

PERFORMANCE OF LEVERAGE IN THE SOUTHEAST

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Abstract

Since the registration of Leverage 2.7 SC insecticide (imidicloprid 1.6 and cyfluthrin 1.1) was mid-season in 1999, the 2000 cotton season was the first year of commercial sale. In addition to lepidopteran pests, the activity spectrum of Leverage 2.7 SC coincides with the insects that have increased in the absence of bollweevil sprays in the Southeast and the use of Bt technology: stinkbugs (*Nezara viridula* and *Euschistus servus*), plant bugs (*Lygus lineolaris*), Silverleaf whitefly (*Bemisia tabaci*) and cotton aphid (*Aphis gossypii*). Trials have been conducted by university personnel and on a full field basis by cotton consultants during 2000. A lab assay indicated that Leverage is much less active against the brown stinkbug than the Southern green stinkbug as was the case with all pyrethroids tested. The efficacy of Leverage (50% control) for brown stinkbug was approximately equal to the sum efficacy of cyfluthrin (applied as Baythroid – 26%) and imidicloprid (applied as Provado – 32%) the active ingredients of Leverage. Leverage control of stink bug in three commercial fields was 60, 89 and 96% as measured by either reduction in population or reduction in boll damage. This was comparable to pyrethroids, Orthene and Bidrin with Southern green stinkbug being the predominate species. Leverage at 3 fl. oz. per acre provided 75% control of plant bug (*Lygus* sp.) and 83% control of cotton fleahopper (*Pseudatomoscelis seriatus*) in a Prattville, AL trial. In three trials, cotton aphid populations, which were unusually high in 2000, reached "treatable levels" on July 3rd, 6th, and 18th with corresponding control from Leverage of 67%, 73% and 89%. The increased geographic distribution of whitefly in Georgia, attributed to the higher proportions of silverleaf whitefly (*Bemisia tabaci*) versus the banded-wing whitefly (*Trialeurodes abutilonea*), has increased sprayed acres. Leverage at 3.75 fl. oz./A reduced whitefly nymph and egg counts by 59% seven days after treatment in Brooks County, GA in a region previously unaffected by whitefly. In the traditional whitefly region of Tift and Colquitt Counties, a rebound in whitefly nymphs 10 days after the initial Leverage application which reduced the population by 87% confirmed the need for multiple applications to control this insect. The second application was also effective in reducing nymphal population by 77%. A yield increase of 98 lb. Lint/A was documented from a single late season application of Leverage 3.75 fl.oz./A to a mainly adult silverleaf whitefly population.