MALVACEOUS BAST FIBER STUDIES
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The purpose of the investigations reported in this paper was to obtain information and quantitative data on the field growth, fiber content, and quality, together with ease of processing, of three malvaceous plants to determine the possibilities of their domestic production for fiber in a time of national emergency. Although not grown commercially in this country, they are cultivated in the tropical and subtropical climes of some countries as a source of fiber which has been manufactured into sacks, twine, ropes, etc. (6, 7, 8, 9, 10). As the character of fiber produced by the malvaceous plants is similar to jute fiber, many attempts have been made to use them as substitutes for jute. Available information indicates that the plants studied are among the most suitable fiber plants that have possibilities for domestic production in the southern states.

SEED SOURCES

Seed of Hibiscus from two sources and of Urena lobata L. from one source were used in the studies reported here. Seed of one strain of H. cannabinus L., U.S.D.A. P.I. 145650, was imported from El Salvador, C. A., under the designation “roselle” or H. sabdariffa var. alissima. Choussey (2) states the Salvadorian seed originated from importations from Netherlands East Indies or French Indo-China. Botanical studies of the seeds, flowers, calyces, and leaves indicated this strain to be not specifically different from H. cannabinus and probably not a variety of H. sabdariffa. The true H. sabdariffa var. alissimus Wester originated in West Africa and it is not possible to establish its identity at the present time. The variety grown in these studies under the name of H. sabdariffa var. alissima is probably not any variety of H. sabdariffa but, like the true H. sabdariffa var. alissimus, it produces a tall unbranched stem. For distinction in the discussion in this paper it will be referred to as var. “alissima”. Seed of the second strain of H. cannabinus, P.I. 144727, was obtained from Brazil and produced plants that differed morphologically from the var. “alissima” in that the plants branched profusely. The term H. cannabinus will be used to designate this strain. Seed of Urena lobata, P.I. 143797, was an importation from Cuba.

EXPERIMENTAL PROCEDURES AND METHODS

FIELD CULTURE

The plants were grown in 1943 on an Orangeburg sandy clay soil, moderately acid in reaction, located near Atmore, Ala.

Land preparation and fertilization consisted in the turning under of a winter cover crop of blue lupine, Lupinus augustifolius L., on March 10, diskng, applying basic slag at the rate of 800 pounds per acre April 1, and the application of a 6–8–4 analysis fertilizer at 1,000 pounds per acre just before planting.