THE ROOTS OF FLAX PLANTS

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Flax is grown annually on from two and a half to three millions of acres of land in the United States. During the war and the years immediately following, this acreage was somewhat less. The crop is grown mainly in the Dakotas, Minnesota, and Montana and in the parts of Canada to the north of these states. A knowledge of the rooting habits of flax under the varying soil and rainfall conditions where it is grown is of importance in planning cropping sequences and cultural practices.

From the standpoint of a general study of root systems, information regarding the flax crop may be used to supplement that on other crops given in the recent publication on "Root Development of Field Crops" by Weaver.

PREVIOUS WORK ON THE ROOT SYSTEM OF FLAX

As early as 1890, Ten Eyck (6) made available a photograph of flax roots washed from the soil and the following description, "The flax has a different sort of a system of rooting from that of any other of the plants studied. A single, small thread-like tap-root runs vertically downward, giving off many small rather short side roots and feeders in the first 1/2 to 18 inches. Some of the roots reach a depth of 3 feet. The roots of flax do not form a net-work of roots near the surface as do those of wheat and oats, nor do they occupy the soil so completely. From the fact that flax is noted for decreasing fertility of the soil, I expected to find a much larger and stronger root development."

This was followed by additional work by the same author (7) giving another photograph of the roots of a flax plant grown in 6-inch drill rows, washed from the soil at maturity, and descriptive matter as follows, "Flax has a different system of rooting from that of wheat or oats. Its roots do not go so deep (2 1/2 to 3 feet in this sample), but it makes a much greater fibrous root growth in the upper 2 feet of the soil. Each plant sends down a single, small tap-root, which gives off many small side roots or branches, and these in turn give off numerous fibrous roots or feeders. The upper branches soon curve downward..."