

EVALUATION OF AIM AND ET AS HARVEST-AIDS IN COTTON
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Abstract

Chemical harvest-aid applications in cotton are utilized to achieve boll opening, leaf defoliation, regrowth inhibition, and weed desiccation in order to properly prepare cotton for harvest. Most chemical harvest-aids do not desiccate weeds, such as morningglories, that can interfere with the harvest of cotton. Aim and ET are two recently labeled chemical harvest-aids in cotton that both prepare the cotton for harvest and desiccate many problematic weeds. These two harvest-aids have a PPO (protoporphyrinogen oxidase) inhibiting mode of action, and can also be used as herbicides in cotton weed control programs prior to maturity.

Field experiments were conducted in 2001 and 2002 at the Plant Science Research Center near Starkville, MS and in 2003 at the Black Belt Branch Experiment Station near Brooksville, MS to evaluate the efficacy of Aim and ET on cotton as harvest-aids. Treatments were arranged in randomized complete block design with four replications on plots that were 40 ft long by 26 ft wide. Aim was applied at the 0.016 and 0.025 lb ai/A, while ET was applied at the 0.0025 and 0.0033 lb ai/A. The cotton was evaluated for visual percent leaf defoliation, visual percent leaf desiccation, and percent boll opening at 3, 7, and 14 DAT (days after treatment) in addition to yield. Another field experiment was initiated at the Plant Science Research Center near Starkville, MS in 2003 to evaluate the efficacy of Aim and ET on pitted morningglory (*Ipomoea lacunosa* L.) Efficacy was evaluated through visual estimates of percent leaf defoliation, leaf desiccation, and stem desiccation at 3, 7, and 14 DAT. An untreated control was included in both the cotton and weed efficacy experiments.

Aim and ET performed similarly in harvest-aid efficacy on cotton. Both harvest-aids had at least 48% leaf desiccation at 3 DAT. Leaf defoliation was found to be no less than 76% at 7 DAT and 87% at 14 DAT for both Aim and ET. At least 75% boll opening was achieved at 7 DAT and 82% regrowth inhibition achieved at 14 DAT for both harvest-aids. Morningglory desiccation results were also similar among both products with at least 62% leaf desiccation at 3 DAT, and 81% leaf defoliation and 84% stem desiccation at 7 DAT. With Aim and ET both capable of properly preparing cotton for harvest and desiccating problematic weeds, producers have two effective chemical harvest-aids available to achieve all desired aspects of a harvest-aid application.