

The Production of Flax

Canada has produced a successful flax-puller which eliminates what was formerly too expensive labor — Russia and other countries are not raising flax on account of after War conditions so it may be successful here

The production of fibre flax in Canada is one of the industries given impetus by the war and its aftermath of conditions in Europe. About 25,000 acres of fibre flax are being harvested in Canada this year and the success of the planters bids fair to make the industry a growing one. The great difficulty about raising fibre flax is that it must be pulled by the roots, not cut as other grain crops are. This gives rise to the need for so much labor that in a country like Canada where labor is dear, the cost is prohibitive. Canada has, however, produced a machine for pulling flax which is said to be successful and with this aid the industry may be infused with new life. In eastern Canada flax is raised only for the seed from which oil is refined and it will be impossible to raise the fibre sort there but in western Ontario the right sorts for fibre can be raised and also in eastern Quebec.

The following from Commerce Monthly of New York gives a good idea of the world conditions regarding flax and the linen industry:

The linen industry of the world is facing a crisis as a result of the war and the ensuing political and social agitation. In 1914 Russia was producing more than 80 per cent. of the world's flax. Russian flax constituted the bulk of the fibre used for making heavy sailcloth and the coarser linens. A large part of this flax was raised in the regions adjoining the Baltic Sea, the district first invaded by the Germans. Exports of flax from Russia were not materially reduced until after the internal government troubles in 1917, but since that date only scattered shipments have found their way to the waiting buyers outside. Practically the only Russian flax available at present consists of Esthonia, Lithuania and Latvia, states formerly part of Russia's Baltic territory.

While the figures for production in the warring countries are necessarily unsatisfactory, and in the case of Austria-Hungary and Russia entirely lacking for some years, Table A serves to indicate the relative supplies available to the western flax trade before and since the war. Only countries are included which produce flax in commercial quantities. In addition to the countries appearing in the table, Spain, Bulgaria, Roumania, Serbia, Sweden, Algeria and Egypt also raise flax, but in amounts too small to be of importance in the trade.

While the Russian crop for 1918 is not known, it has been estimated at about 80,000 tons. The 1919 crop is said to have been still poorer, and

it is predicted that the 1920 yield will likewise be curtailed. Whereas, under the old regime, flax was the advantageous crop from the standpoint of taxation, there is now a heavy excise tax placed upon it by the Soviet Government apparently in order to force the raising of foodstuffs. The acute shortage of fats has encouraged the converting of seed into oil for cooking purposes. As a result of this and the low grade of the 1919 crop, many who formerly planted flax for fibre lack desirable seed and can plant for a yield of oil only. The absence of cotton and other textiles has caused more linen to be used by the peasants who are the main producers of Russian flax. Poor transportation, uncertainty of the currency, and the scarcity and high prices of farm labor, implements and horses are not conducive to the production of flax for sale abroad. Many of those who formerly raised flax have left their home districts, and the organization which accumulated supplies, prepared them for the market and arranged for their export has been broken up.

The valley of the River Lys, comprising West Flanders and the northern part of France, produces the famous Courtrai flax, the finest in the market. This district for practically the duration of the war lay in the occupied area if not actually within the war zone. Such flax as may have been raised in Belgium between 1914 and 1918 passed to the Germans. France harvested a much reduced crop in these years, and both Belgium and France in 1919 report less than two-thirds their normal flax production.

Austria-Hungary next to Russia produced more flax than any other country, contributing in the pre-war period about 5 per cent. of the world's supply. Much of the crop was raised in Bohemia, Moravia and Silesia, the district now embraced in Czechoslovakia. This country reported a crop of 7,480 tons for 1918, and can be looked to for small amounts of flax in the future. Outside of this area, nothing has been known since the opening of hostilities as to Austro-Hungarian production.

