

stack or barn as soon as possible. I prefer common millet to the other kinds; the straw is less liable to be woody, and it is sweeter and makes a better quality of hay. The great secret of feeding it, and what will do away with all bad results, is simply not to feed too much. Do not carry as large a forkful to a horse as if you were feeding straw or wild hay, especially if seeded. Some feed a large quantity and allow the horses to eat the heads off, and then give a full feed of grain. The effect is the same as if a lot of grain in the sheaf were fed, and then after the animal has eaten it, to give a full feed of threshed grain."

If it is used as a soiling crop it may be cut during the various stages of its growth.

From the United States.

[BY OUR OWN CORRESPONDENT.]

Washington, D. C., April 18, 1881.

The importance and profit of flax and hemp culture in this country has been called to the attention of farmers in the United States, in a recent report of the Commissioner of Agriculture. As it is of equal importance and profit to the farmers of Canada, let me give some of the data and information gathered upon this subject from reliable sources. It is evident from official reports that the production of wool and cotton cannot supply the rapidly increasing demand for a cheaper product. Fabrics and texture surpassing either in cheapness are the continually enlarging necessities of the times. With a present demand in the United States for 35,000,000 yards of cotton for bagging, while flax fibre enough to produce it is thrown away, the effort to extend the production of flax bagging would seem to be worth official consideration. The Commissioner of Agriculture says that "there is an increasing demand for flax for oil in the heart of the wheat growing region, and that its rough straw is now used in immense quantities for paper stock, and each year more largely for bagging. With more invention, easily acquired skill in manipulation, and more method in cultivation, and care in preparation for market, great and permanent and ever growing industries may be built up, providing labor for millions who need it, and increasing the prosperity of the country."

The imports of flax and hemp raw and manufactured, into the United States the past year amounted to \$5,781,710. For the foreign flax supply we depend mainly upon six or seven countries; since 1877 Russia has furnished the largest amount and England next. A considerable amount comes from Canada, either in the form of tow or line; the tow being subject to a duty of \$10 a ton when intended for bagging manufacture, though it comes free for paper stock. The finest foreign hemp, and that which brings the highest price, comes from Italy; this little kingdom producing over 90,000 tons annually, the yearly production of the United States not being over 20,000 tons. The principal supply of foreign hemp however is derived from Russia, and in the past year large quantities have been imported, owing to the insufficiency of the American supply.

The commissioner in his report says the question of quality, especially in regard to flax, is one of the most important considerations in the fibre industry. The ability to produce fibre to any required amount within our own borders is of less moment than the ability to produce a quality of fibre that will compete with that produced in the flax growing countries of Europe. It is grown to an exceedingly limited extent in this country for fine fibre, though there are large areas now under cultivation in the Middle and Western States, chiefly for the seed. For this purpose it is grown until thoroughly ripened, cut with a reaping machine, threshed by a common wheat thresher,

there being nothing yet invented to keep the straw straight, and it is sold by the load to the nearest mill. It is transported like hay, in a tangled bulk of fibre, pitched upon the load loosely just as it comes. In this condition in some sections it can not be sold at any price, and is often burned to get rid of it, while we pay out millions of dollars for the properly prepared imported article.

"There is necessity for greater care and skill in the American production to obtain a finer material, more strength by improved methods of treatment and more evenness in length. The Irish and Dutch sow thick for fine fibre. They have a moist climate, too, which gives better fibre, although in Northern New York, and New England and Michigan, &c., the latter especially, fine flax can be grown. The principal reason for coarseness is the production for seed, as has been stated. It is sown thin, and not cut till ripe. The stalks are then large and coarse and the fibre good for nothing but as a substitute for jute butts in the manufacture of bagging, or tow for paper stock." The foreign flax brings a higher price, and is used in the manufacture of a fair class of goods, on account of the greater care in culture and preparation for market. Canada flax by some manufacturers is considered finer and softer than much of the American; but even here there is room for improvement in growing and in manipulation.

