THE OCCURRENCE AND INHERITANCE OF CERTAIN LEAF “SPOTS” IN SUDAN GRASS

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The so-called “spotting” that frequently occurs on the leaves of sudan grass, Sorghum vulgare var. Sudanense (Piper) Hitchc., may be caused by bacterial or fungal organisms, by insect damage, or by mechanical injury. It is also possible that some “spotting” may be due to physiological conditions within the plant. Up to the present only negative results have been obtained in attempts to isolate a possible causal organism of the leaf spotting reported here.

Johnson has briefly described three bacterial and three fungal diseases associated with foliar discolorations in sudan grass. The inheritance of plant colors in sorghum has been reviewed recently by Stephens and Quinby and, therefore, no further review will be given here except to point out that the inheritance of such characters has been found to be simple. On the other hand, seed colors have been found to be somewhat more complex in their inheritance.

The purposes of the present paper are to describe leaf spots observed on selfed lines of sudan grass grown in the nursery at State College, Pa., during 1941, and to present data regarding the inheritance of three types of spotting.

OBSERVATION AMONG SELFED LINES IN 1941

In the nursery during 1941 a total of 464 selfed lines were grown in short rows with the plants individually spaced. The lines had been selfed from 2 to 4 years with the exception of a few that had been selfed for a longer period. The lines could be roughly divided into

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