The Method of Reproduction in Common Bahia Grass, *Paspalum notatum*¹

GLENN W. BURTON²

Bahia grass, *Paspalum notatum*, one of the major pasture species in South America, has long been recognized as a grass capable of contributing to the improvement of pastures in the southeastern United States. Studies of collections of strains from the tropical sections of the Western Hemisphere have demonstrated the existence of widely divergent types of this species (4).³ In Brazil and Paraguay, where many of these types grow together in the same range, cattle show a definite preference for the large-seeded, broad-leafed, common type. There can be little doubt but that common Bahia is more palatable than the narrow-leafed cold-resistant types (4). Its susceptibility to winter injury, however, has limited its use largely to the state of Florida and has placed special emphasis on the need of developing cold-resistant strains. A breeding program directed toward this end was begun at Tifton, Ga., in the summer of 1937. It is the purpose of this paper to present the findings relative to the breeding behavior of common Bahia grass.

**SELF FERTILITY**

In the summer of 1937 several panicles on a number of common Bahia plants were enclosed in glassine bags. The extremely poor seed set experienced under these bags indicated that adequate quantities of self-pollinated seed could not be produced in this manner. Consequently, in the spring of 1938, 20 selected clones were planted in isolated plots on the Experiment Station grounds at Tifton, Ga. These clones were also interplanted in a polycross block. An analyses of the first seed harvested from these clones on August 8 revealed that they were setting seed as well in isolation as in the polycross block. These results suggested that the poor seed set obtained under bag in 1937 was due to the unfavorable influence of the bag rather than the self-sterility of the Bahia clones.

On August 25, 1938, panicles on six isolated clones of Bahia grass were enclosed in cotton, glassine, and parchment bags. Unbagged panicles at the same stage of development were tagged to permit a comparison of the effect of bagging under similar climatic conditions. All bagged and tagged panicles were harvested when mature and were examined to ascertain the percentage of florets to set seed. The results of this study, presented in Table 1, show that all bags reduced the percentage of florets to set seed. Statistical analyses

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²Senior Geneticist, U. S. Department of Agriculture, Tifton, Ga.

³Figures in parenthesis refer to “Literature Cited”, p. 452.