

Analysis on Heterosis and Diversity of Main Characters of Different Transgenic Cotton

ZHU Qing-zhu , ZHAO Guo-zhong , LI Ai-guo , GAI Li-wen

(1. *Shijiazhuang Scientific Institute of Agriculture, Shijiazhuang, Hebei 050041, China;*
2. *Luancheng Agricultural Technology Center, Luancheng Hebei, China*)

Abstract: Heterosis and diversity of main characters of 12 hybrids which were made by using four different transgenic cotton from China and American containing Bt gene and CpTI gene respectively as female parent, and three normal varieties as male parent, were analyzed. The results showed that: The heterosis of lint yield before frost, total yield, bollweight and lint percentage were apparent in heterosis ratio to the check, which were 95.80%, 83.33%, 95.45% and 87.50%, respectively, and 27.65%, 14.26%, 13.13% and 11.95%, respectively for

CH%. Lint yield before frost of sGK321 have the highest heterosis; Heterosis of plant height was obvious, with 22.46% of CH%, and heterosis of number of fruit branch, boll number per plant were un conspicuous, with 2.78% and -7.33% of CH%, respectively; heterosis(CH%) of 2.5% span length, fiber uniformity, fiber strength were -2.01, 0.17, 11.94, respectively (positive), while CH% of elongation rate, micronaire were 4.29%, 13.37%, respectively (negative). Elongation rate of GK12 has the highest heterosis for CH%; fiber strength of Jinmian 26 has the highest heterosis for CH%, and heterosis for CH% of 33B in 2.5% span length, fiber uniformity, and micronaire were the highest.

Key words: transgenic cotton; main characters; heterosis