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UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF PLANT INDUSTRY.

FIBER PLANT INVESTIGATIONS.

Washington, D. C., March 20, 1909.

Miss Ida M. Tarbell,

The American Magazine, 311 Fifth Avenue,

New York City, New York.

Dear Madam:

Your letter of March 17, requesting further information regarding the growing of flax in this country, has been received.

I will have forwarded to you a copy of Farmers' Bulletin No. 274, on the cultivation of flax.

The acreage devoted to flax in the United States for the eight years 1901 to 1908, inclusive, is as follows:

Year	Acreage
1901	2,110,516
1902	3,739,700
1903	3,233,229
1904	2,263,565
1905	2,534,836
1906	2,505,927
1907	2,864,000
1908	2,679,000

This flax is grown primarily for the production of seed. Most of it is sown at the rate of less than three-fourths bushel per acre, producing a rather thin stand which results in short straw with many branches. Flax straw of this character is not suitable for the production of fine spin-

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ning fiber. Furthermore, it is not harvested until it is fully ripe, that is, at a stage when the seeds contain the maximum amount of oil. For the production of both seed and fiber flax should be harvested before it is fully ripe, and before the oil has entirely left the stalks. The fiber will then be of fair quality and the seed, though not containing the maximum amount of oil, will contain a sufficient amount to be readily salable for oil-producing seed. No statistics are collected as to the production of straw, but it may be estimated that the average production for the entire area is approximately one and one-half tons per acre.

During the past four or five years from 50 to 100 tons of this flax straw have been used at the International Binder Twine Company's plant at St. Paul, Minnesota, for the manufacture of flax binder twine. Considerable quantities of flax straw have also been used by the Union Fiber Company, at Winona, Minnesota, in the manufacture of insulating board. Several thousand tons have been used in the production of upholstering tow in many small mills scattered throughout Minnesota, the Dakotas and northwestern Iowa. Flax straw is also used to a limited extent for forage and for stable bedding. The greater proportion of flax straw produced, however, is burned to get it out of the way. A large proportion of this

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straw would not be suitable for the production of fiber, but there are many fields scattered throughout the flax-growing area where a fine stand is secured, and where the straw grows tall enough to produce a very fair quality of fiber. The proportion of straw suitable for fiber varies widely from year to year, owing to the weather conditions, but probably on the average the straw from about 10 per cent of the total area, if properly handled, could be made to produce fiber suitable for show-thread and carpet yarn.

During the past ten years the average annual acreage of flax grown primarily for fiber has not exceeded 2,000 acres. The production from this area may be estimated at about 400 pounds of fiber, including line and tow per acre. Most of the line fiber is used in the manufacture of fine linen twines. The tow is largely used in the manufacture of toweling and crash. I think that most of the shoe-thread used in this country is made from flax imported from Russia.

I have heard nothing from the Oregon Woman's Flax Fiber Association for more than two years, and I think that they have given up the attempt to establish an industry there. The work which was carried on under their direction demonstrated very clearly that flax of excellent quality can be grown in Oregon, but it is very doubtful whether it can be cultivated there with profit unless a spinning mill is established in that region to

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utilize the fiber. It seems impossible to ship the fiber from Oregon to mills in the Eastern States at a cost that will permit it to compete with the flax fiber imported from Russia.

The most serious, and by far the most dangerous, competitor to flax, and also hemp, in this country, is jute, which is imported from India and delivered at our ports duty free at a cost of 1-1/2 to 3-1/2 cents per pound. Through carelessness in the use of terms it is not uncommon to hear fabrics made of this cheap India jute called "linen" or "hemp", and they are often sold under these misleading names in American stores. Jute fiber, as you are doubtless aware, is not only weaker than flax or hemp, but it is very much less durable. I have noticed during the past season that it has been largely sold to be used as a base for coarse embroidery and other fancy work requiring a large amount of hand labor. While the hand labor given to these articles may not be reckoned in dollars and cents, it should be regarded as valuable time that might better be placed upon a fabric of more permanent character. Jute burlap made up into a sofa pillow may scarcely be expected to last much longer than the following Christmas.

Very truly yours,

Lyster H. Dewey

Botanist in Charge
of Fiber Plants.

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