

THE BENEFITS OF TRANSFORM® INSECTICIDE FOR SAP FEEDING INSECT CONTROL IN COTTON**L.C. Walton****Jesse Richardson****Melissa Siebert****Dow AgroSciences LLC****Indianapolis, IN****Abstract**

Isoclast™ active (sulfoxaflor) is the first insecticide from the sulfoximine chemical class. It was discovered by Dow AgroSciences and is proprietary chemistry. Sulfoxaflor has been classified by the Insecticide Resistance Action Committee (IRAC) as a group 4C insecticide because it exhibits complex and unique interactions with the insect nicotinic acetylcholine receptors, distinct from other sub-groups. This novel insecticide is active against sap-feeding insect pests affecting cotton, including cotton aphid (*Aphis gossypii*), plant bugs (*Lygus spp.*) and whiteflies (*Bemisia spp.*). Efficacy experiments with Transform® WG against the sap-feeding pest complex in cotton have been ongoing since 2006.

Results from small-plot replicated and large-acre strip trial experiments in both Arizona and Mid Southern U.S. states have consistently demonstrated Transform® WG insecticide to provide efficacy against tarnished plant bug and western plant bug equal to or greater than other recommended products. For optimal control, Transform® WG insecticide should be used at a rate of 1.5 to 2.25 oz/acre (0.045 to 0.068 lb ai/acre). In Mid Southern states, programs that include sequential applications of Transform, timed at or near bloom stage of cotton development, have consistently out-yielded other standard programs.

Transform is also highly effective against cotton aphid at a rate as low as 0.75 oz/acre (0.034 lb ai/acre), including those populations that are tolerant to neonicotinoids. In addition to control of *Lygus spp.* and cotton aphid, Transform® WG has demonstrated minimal effects on natural enemies and does not flare spider mites (*Tetranychus urticae*). Transform® WG is an important insecticide for building IPM programs for sap-feeding insects in cotton, providing for effective target insect control, selectivity, and an insecticide that can be rotated with other chemical classes.

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