

### FLAX CULTURE AND THE MANUFACTURE OF LINENS TO TAKE THE PLACE OF COARSER COTTONS IN NEW ENGLAND.\*

It may be of interest to refer briefly to the history of the flax industry in this country. The art of raising flax and spinning it by hand was brought to this country by the earliest colonists. In 1629 the English Parliament directed that flax should be cultivated for fiber in Massachusetts. As early as 1648 the plant was cultivated in Virginia by Captain Matthews. Almost every housewife in the colonies wove linens by hand. In 1790 the Secretary of the Treasury reported that the manufacture of linen goods in a household way had become an established industry. It will be remembered, in this same year (1790), the first cotton mill was inspected by George Washington. Thus linen manufacture antedates that of cotton in this country by nearly 150 years. It may be said, in reply to this statement, that the linen industry was of little consequence at this early date. But thirty years before the erection of the first cotton mill, Massachusetts and Rhode Island in a single year reported nearly 30,000 yards of linen fabrics made in families. All the records in New England show a disposition to encourage the growth and manufacture of flax. A half century before the manufacture of cotton, Pennsylvania, Rhode Island, and New York also offered special inducements for the manufacture of certain kinds of linen goods. In 1810, over 20,000,000 yards of linen fabrics were made in this country in families. In addition to this, nearly 25,000,000 yards of linens of coarser quality were made. Water and steam power as well as labor-saving machinery had been introduced previous to this, which resulted in a considerable extension of the industry. But it was still largely a wholesale industry. The following statistics, taken from report No. 9 of "The Fiber Investigations of the United States Department of Agriculture," by Mr. Charles Richards Dodge, special agent of the Government, will be of interest. In 1849, 562,312 bushels of flax seed were harvested in the United States, and 7,709,676 lbs. of fiber were produced. In 1859, 566,867 bushels of seed were harvested, and 4,725,145 lbs. of fiber produced. In 1869, the production of seed had risen to 1,730,444 bushels, while the fiber in this year rose to the phenomenal total of 27,133,034 lbs., an amount never approached since. In 1879, the production of seed was nearly four times the quantity for the year 1869, while the production of fiber fell to the comparatively insignificant quantity of 1,665,546 lbs. In 1889, 12,250,410 bushels of seed were harvested. The production of fiber had fallen steadily during this period, until it reached 241,389 lbs. in that year.

The reason for the falling off in the production of fiber since 1869, while the acreage of flax and the production of seed were rapidly increasing, is not far to seek.

The impetus given to cotton manufacturing by the invention of the cotton gin and subsequent mechanical improvements, soon brought down the price of cotton fabrics through the sharp competition among manufacturers which followed on the rapid expansion of the industry. Little by little the cheaper cottons have found their way into the homes, silencing the spinning wheels and almost all the looms engaged in the manufacture of finer linens. In spite of the decline of the linen industry the culture of flax has steadily increased in this country. At the present time it is grown almost exclusively for seed. The straw is of no value except in making certain coarse qualities of bagging and of paper. Since 1889 the acreage of flax sown has fluctuated somewhat. This is due, doubtless, to fluctuation in the price of flaxseed oil and flaxseed cake during this period. The acreage sown has been affected somewhat, no doubt, by the very general impression that flax is an exhausting crop. At the present time the annual production of flax seed and straw is approximately 12,000,000 bushels of seed and 300,000 tons of fiber. It is doubtful, however, if our farmers can continue to grow flax indefinitely for the seed alone. Unless some use can be made of the fiber this great agricultural industry will doubtless suffer a considerable decline during the next decade. Is it not possible that the manufacturers of this country may prevent this decline? Manifestly, the surest and easiest way to do this is to find some use for this nearly half a million tons of flax straw produced annually in this country.

Let us, then, ask and attempt to answer two important questions about this matter. First, if the use of this enormous quantity of flax-fiber is possible to us, will it pay? Second, what considerations enter into the production of flax in this country that favor the use of the fiber in the manufacture of linen goods? First, then, will the manufacture of linen goods pay? It is conceded that next to cotton, flax is the most useful and valuable of all commercial fiber. It was thought at one time that cotton goods, on account of improved methods of manufacture, might eventually almost entirely take the place of linen goods. But plainly, this is not to be. More and more flax is coming to be again what it was from the time of the earliest Pharaohs of Egypt, to the beginning of the present century, the fiber of luxury, while cotton fiber is taking its place as the fiber of the masses. We are importing annually from foreign countries over \$30,000,000 worth of linens—more than one-tenth of our total output of manufactured cottons. It has been estimated that the world's consumption of linen goods is not far from one-third the consumption of cotton goods in money valuation. It must be evident that any country that pretends to lead in the manufactures of the world can ill afford to have no part in this important branch of human industry. One need only to visit the great centres of linen manufacturing in Ireland and on the Continent to be convinced that next to the manufacture of cotton goods

\*Extract paper read before the New England Manufacturers' Association, at Boston, April 27th, 1908.