield of milk from each cow is from 9 to 10 kilos (19 to 22 lbs.) a day during the 9 or 10 months they are milked: it takes, on an average, 27 kilos (59½ lbs.) of milk to make a kilo (2.204 lbs.) of butter.

Mr. Proost, professor and inspector general of agriculture:

In the Duchy of Luxembourg, there have been founded, with excellent results, parish agricultural societies. Government has encouraged these the building of liquid manure tanks, and this has greatly contributed to the increase of agricultural products. The experiment fields are more or less successful, according to the management they receive.

Mr. Proost attaches great importance to the labour and lectures of the State agronomes, and contends that these are more beneficial to the farmers than the experiment fields. In one of the fields it was proved that some sandy soils contained a notable dose of potash. On poor land, the lupine gave good crops: it might be tried in Canada. As cleaning and improving crops, hoed crops are to be highly commended, for without them it is difficult to keep a farm in a productive state.

Fallows, too, are desirable in many cases.

In rich land, a triennial rotation is: 1, beats; 2, clover; 3, wheat; or, 1, clover; 2, wheat; 3, oats; 4, potatoes. As a rule, the dung is not under cover, is kept away from the eaves and the urine is carefully preserved. On moist meadows kaimit and *basic-slag* answer well.

Liquid manure always produces excellent results on clay meadows, but these should receive dressings of lime occasionally. M. Proost strongly recommends the attentive control of the work of agricultural societies, if we wish to reap much benefit from them; the officers of some of them are energetic and earnest, and do their best conscientiously, for the improvement of agriculture; but unfortunately, all the officers are not alike.

As to the theory of M. Deherain, about the waste of manure, M. Proost says that it may possibly not be correctly founded; but he is not prepared to give a definite opinion on the subject.

THE ANTWERP (BELGIUM) EXHIBITION.

As an agricultural show, the Antwerp exhibition was far from being complete. Very few agricultural implements were shown, though there were some ploughs, mowing machines, potato, and beet diggers. The Belgium system of farm instruction was well represented, especially the pieces of work exhibited by the pupils of some of the schools of domestic economy of the farm-house among

others the exhibits of three schools kept by the nuns of the country. There were vestments, dresses, and the repairs of clothing done with care and taste. A variety of preserves were shown by these pupils, prepared by themselves: marmalades, apple jelly, plums, etc., in fruit preserves. Most of the utensils used in the dairies of these schools were there, as well as grain and seeds gathered by the pupils, and bills of fare for dinners and breakfasts. In these schools are taught accounts, confectionery, laundry work, bread-making, butter and cheese making, the utilizing of waste products, and horticulture. There were to be seen photographs of nuns and their pupils in the dairy, in the creamery, the bakery, the laundry and wash-house; peeling vegetables, cooking, and in the fields as well, when the course of zootechnie is being given.

In these schools, too, veterinary subjects and domestic maxims are studied. Among the exhibits the following maxims are placarded.

"One day's mending is better than one year's spinning."

"A house neglected is a house ruined."

"Love a country life; it is the most conducive to morality; it is the guardian of the Christian traditions."

One of these schools is kept at Virton, one at Brugelotte, under the management of the Sisters of the Infant Jesus.

Each pupil who passes a satisfactory examination receives a certificate of study and of agricultural practical work.

The dairy industry was hardly represented at all. There were a few utensils for sale, but positively nothing new, except a mechanical butter-worker (*délaiteuse*), which we should have liked to see in operation, but which was not set to work at the time appointed by our request.

FRANCE.

M. TISSERAND, Director of Agriculture, Paris:

There are co-operative creameries, especially in Normandy. At Coëtlogon, near Rouen, there is a dairy school for girls. The making of Gruyère cheese is taught at the Poligny school, in the Jura, and at Mamirolle school. It is proposed, too, to teach the way to make Cheshire cheese. Formerly, 20% of cheese made in France was of inferior quality, but there has been a great improvement. Pains are being taken to improve the pasture by phosphate of lime; superphosphates are found to answer best on clays.

For this purpose liquid manure is being used, but many farmers lose a great deal by not taking care of it.

More than 400 experiment fields have been established in France, and for their maintenance the government expends 200,000 frs. (\$40,000) a year. There are 300 professors of agriculture, whose business is to give lectures to the farmers.

SCHOOLS OF ARTS AND TRADES.

We received the following information at the Ministry of Trade and Industry:

The French government keeps up schools for instruction in clock making, weaving, dyeing, and iron and wood working. Many of the former pupils of these schools have now good situations.

At Paris, there is a school of shoemaking founded by a trade syndicate, and aided by a grant from the State.

At the Cluses school of clock-making there are usually from 100 to 120 pupils; they study everything connected with clock and electricity. A certain number of them receive from government an allowance, the maximum of which is 600 francs (\$120.00). At the schools foundries, mill-works and clock-making, the course is 3 years. Some of the pupils attend, at the expense of the government, for 2 years foreign institutions of the same class, and are obliged to make reports to the home government every three months.

VISIT TO THE SCHOOL OF SHOEMAKING AT PARIS.

Thirteen pupils are now attending the practical course of this school. They work for Parisian "bosses" (*patrons*) who pay in proportion to the amount of work and the quality of the shoes, etc., they send in. The cash received is generally sufficient to pay for their keep, besides, they receive wages from the directors every three months; and these wages are more or less in amount according to the application evinced by the pupil and his progress in the trade. A theoretical course is given by professors among whom are to be found the masters of some of the leading shoemakers' shops in Paris. Besides the above pupils, many apprentices, who work outside the school, are allowed to attend the theoretical course.

This course is of 2 years, but many pupils leave before the expiration of that time, having learnt enough to become skilful workmen. The pupils seem perfectly satisfied with the management of this school; one of them, an Algerian, who had attended the course for 5 months and had previously made shoes for 4 years, told us that he had greatly improved there in the art of cutting out and making shoes. There were an Austrian and a Swiss, there; these foreigners were also preparing, by learning all the details of the trade, to become competent master-workmen in their own countries, or proprietors able to superintend and direct their own manufactories.

VISIT TO THE AGRICULTURAL INSTITUTION AT BEAUVAIS, UNDER THE DIRECTION OF THE REV. BROTHERS OF CHRISTIAN SCHOOLS.

Last year, there were 93 pupils at this institution; the course is one of 3 years. The weaker pupils work on the farm from 1 to 6 o'clock 3 days a week; the strong ones work 3 days a week on the farm. They have to transcribe the theoretical instruction they receive; board and instruction cost each pupil \$320 a year.

The cows kept are Bretons, black and white, and small. Yorkshire pigs are kept and the progeny sold as breeders. The grain harvest takes place at the beginning of August. The permanent pastures are so divided that they may be fed in turn for about a fortnight each time.

The food of the cows, in winter, includes mangolds cut-straw, lucerne, sain-foin and bran.

The yield of milk is 12 litres (10 quarts 1 pint imperial) a day, a cow, during seven months; the cows calve at all seasons. A Normandy bull is kept. The dung is not under cover, but in the middle of the yard, so that it gets no drip from the buildings. There is a tank for the urine from the