INFESTATION by thrips frequently causes serious injury to young cotton plants. The injury results in reduced stands or in reduced yields due to stunting and delayed fruiting of the plants. Under moderate thrips infestation, damage is usually restricted to mutilation of leaves, which temporarily retards development of the plants without seriously impairing subsequent growth. In many cases injury and decreased vigor of cotton plants due to thrips may cause increased susceptibility to infection by seedling disease organisms. Terminal buds of plants are frequently destroyed by thrips, causing development of low, spreading vegetative branches which are often broken by passage of mechanized equipment or which may interfere with efficient operation of mechanical pickers.

Numerous reports on thrips injury to cotton and other crops have been published, and instances varietal differences in resistance to thrips have been reported in crops other than cotton. Unfortunately the species of thrips involved were not determined. Several species are known to affect cotton plants seriously. During the time the cotton tests were conducted, three species of thrips were identified from species collected from fields of small grains and cowpeas. These were onion thrips (Thrips tabaci), the tobacco thrips (Frankliniella fusca) (Hinds), and the grain thrips (Limo-thrips cerealium Hal.).

Existence of natural resistance in certain varieties indicates that improvement in resistance may be obtained by observing behavior of young breeding plots exposed to thrips infestation of resistant plants or strains, and developing improved resistance in varieties which are not homozygous with respect to qualities causing susceptibility. In the present study, varieties having rather dense pubescence of juvenile leaves subtending the terminal buds were resistant to thrips, while varieties which were highly susceptible to thrips had terminal growth sparsely pubescent or nearly glabrous. It is possible that resistance in cotton may be due to factors other than pubescence of terminal growth, as Miller (3),:reporting on thrips infestation in bean varieties, states