

Studies on the Inheritance of *Verticillium dahliae* Resistance in *G. hirsutum* and *G. barbadense*

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Abstract: Three cultivars of *Gossypium barbadense* and five upland cotton (*G. hirsutum*) cultivars were used as host materials, and *Verticillium dahliae* Anyang strain, the intermediate virulent, had been used as the pathogenic fungus in the experiment to study the inheritance of *Verticillium dahliae* resistance of *G. barbadense* and *G. hirsutum*. The experimental results reviewed that the *Verticillium* wilt resistance in *G. barbadense* was a quality genetic trait, controlled by a single dominant gene, with the re-

sistant plants to sensitivity ones in F₂ population of 3 : 1 and 1 : 1 in BC₁ population. The *Verticillium* wilt resistance in *G. hirsutum* was a quality genetic trait as well, and the resistant plants to sensitivity ones in F₂ population was 3 : 1 and those in BC₁ population was 1 : 1. For the interspecific hybrids between *G. hirsutum* and *G. barbadense*, about 95% of F₁ and BC₂ plants that derived from resistant species were resistant, while those derived from resistant *G. barbadense* and sensitivity upland cotton was following the Mendel's law, which indicated that the gene or genes controlled the resistance to *Verticillium* wilt in *G. barbadense* and *G. hirsutum* might be in same locus or loci.

Key words: *G. hirsutum*; *G. barbadense*; *Verticillium dahliae*; inheritance