

DAQ26L Executive Summary

ABSTRACT: When searching for an ideal 'mass screening technique' for cotton plant antibiotic resistance to *Helicoverpa* spp., a '48 hour feeding on squares using final instar larvae' bioassay was found to be the most suitable. It correlated better, than the other techniques trialed, with the 'Standard' larval bioassay traditionally used as an antibiotic resistance measuring tool and was more energy efficient than the 'Standard'.

An ideal mass screening technique using the two spotted mite (*Tetranychus urticae*) on cotton seedlings failed to correlate with the 'Standard' rendering it unsuitable for measuring antibiotic resistance to *Helicoverpa* spp..

The widely reported finding that gossypols are very important to the antibiotic activity against the cotton bollworm (*Helicoverpa armigera*) was supported with highly significant correlations between gossypol content of plant material and percent larval weight gains. In contrast, condensed tannin content of 'fresh plant' diet incurred insignificant antibiotic activity against the cotton bollworm but important antibiotic activity against the two spotted mite (*Tetranychus urticae*).