



## Construction of a primary DNA fingerprint database for cotton cultivars

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**ABSTRACT.** Forty core primers were used to construct a DNA fingerprint database of 132 cotton species based on multiplex fluorescence detection technology. A high first successful ratio of 99.04% was demonstrated with tetraplex polymerase chain reaction. Forty primer pairs amplified a total of 262 genotypes among 132 species, with an average of 6.55 per primer and values of polymorphism information content varying from 0.340 to 0.882. Conflicting DNA homozygous ratios were found in various species. The highest DNA homozygous ratio was found in landrace standard cultivars, which had an 81.46% DNA homozygous ratio. The lowest occurred in a group of 2010 leading cultivars with a homozygous ratio of 63.04%. Genetic diversity of the 132 species was briefly analyzed using unweighted pair-group method with arithmetic means.

**Key words:** DNA fingerprint database; Simple sequence repeat; Fluorescence detection