

## EFFECT OF GROWTH HORMONES ON RETENTION OF FRUITING BODIES IN COTTON

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THE wild species of *Gossypium* L. provide enormous potential to incorporate desirable traits into commercial cotton varieties. The interspecific gene transfer, however, is beset with several problems. The crossability barriers in interspecific hybridisation in higher plants have been discussed<sup>1</sup>. The physiological processes responsible for boll development in cotton are interrupted at different thresholds, such that the development of all parts do not cease simultaneously<sup>2</sup>. The present study was aimed at overcoming shedding of pollinated flowers and fruiting bodies on interspecific hybrids of diploid cottons using different hormones.

The experiment was conducted on interspecific hybrid (*G. arboreum* × *G. anomalum*) to determine the effect of different growth hormones on retention of fruiting bodies. Different concentrations of indole acetic acid (IAA 25 and 50 mg/l) and gibberellic acid (GA<sub>3</sub> 25 and 50 mg/l) individually and in combination (IAA 25 mg/l and GA<sub>3</sub> 25 mg/l) were sprayed daily for 20 days on the hybrid during fruiting period. The control and treated shoots of field-grown plants were compared for flower retention.

The application of GA<sub>3</sub> (50 mg/l) was most effective for retention of fruiting bodies as compared to other hormones/combinations. The GA<sub>3</sub> treated shoots retained 24.44% bolls as compared to untreated control shoots (4.44%). The treated shoots produced normal-sized bolls with seeds. GA<sub>3</sub> (50 mg/l) was effective in overcoming flower and boll shedding in the hybrid. High boll retention and seed set with the application of GA<sub>3</sub> on interspecific hybrid between *G. hirsutum* 'keyi2' and *G. arboreum* 'wantzu' has also been reported by other workers<sup>3</sup>.

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## A NEW RECORD OF EMERGENCE OF *HIEROGLYPHUS NIGROREPLETUS* BOL. (ACRIDIDAE:ORTHOPTERA) AT ALIGARH

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*HIEROGLYPHUS nigrorepletus* Bol. is a pest of great significance in the Tarai regions of Uttar Pradesh and has been named as the 'monsoon enemy of man' because they appear just after the first monsoon showers in breeding areas and start feeding voraciously on the seedlings of the crops<sup>1-6</sup>.

During the survey of Acridoids at Aligarh (latitude 27°34'30"N, longitude 78°4'26"E), the authors collected advanced stages of *H. nigrorepletus* and allowed them to grow in the laboratory. There was an unscheduled rain which probably acted as an ecological factor in the breakthrough of the diapausing eggs. This unrecorded early emergence led to the conclusion that the diapause broke out by an abrupt environmental stress such as high temperature coupled with high humidity. Population of hopper was significant at some permanent breeding areas. The following plants were identified as food plants of these hoppers during April 1982—

- (1) *Panicum antidotale* Retz.
- (2) *Sporobolus diander* Beauv.
- (3) *Cenchrus ciliaris* Linn.
- (4) *Saccharum spontaneum* Linn.

This seem to be the first report of its kind and is significant because of the diapausing nature of the eggs and its recorded abundance from July to September and its 9 month existence in an egg-diapause. The present report is important to agriculturists and pest control management as it forewarns the emergence of the pest.

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