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Performance of different Bt cotton hybrids against mirid bugs, *Creontiades biseratense* (Distant) (Miridae: Hemiptera)

Bt cotton presently (2008-09) occupies 7.6 million hectares constituting nearly 81% of the total cotton area in India with a production of 4.9 million tonnes. *Creontiades biseratense* (Distant) is an emerging sucking pest on Bt cotton in Karnataka (Patil *et al*., 2006). Mirid bug sucks sap from squares and young bolls causing heavy shedding of squares and bolls (Ravi and Patil, 2008). Extensive increase in Bt cotton area may result in further increase in severity of mirid bugs. The present investigation was initiated to evaluate the performance of various Bt cotton hybrids against mirid bugs.

An experiment was laid out at College of Agriculture, Bheemarayanagudi during *Kharif* 2007-08 in a randomized block design (RBD) with 32 hybrids replicated twice. Twenty nine Bt cotton and three non-Bt cotton hybrids were sown in three lines each with a spacing of 90 x 60 cm. All the recommended package of practices was followed and the crop was sprayed twice against sucking pests and once against bollworms. Mirid bug population was recorded at fortnightly interval (ten squares per plant) from five plants in each genotype. Seed cotton yield collected from each genotype was extrapolated as quintals basis. The treatments were subjected to statistical analysis by single factor ANOVA and were compared by following Duncan's Multiple Range Test. Nymphs and adults of *C. biseratense* damaged the squares, flowers and small tender bolls by sucking the sap resulting into gradually yellowing, shriveling and premature dropping of squares and young bolls.

Reaction of different Bt and non-Bt cotton hybrids to mirid bug infestation indicated that significantly lowest population was observed in DHH-11 (2.75 mirid bugs/10 squares) which was statistically at par with DHB-105, Mahasangram, Bajrang, Jai, RCH-2Bt, DCH-32, Brahma, Ankur-3042, NCS-929 and ABCH-1220 (2.80, 2.90, 3.00, 3.40, 3.70, 4.30, 4.40, 4.20, 4.10 and 4.40 mirid bugs/ 10 squares, respectively). On the contrary, significantly highest mirid bug population was recorded in NCHB-992 (12.50 mirid bugs/ 10 squares) followed by Surpas, SP-504, MRC-7347 and NCS-145 Bt (10.25, 9.60 and 8.45 mirid bugs/ 10 squares, respectively).

Relationship between the incidence of mirid bug and seed cotton yield could not be interpreted since the yield was largely influenced by variation in genotype of a cotton hybrid. However, KCH-135, Akka RCH-530 have recorded significantly higher seed cotton yield (19.38, 18.59 and 16.13 q/ha, respectively) in which mirid bug population was also relatively less. A similar study (Udikeri, 2008) indicates no differential susceptibility of newly introduced 30 Bt cotton hybrids to mirid bug. However, detailed investigations on the mechanism of resistance.

Table 1. Mirid bug incidence on different Bt cotton hybrids and seed cotton yield.

Bt cotton hybrids	Mirid bug/ 10 squares	Yield (q/ha)
ABCH-1020	8.26	12.63
ABCH-1165	6.75	10.96
ABCH-1220	4.40	11.09
ABCH-3083	6.77	12.88
ABCH-3483	5.30	11.46
ABCH-1065	6.49	15.30
NCHB-990	8.24	11.68
NCHB-992	12.50	11.21
NCS-954	6.65	14.21
NCS-145	8.45	14.30
NCS-145 N Bt	8.95	9.75
NCS-929	4.10	14.92
NCS-207	6.53	12.88
MRC-7347	9.60	16.38
MRC-7201	6.18	7.50
MRC-7918	5.45	8.34
MRC-7351	5.58	13.88
MRC-6918	7.98	11.50
RCH-530	6.75	16.13
RCH-2 Bt	3.70	12.09
AKKA	6.40	18.59
JAI	3.40	13.08
ANKUR-3042	4.20	14.00
CHIRANJEEVI	6.55	15.90
BAJRANG	3.00	11.50
KCH-135	5.57	19.38
Mahasangram	2.90	13.09
SURPAS SP-504	10.25	9.38
BRAHMA	4.40	8.88
DCH-32	4.30	9.63
DHB-105	2.80	10.00
DHH-11	2.75	10.29
CD @ 5%	1.71	3.08
S. Em±	0.596	1.072
CV (%)	13.90	12.04

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