

## Observation on the Anatomical Structure of Pigment Glands in *G. bickii* and *G. stockii*

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**Abstract:** The anatomical structure of two cotton species in *Gossypium*, *G. bickii*, the species with the character of delayed gland morphogenesis, and *G. stockii*, the species with the character of glanded seeds and low gossypol content, were studied in this paper. The results reviewed that there were special structure called "gland primodium" in embryo of *G. bickii*, although it is glandless by naked eyes. The period for gland formation of *G. bickii* started from the formation of cotyledons in the embryo to the seed germination. As for the specie of *G. stockii*, although there were the special structures of "gland pri-

modium" in embryo during the development of the embryo as well, the gland primodium period was relatively short, and most of the primodium had become the real glands with a small cavum at the stage of matured seeds. In addition, there were some dark stained materials inside the cavum of the glands, and the wall of the gland cavum in the *G. stockii* was much different from that of *G. bickii* and normal glanded upland cotton, indicated that the gland type of *G. stockii* was intermediate one between the normal glanded and the delayed gland morphogenesis trait of Australian wild species. It is suggested that the gland and gossypol character of *G. stockii* are important traits for low gossypol cotton breeding.

**Key ward:** pigment gland; anatomy; *G. stockii*; *G. bickii*