INHERITANCE OF GREEN FUZZ, FIBER LENGTH, AND FIBER LENGTH UNIFORMITY IN UPLAND COTTON

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Fuzz color, fiber length, and fiber length uniformity are each considered by all in the cotton industry as important characteristics of commercial cotton varieties. Fuzz color may either be a harmful or a useful attribute. With fuzzy seed varieties the gin usually removes from the seedcoat some tufts of fuzz along with the lint. The presence in the lint of these tufts when derived either from an intense green or a dark brown seed fuzz coat, lowers the grade of the commercial sample.

Tyler (13) called attention to the undesirability of intense green fuzz in the Russell variety. In some unpublished current work with F1 hybrids of sea island x upland, the intense green or dingy brown fuzz color inherited from the sea island parent, was found by the writers to lower the grade of the lint sample. On the other hand, the more moderate shades of fuzz color, such as white, whitish gray, gray, or even light brown, if genetically stabilized, provide helpful varietal markers or identification characters in seed standardization work.

Considerable genetic work has been carried on in separate studies of fuzz color and of fiber length. Kottur (9), however, reported a study of the association of brown lint color and length of lint. The brown lint stock presumably had brown fuzz. The brown color in the F2 was associated with short lint. The color came into the cross, however, with the lint of the longer parent. No information has come to the attention of the writers on the study of the inheritance of fiber length uniformity.

Inheritance studies of fuzz color within species and between species have been reported intermittently by a number of workers for the past 35 or 40 years. Harland (4) reviewed this work rather completely in 1939. However, the mode of inheritance of fuzz color in upland cotton (Gossypium hirsutum), except when associated with colored lint, has not been worked out very satisfactorily. Ware, Jenkins, and Harrell (15) have shown that the color of Nankeen lint and the corresponding fuzz color are definitely associated. Fuzz color study as associated with white lint among the many upland varieties is complicated by many natural shades of color and by the process of fading of some of these colors on exposure to light and other weather effects.

Inheritance of fiber length has been studied for a number of years, but cotton breeders have not been provided as yet with adequate information as to the hereditary behavior of the characteristic.

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3Reference by number in parenthesis is to “Literature Cited”, p. 392.