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Research Paper

Crossed seed yield and yield attributing characters as influenced by date of sowing of parents, growth regulators and micronutrient sprays in NHH-44 Bt. cotton hybrid

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ABSTRACT

The influence of three date of sowings *viz.*, D_1, D_2 and D_3 and two growth regulators and four micronutrient sprays were studied for crossed seed yield and yield attributing characters. Among the staggered sowing of male parent, D_2 recorded higher number of female flower buds crossed per plant (90.58), crossed bolls per plant (34.75), crossed seed cotton yield (1019 kg/ha), and crossed seed yield (664 kg/ha) compared to other two staggered sowing treatments and also simultaneous sowing of both the parents recorded higher crossed boll weight (3.72), crossed seed weight per boll (2.10), compared to other two staggered sowing treatments. Among the chemical spray, the boom spray recorded higher number of female flower buds crossed per plant (94.00), crossed bolls per plant (36.50), crossed seed cotton yield (1034 kg) and crossed seed yield (656 kg/ha). The staggered sowing of male parent, 50 per cent first male sowing + 100 per cent female sowing, remaining 50 per cent male seeds were sown seven days after the first male sowing in combination with boom spray recorded higher number of female flower buds crossed per plant (97.00), crossed bolls per plant (37.50), crossed seed cotton yield (1056 kg/ha) and crossed seed yield (698 kg/ha) compared to the other combinations.

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Key words : Date of sowing, Lihocin, NAA, Crossed seed yield

INTRODUCTION

The major barrier in hybrid seed production is perfect synchronization of flowering between female and male in order to get higher crossed seed yield with better quality due to less insect damage, the square and flower dropping is less flower setting, locule damage are less and hence there is increase in number of retention of squares/flowers in Bt version of female parent (BN1) of NHH-44 hybrid cotton. Therefore, the already standardized staggered planting may also be expected to change. Due to less insect damage, retention of good opened bolls is also more. Hence, there is a need to supplement the plant proper micronutrients and growth regulators to retain the crossed bolls on the plant for final harvest so that crossed seed yield can be increased with high quality. So, in order to ascertain the quality of hybrid seed (NHH-44 Bt cotton) produced at different date of sowing of parent, micronutrient, growth regulator spray, the present experiment was planned.

MATERIALS AND METHODS

An experiment on inter hirsutum (BN1 x AC-738) Bt cotton hybrid (NHH-44) seed production was laid out at Agricultural Research Station, Dharwad during *Kharif* 2009 in Factorial Randomized Complete Block Design. The 1st factor consisted of three date of sowing of parents *viz.,* D_1, D_2 and D_3. The second factor consisted of two growth regulators *viz.,* NAA (10 ppm), lihocin (100 ppm) and four micronutrients *viz.,* $MgSO_4$ (1%), Boron (1%), boron (2 ml/litre), viagro (1 ml/litre) were used for foliar application to the female parent.

The picked crossed kapas from each treatment combinations were separately cleaned, ginned and the crossed seeds were collected, ginned and the crossed