

Minister in London, on February 19, expressed the hope that "these precautionary measures may have some influence in inducing Her Majesty's Privy Council to rescind or modify their Order of the 10th inst." In reply, the Lords of the Council, under date of February 27, say they "are aware, from their own experience, that no system of inspection at the port, however perfect, affords complete security against the introduction of pleuro-pneumonia. So long, therefore, as that disease exists in the United States, their lordships regret that they are unable to modify the Order of February 10."—*Agricultural Gazette.*

SUGAR FROM BEETS.

THE sugar trade of the United States amounts in value to \$81,000,000 annually. The first beet sugar was made in Germany in the beginning of this century. It has expanded very rapidly during the last thirty years. There are now about fifteen hundred beet sugar factories in Europe. Twenty square miles are planted with sugar beets in Germany alone.

For successful beet sugar making are required, first, the best varieties of seed; second, good tillage; third, proper fertilization. Under these conditions success is possible over all the northern States. A good sugar beet should contain at least twelve per cent. sugar, and as little else as possible. A mellow, deep, rich sandy loam is the best for sugar beets. A heavy clay soil is unsuitable, also a rich virgin soil, full of vegetable matter in an undecomposed condition. The beets should not grow too large, a weight from one to one and one-half pounds is the best. The best yields of sugar run up to six, seven and eight thousand pounds to the acre. The average yield is from eleven to seventeen tons of beets, giving from eighteen hundred to three thousand pounds of sugar, besides molasses. The molasses is not fit for human food, but it is either fed to stock or distilled; after distillation the residue is evaporated and potash salts extracted, one factory alone in Germany making two hundred thousand pounds of saltpetre from this waste substance. The leaves of the beets may be packed in pits, covered over, and kept for winter feeding. Their value is estimated at about six dollars per acre. In addition to this the beet-cake from the factory, left after extracting the sugar, amounts to about four thousand seven hundred pounds per acre, worth for feeding purposes about sixteen dollars. With a proper rotation of wheat, beets, fodder corn, barley, wheat and beets again, with moderate fertilization for the wheat and fodder crops, the land is kept in good heart, and the fertility increases. A sugar factory can be built for \$25,000 capable

of producing fifteen thousand pounds of refined sugar a day. Sugar beets at a distance from a factory can be dried by artificial heat at a small cost, and will then keep any length of time without injury, and are transported at a cheap rate.

The leaves and beet-cake fed together with a little hay make excellent feed for dairy cows, giving a good flow of milk and communicating no bad flavor to the milk or the butter.—*Prof. Englehardt's lecture before the Vt. Dairymen's Association.*

THE BEET SUGAR INDUSTRY.—ITS RELATIONS TO RATIONAL FARMING.

(From the Country Gentleman.)

THE fact that within the last six or eight months from twelve to fourteen joint stock companies have been formed in the United States and Canada for the manufacture of sugar from beets, proves most conclusively the great interest taken in this industry. No doubt this interest has been largely stimulated by the success which the Maine Beet Sugar Company obtained within six months after its organization, and with so surprisingly small an amount of capital. The beet sugar industry in the United States occupies at present a very unenviable position. Nearly everybody hopes it will succeed; very few have confidence that it will, and still fewer have sufficient confidence to risk money and reputation as successful men in it. Nobody denies that the few pioneers in it have up-hill work all the time, and if ever success crowns their persistent efforts, they will deserve the credit for which they work so hard.

What are the difficulties which have to be overcome before the beet sugar industry can find a sound and sure foothold in the United States? In dividing the two parts of this industry which necessarily have to be combined, the production of the raw material, i. e. the sugar beet or agricultural part—and the extraction of the sugar from the same bringing it in to a merchantable form—the mechanical part—we find no difficulty or obstacle in the latter. The sugar beets raised here contain as much sugar in the same form, and this is as easily extracted and finds as ready sale as the same from beets grown in any country of Europe. But when we turn to the first part, the picture changes wonderfully and exposes the rock on which every establishment has split which has tried the manufacture of beet sugar. Without sugar beets there can be no beet sugar.

The Maine Beet Sugar Company had no difficulty to take out of beets as much sugar as is done in Europe with the best skill and most perfect machinery; they had no difficulty in doing it as cheaply as

it is done in Europe, and the sugar was as good, and being unadulterated, found as ready sale and sold even one-quarter cent per pound higher than the best-looking doctored sugar of New York. But—and here comes the rub—the Maine Beet Sugar Company had contracted with about 850 farmers for the supply of sugar beets and furnished seed to over 1,000 more, without contracting for the delivery of beets, and the whole beet crop raised and delivered to the Company was barely sufficient to supply the works for fifteen days, while two square miles of land, in good condition and properly cultivated, would have given a whole season's supply, say 150 working days; would have given to 150 men during that time remunerative employment, and would have given to the company a fair profit; while under the present farming system most farmers failed even to put their beet seed into the ground, and others would not take the trouble to cultivate them; hence the 150 men in Portland, anxious for work, had to keep idle during the winter, excepting the 15 days, and the Maine Beet Sugar Company held barely their own, instead of making a fair profit.

The first, greatest and, in fact, only difficulty in the way of the beet sugar industry, is a system of farming that has made the ground non-productive and farming unremunerative, and compels the farmer to do a great deal of hard work in order to secure a comparatively small supply of the necessities and comforts of life. This system of spoliation is the great difficulty to be overcome before the beet sugar industry can flourish here. It has driven a part of the agricultural population of the Eastern States west to practice the same spoliation on new land and on a larger scale, and it has driven another part of the agricultural population into the cities, to become tradesmen, clerks, mechanics and day laborers. It has made the times hard, and it will keep the times hard, as long as it is persisted in. Any mechanic or laboring man would be a fool to leave a city if he could have but six months' work a year, at from \$2 to \$3 a day, where he has to work from 8 to 10 hours per day, and try to find employment on a farm, where he has to work for 50 to 60 cents per day (even if he receives food), and has to work from 12 to 15 hours each and every day, Sundays perhaps half the time (shores.)

In order to equalize the difference of remuneration between farm labor and mechanical or city labor, one of three things has to be done: bring mechanical or city labor in a forcible way still farther down, bring agricultural labor in a forcible way up by strikes of all the grangers, &c., or else improve farming in such a way that the farmer can and does produce more with less labor. The first