DIFFERENCES IN PLANT TYPE AND REACTION TO RUST AMONG SEVERAL COLLECTIONS OF PANICUM VIRGATUM L.¹

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SWITCHGRASS, Panicum virgatum L., is an important forage grass and produces a good yield of hay. It is grazed in the younger stages of growth, since the palatability decreases as the plants become coarse later in the growing season. Hoover³ described switchgrass as an outstanding grass for use in erosion control. In revegetation plantings, switchgrass is used in mixtures with other tall grass species.

Switchgrass occurs more abundantly in the low prairies along streams and rivers. It comprises approximately 5% of the upland grasses in the bluestem pasture section of Kansas. It occurs on sandy upland soil or any lowland soil of western Kansas, and on all soils of the eastern part of the state. Hitchcock⁴ gives the range as from Quebec and Maine to Montana south to Florida, Nevada, Arizona, Mexico, and Central America.

Collections of switchgrass made by various representatives of the U. S. Dept. of Agriculture in different parts of the United States were available for testing in the Soil Conservation Service Nursery, Manhattan, Kans. The different accessions were grown for the purpose of making initial observations regarding adaptation and usefulness for revegetation plantings for erosion control.

Some of the accessions represent large acreages of native grassland from which seed is available for future planting if the type proves desirable for general erosion control plantings. Other accessions, such as individual plant selections cannot be obtained from native stands in a quantity sufficient for revegetation plantings, but can be increased from the nursery rows.

Nursery plantings were made in April 1937, April 1938, and June 1939. Sufficient seed of most of the accessions was available in practically all cases for three 10-foot rows spaced 2 feet apart. The nursery soil is a fertile sandy loam, characteristic of lowland in the Kansas River Valley.

Considerable difference was observed in the type of growth produced by the various accessions. Some were coarse, tall, and late

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