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**Research article**

# EFFECT OF LEAF MORPHOLOGY ON THE INCIDIENCE OF SUCKING INSECT PESTS IN SOME COTTON GENOTYPES (VARIETIES)

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**The present study was conducted to formulate the effect of leaf morphology on the incidence of sucking insect pests on five cotton genotypes viz, BT-121, BT-456, FH-216, FH-160 and Desi. Whitefly adult had negative correlation with gossypol glands on midrib, vein, lamina and number of hairs on lamina which is -0.118, -0.002, -0.098 and -0.032 respectively while it showed positive correlation with number of hairs midrib (0.381), vein (0.221) and length of hair (0.392). Whitefly nymph had negative correlation with gossypol glands on midrib (-0.001) and vein (0.007) while it had positive correlation with gossypol glands on lamina, number of hair on midrib, vein and lamina and length of hair which is 0.031, 0.098, 0.057, 0.207 and 0.381 respectively. Jassid adult had negative correlation with gossypol glands on midrib (-0.050) whereas it was correlated positively with gossypol glands on vein (0.448), lamina (0.321), number of hair on midrib (0.277), vein (0.051) and lamina (0.207) and length of hair (0.023). Jassid nymph was negatively correlated with gossypol glands on midrib (-0.226), vein (-0.010), lamina (-0.129), number of hairs on midrib (-0. 114) and vein (-0.160) and length of hair (-0.202) while it had positive correlation with number of hairs on lamina (0.082). Thrips had negative correlation with gossypol glands on midrib (-0.023), vein (-0.076), lamina (-0.240), number of hairs on midrib (-0.117) and vein (-0.068) and length of hair (-0.007) whereas it was correlated positively with number of hairs on lamina (0.077).**

**Key words:** Insect pests, Cotton, Genotypes, gossypol glands, lamina, midrib, whitefly.

## Introduction

Cotton (*Gossipium hirsutum*) commonly known as silver fiber, is backbone of Pakistan (Tayyib et al., 2005). It is one of the most important cash crops of Pakistan. It contributes about 68% to the foreign exchange earning of Pakistan (Khan and Khan 1995). Pakistan ranked 4th position in the world as for as cotton production is concerned ( Mahboob, 2005) . Cotton contributes 8.2 percent to the agriculture and about two percent to GDP (GOP 2004) . There are a number of constrains which presently cotton crop is facing. Insects pest are the main threat to cotton production. About 96 insects and mites pest species have been recorded on cotton (Yunus et al., 1980). Every year five to ten percent cotton yield is lost due to the cotton pests (Huque, 1972).

Cotton is handicapped by both, sucking insects and chewing insects. Sucking insect pests weakened the plant by sucking sap from leaves and other tender parts of cotton plants. Sucking insect pests may include is whitefly, jassid, aphid and thrips etc ( Haq, 1970; and Nizamani et al., 2002). Attack of sucking insect pests start right from the crop sowing and continue till its maturity. About 40 -50% of crop is damage due to sucking insect pests ( Naqvi, 1976) . To control the sucking insect pest farmers used chemical insecticides (Soomro et al., 2000) . To save their crops and to get higher yield formers rely more on use of pesticides. In cotton about 76 percent of the pesticides are used in

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