German flax production was of little importance before the war. Flax growing was chiefly carried on in German Silesia, part of which is now at least temporarily lost to Germany. Japan, which has been credited with raising more flax than Ireland, has never exported it in commercial quantities. Japanese production has increased rapidly since the outbreak of the war, but there is a feeling within the country that the flax crop

should be kept for home use. From the standpoint of the international market for flax and linen, the only producing countries of importance whose output may be said to have approximated normal since 1914 are Ireland, the Netherlands and Italy, and these collectively produced less than 3 per cent. of the world's commercial flax crop in 1913. Attempts have been made since the disappearance from the market of flax from other sources to increase production in these three countries, but their combined output in 1919 was less than their annual average for pre-war years.

The growing of flax appears to have been an established industry at the opening of recorded history and it is thought to have been carried on by the Slavs in what is now European Russia as early as the sixth century B. C. The flax plant is an annual, with a bright blue flower, and under the best conditions grows only to a height of from two to three feet. It is planted in the spring and harvested in the fall. Flax fibre, like hemp and jute, is found in the outer layer of the stalk.

Growing flax for fibre and for oil seed are two distinct industries, and different varieties of seed are planted. When flax is left standing until the seed matures so much oil is drawn from the stalk that the fibre is too harsh for any but the coarsest uses. In planting flax for a harvest of fibre the ground is thickly sown in order that the plants may be tall and free from branches, but flax grown for seed only is sown less thickly so that the plants may have ample room for developing branches and seed pods. Fibre from such flax is too short for spinning purposes. The great piles of so-called flax straw accumulating in seed-growing districts represent a great economic waste. In Canada recent attempts at paper making from flax straw have not been unsuccessful, and in Argentina, the largest producer of flaxseed, the straw is a source of constant experiment in the endeavor to find a substitute for high-priced jute bags from India. The bulk of the straw from seed-bearing flax in the United States is burned and used as fertilizer, but an increasing amount is being boiled and made into the heavy paper now used to replace charcoal and animal hair in the lining of refrigerator cars. Flax straw fibre is also used for upholstery packing.

Handling of Fibre.

Fibre flax, unlike jute and hemp, must be pulled by hand so that the fibre may be as long as possible; and although numerous attempts have been made, especially since the outbreak of the war, no machine has been found for doing this work. After pulling, the seeds are removed by a process called rippling, usually performed in the field. This is followed by retting or the rotting of the fibre from the woody centre known as the boon, this process being accomplished by soaking in water or by exposure to the action of moisture in the air. The method of retting differs widely in various localities. In Ireland the bundles of fibre are placed, roots down, in shallow artificial ponds, covered with sods and allowed to remain for ten days or more. When fermentation has reached a certain stage, the bundles are removed and the fibre spread out thinly in uniform rows on a closely cropped meadow to dry. From three to ten days are usually required for drying after which the fibre is bundled and stacked for "scutching".

In Belgium the famous Courtrai flax which is noted for its lustre, fineness and strength, is first dried, then stacked or housed throughout the winter before being retted. About the first of April, retting is begun and lasts into October or November. The fibre is placed in crates and immersed in the sluggish waters of the River Lys which seem particularly adapted by chemical content for

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Table A—Available Supply of Flax Fibre 1909-1919 By Principal producing Countries.

	1909-1913 (5-yr. aver.)	1914	1915	1916	1917	1918	1919
			(in tons of 2,240 pounds)				
Russia	617,180	388,000	364,000	333,000	253,000		
Austria-Hungary	32,297	(b)	(b)	(b)	(b)	(b)	(b)
Belgium (a)	23,164	.....	.....	.....	.....	(b)	13,385
France	18,135	10,433	4,938	.....	4,491	6,752	9,675
Japan	13,394	28,437	31,874	46,437	45,282	63,849	(b)
Ireland	10,581	8,126	9,664	14,491	15,362	15,698	13,720
Netherlands	7,712	4,827	5,769	9,752	6,233	3,425	5,059
Italy (c)	2,808	2,264	2,461	2,461	2,362	2,362	2,362
Czechoslovakia	(d)	(d)	(d)	(d)	(d)	7,480	(b)

(a) Average for 1911-1913.

(b) Production not known.

(c) Estimated.

(d) Included in Austria-Hungary's production prior to 1918.