# Cotton Breeding in China

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**Abstract**: Cotton production plays a very important and irreplaceable role in the national economy of China, which has over 10% output value of cotton industry with only 3% of total crop plant area. Except for a series of varieties with BT, BT and CPTI genes, great advance has been made in cotton breeding with main characteristics such as high-yield, high-quality, low gossypol, early-maturity, resistance to disease and pest, tolerance to drought and salinity, chilling, high temperature and color lint types. Through the “973” national high-tech key project on functional genomics of cotton fiber quality and its molecular genetic improvement launched from 2004, new methods to efficiently separate proteins for proteomic analysis of developing cotton fibers have been developed to clarify a simplified model of the regulatory mechanism controlling cotton fiber cell. A simplified model was established to depict the regulatory mechanism controlling formation of cotton fiber. A high-density genetic linkage mapping was constructed with perennial $F_2$ population of *G.hirsutum* × *G.barbadense*. High performance transgenic technology systems have been constructed including agro-bacterial transformation system, pollen-tube mediation system, gene-gun bombardment system. A series of genes such as *SOD* and *Ghcysp*, which encoding a *cysteine* proteinase, has been isolated from senescent cotton. Related to fiber development, some functional genes has been cloned, 7 of which were associated with fiber quality.

**Key words: cotton; breeding; China**

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