ABSTRACTS
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Genetic analysis for quantitative characters in 'upland' cotton (*Gossypium hirsutum* L.)

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ABSTRACT : The components of generation means were partitioned in a cross involving diverse parents, F 414 and American. Nectariless for seed cotton yield per plant, number of bolls per plant, halo length, ginning outturn and plant height. The analysis indicated that digenic-epistatic model was most adequate for halo length and ginning outturn whereas trigenic-epistatic model explained the range of variation present in generation means for number of bolls per plant. In case of seed cotton yield and plant height none of the models tried could explain the available range of variation. The epistasis was found to be an integral part in the genetic control of all the characters under study. The additive genetic components were important for seed cotton yield, number of bolls per plant whereas both additive and non-additive components were operative in the inheritance of plant height and halo length. The implications of the present study in the improvement of population derived from this cross have been discussed.

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A method for rapid production of embryogenic callus cultures of cotton (*Gossypium herbaceum* L.)

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ABSTRACT : A procedure is described for rapid production of early stage embryonic callus cultures of *G. herbaceum.* The experiment involved the cv. SM-88, grown on Murashige and Skoog's (MS) medium. The auxins IAA and NAA, and the cytokinin, thiadiazuron (TDZ), were utilised for callus initiation and maintenance. Enbryogenic sectors appeared within four months of callus initiation. Formation of embryogenic sectors best corresponded with fast growth of calli. Microscopic analysis revealed the presence of somatic embryoids in different developmental stages.

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Potentials for seed setting in egyptian cotton

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ABSTRACT : Studies made with 20 phenotypically and geographically diverse germplasm lines of Egyptian cotton during 1988 and 1989 indicated that genetic differences exist among genotypes for seed setting potential. The highest seed setting potential was observed in 199 x 436-BI followed by 199 x 17-16B-9 and 136 x 181 bulk 8-10. The influence of flowering period was also significant on ovules/ovary, seeds/boll and seed setting percentage. There was ample scope for genetic improvement of these characters through hybridization and directional selection.

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Effect of spacings and nitrogen levels on periodicity and intensity of buds/flowers production and their abscission in cotton

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ABSTRACT : A field experiment was conducted during 1983 and 1984 at HAU Cotton Research Station, Sirsa. More flower buds and flowers were produced in variety H 777, whereas the abscission of buds and bolls was more in variety HS 50. Per cent abscission in H 777 and HS 50 were 63.6 and 70.7, respectively. Maximum number of buds and flowers were produced and shed under the wider spacing (60 x 30 cm) and minimum under closer spacing (60x15 cm). However, per cent abscission was 71.4 in closer spacings (60x15 cm) and 65.5 in wider spacings (60x30 cm). Increasing levels of nitrogen increased the number of flower buds and flowers.

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Influence of fertilitzers and amendments on the control of root rot of cotton due to *Rhizoctonia solani*

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ABSTRACT : Root rot of cotton caused by *Rhizoctonia solani* Kiihn has become a serious problem in Haryana State since 1975. The efficacy of fungitoxicants (Carbendazim, Carboxin, Quintozene and Thiram) was variously altered in soils amended with different amendments like fertilizers (NPK); form yard manures (FYM); boigas slurry (BGS) and saw dust (SD). Disease control potentiality of Carbendazim seed treatment was least affected. Saw dust was most active in reducing the efficacy of fungitoxicants. The decrease of fungitoxicity was relatively more when high doses of amendments were used.

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Outbreak of bacterial blight of cotton in rajasthan and haryana-causes and future strategies-for its management

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ABSTRACT : The outbreak of bacterial blight of cotton caused by *Xanthomonas campestris* pv. *malvacearum* have been observed in Sriganganagar area of Rajasthan and Sirsa of Haryana. In Sriganganagar area the bacterial blight was considered to be a minor disease till recent years. The congenial weather conditions of high temperature 32-37^{0}C with high relative humidity of over 75 per cent, the predominance of highly virulent races viz., 10 and 18 and the cultivation of highly susceptible cultivars appear to be responsible for the outbreak of this disease. Eradication of inoculum in seed and trash, spraying of the crop with proper concerntration of streptomycin sulphate and copper oxychloride formulations immediately after the disease appearance to avoid further spread and utilisation of sources of resistance to evolve cultivars with high degree of horizontal resistance to highly virulent races for combating the future threats are discussed.

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Screening cotton cultures for resistance to whitefly, *Bemisia tabaci* Genn.

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ABSTRACT : Soruces of host resistance to cotton whitefly, *Bemisia tabaci* Genn., were identified among the 143 germplasm lines screened during 1986 and 1987 seasons. These germplasm lines were grouped into six distinct classes based on their relative field reaction to whitefly. Thirty six cotton cultures fell under lowest infestation gropus (below 4 numphs/cm^2). When twenty selected cultures from these six classes were further grouped by D^2 analysis based on their reaction to different stages of whitefly, nine of them viz., LK 861, LPS 141, D 53, JK 97-FBRN, NHV-1, 2 F, MERS-17, 2 F, A 102 and JK 286 were put together under single cluster representing relatively high resistance to whitefly, recording mean level of 1.76 adults/leaf; 30 numphs/cm^2. Popular varieties like MCU-5, LRA-5166 and Sharda fell under highly susceptible cluster showing 5.0 adults/leaf; 11.5 numphs, 22.3 eggs and 14.6 puparia/cm^2.

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Bollworms' incidence in relation to sowing date and spacing in *Arboreum* cotton

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ABSTRACT : Bollworms incidence vis-a-vis sowing date and spacing in *arboreum* cotton were studied under unprotected conditions at Punjab Agricultural University, Ludhiana during 1987 and 1988. May 5 and May 15 sown crop as well as 60x45 and 67.5x45 cm spacings had lower bollworm incidence and less stained seed-cotton. Late sown crop as well as clower spacing (60x15 and 67.5x15 cm) harboured higher population of diapausing pink bollworm larvae. The implications of sowing dates and spacings have been discussed to the disadvantage of bollworms about adverse effect on seed cotton yield.