

Study on Fiber Characteristics of F_1 and F_2 Hybrid Cotton

CHEN Jin-xiang¹, LI Rui-lian¹, CHEN Bu-yang², LIU Hai-he¹

(1. Cotton Research Institute of Hunan Agricultural University, Changsha 410128, China; 2. Research and Development Center of Industry Crops in Hunan Province, China)

Abstract: The utilization of hybrid vigor in cotton by planting first-generation hybrids (F_1) has been extended in cotton production. However, there are disagreements about the utilization of second-generation hybrids (F_2). Compared with F_1 , the lint yield of F_2 was lower, but still higher than that of the conventional varieties and their parents. Thus F_2 has been grown extensively in the southern cotton planting region in China. Nevertheless, the decline of fiber qualities attracts more and more attention in cotton production. The study was conducted to compare with fiber characteristics of F_1 and F_2 from 2001 to

2003. F_1 and F_2 of Nongza 62 were planted in the experimentation station of Hunan Agricultural University in Nan xian County. The results showed that the sample means of F_1 and F_2 fiber properties, such as staple length, fiber strength, uniformity of fiber length, fiber fineness (micronaire), fiber elongation and fiber spinning uniformity indexes were not significantly different. But the values of these characteristics varied among individuals within the F_1 and F_2 population. The distribution of each fiber parameters in the values accorded with the same standard normal curve. There were more plants that have better fiber quality in F_1 populations than in F_2 , so the integer fiber quality of F_1 was a little better than that of F_2 .

Key words: hybrid cotton; fiber property