That it is not an exhaustive crop, as urged by many, is abundantly proven by repeated chemical tests in this country and Europe, showing that flax takes less inorganic matter from the soil, per acre, than wheat, oats, barley or tobacco. It must however prove an exhaustive crop, as its cultivation is practiced in many portions of the West, where the seed is sold to the oil mills, the straw burned, and nothing returned to the soil. If, however, only the fibre is sold, the oil extracted from the seed, and the residue made into oil cake and fed upon the farm, the plant rotted upon the land in which it is grown, so that the glutinous substance washed out in the process be returned to the land, or if water-rotted, the steep water pumped up and spread over the land, and the slime or woody part composted with the manure of the farm, or simply spread over the land, it will be found that, instead of deteriorating, land will steadily improve under the culture of this plant, and at the same time yield a good profit to the farmer. Foreign flax producers are of the opinion that flax improves the soil, instead of serving to impoverish it, and that a peculiar advantage attending the cultivation of flax and hemp is, that a crop of the latter prepares the land for a crop of the former. There seems no reason why flax culture cannot be carried on as profitably in this country as in any other, if proper care is taken to keep up the fertility of the soil, and bestowing upon the crop careful culture.

Official statistics give the rate of yield of flax in Ireland at 300 to 521 pounds of fibre to the acre, and an enormous yield of 1,210 pounds is recorded. The average yield in Belgium, ranging over a period of 10 years, is 470 pounds per acre. In France 505 pounds; Holland 471 pounds, and in Russia, where less care is taken, it runs as low as 280 pounds to the acre. Land is less expensive in this country than in foreign flax growing countries, and importing the fibre must add to the cost, so there is every encouragement for flax growing in this country (and I may add Canada) for those who wish to farm with brains.

The Commissioner in his report also touches upon the character of soil best adapted to the growth of flax, the rotation of the crop, and the best seed. In relation to the first, he says; "In selecting a soil for flax growing, a moist, deep,

strong loam upon upland will give the best results. Barley lands in the Middle States are held to be the best, and in the Western States new prairie and old turf are frequently chosen. A weedy soil is not to be used, and manures that are liable to contain ungerminated seeds should be avoided. In New York State flax growers of long experience consider that heavy clay loam stands first, as regards both fibre and seed. On the subject of rotation he says; "One great element of success in foreign flax cultivation is the careful attention paid to the rotation of crops. In Flanders, growing the crop once in ten years upon the same ground is considered the best system. A favorite rotation in Flanders is potatoes, barley seeded with grasses, meadow (cut for soiling stock) pasture, and fifth, flax or one half in oats, so, on the return of the rotation, the part that was in oats may be put into flax. Finally as to the selection of seed, he states, that as to the kinds of seeds to plant there are great differences of opinion. From experiments made by the Flax Society of Ireland, it was demonstrated that home-grown flax-seed yielded the best results. The Dutch Association for promoting the interests of flax growing recommended the White Blossom Dutch seed for American planting. It produces abundance of seed, but a coarse fibre. When fine fibre is desired, the Blue Blossom Dutch is preferable. In purchasing seed, the heaviest, plumpest and brightest should always be selected, and that which has not been taken from different crops preferred. A bushel to a bushel and a half of seed to the acre is the average for New York and other States producing fibre, though for finer fibre it is recommended to sow two bushels. In Belgium and Russia where the finest linens are produced, the average is from two to four bushels. When planted to produce seed alone, one-half bushel or three pecks is the limit. The mode of harvesting foreign flax is to press it; in this country most of it is harvested with reapers. The objections to the latter method are the loss of fibre and injury to its working quality, and the gathering of weeds with the flax.

A new variety of potato, called the "White Elephant," has recently been received at the Department of Agriculture, and several barrels of them sent out to be tested during the coming season. They are not so early as the "Beauty of Hebron," but are much larger and equally prolific. They are said by those who have tried them to be of excellent quality.

The reports received at the Department of Agriculture during the month of April show an increase of nearly four per cent. in the area sown in winter wheat over last season. Kansas and Missouri show the largest increase, Ohio and Illinois but slight, and Pennsylvania and New York the same as last year. Owing to the prevalence of snow at the date of the returns (April) in large portions of the principal wheat growing States, the condition of the crops was not given, but wherever mentioned it was stated below the average of last year. The live stock of the country, notwithstanding the scarcity of food and provender caused by the long and severe winter, have come out in fair health, though reported very low in flesh. No malignant nor prevailing disease is reported over any large extent of country. Local disorders of lungs and stomach are often mentioned.

A shipment of products from Japan have just been received for planting in American soil, of which I shall write hereafter.

LOTUS.

J. H. Zavitz, Lobo, Ont., sowed three bushels of Extra Early Vermont peas, which yielded over 100 bushels; planted second week in June. They escaped the bugs.