Hemp makes a rapid growth, and adequate supplies of available nitrogen are essential for satisfactory crops. However, these data indicate clearly that excessive applications should be avoided. The problem is one of adjusting rates and balances of nutrients in such a way as to assure maximum production and at the same time maintain fiber quality. From the point of view of the grower, some loss in fiber strength may be justified if the increased yields give a greater net income.

LITERATURE CITED

4. Fabian, Hellmut. Der Einfluss der Ernährung auf die wertbestimmendsten Eigenschaften von Bastfaserpflanzen (Flachs und Nessel) unter besonderer Berücksichtigung der Ausbildung ihrer Fasern. Faserrorschung, 7; Nos. 1 and 2. 1928.

USE OF THE NATURAL CROSSING PLOT IN MAKING CASTOR BEAN HYBRIDS

Several years' observations and studies on the growth and floral habits of the castor bean plant led to the idea that the use of the natural crossing plot might be practical for making hybrid seed. First, the plant is mainly wind-pollinated. Second, the staminate flowers are easily removed before they shed pollen. The inflorescence consists of a spike bearing pistillate flowers on the upper portion and staminate flowers on the lower portion. In most cases the area of the spike bearing pistillate flowers is clearly differentiated from the area bearing staminate flowers. In a few types there is not this distinct separation, and in extreme cases, the staminate flowers are borne throughout the spike. Although these exceptional types make removal of staminate flowers somewhat tedious and time-consuming, they do not render the method impractical. Finally, the plants are indeterminate in growth habit. Flowers are produced throughout the growing season, and the period over which pollen is shed is therefore prolonged.

To test the feasibility of making castor bean hybrids in natural crossing plots, experiments were conducted in 1944 and 1945 at the Illinois Agricultural Experiment Station. The technic was similar to