

**CGA 362622 PLUS STAPLE® FOR WEED
CONTROL IN ALABAMA COTTON**

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Abstract

CGA 362622 herbicide, common name trifloxysulfuron-Na, is a new postemergence product from Syngenta soon to be registered for use in cotton and sugarcane. CGA 362622 belongs to the sulfonyleurea class of chemistry and is characterized by its low usage rate [0.0044-0.0132 lb active ingredient per acre (lb ai/A)], a broad spectrum of target weeds, and the ability to be applied over-the-top of all varieties of cotton. Field trials in Alabama and throughout the cotton belt in the last two years have confirmed the effectiveness of CGA 362622 against many tough weeds that producers confront. The objective of this particular study is to explore the utility of CGA 362622 in current weed control regimes, specifically, its combination with Staple® (pyrithiobac), another POST product currently being used on all varieties of cotton. A field trial was conducted in 2001 on the Alabama Agricultural Experiment Stations at Prattville and Headland. Treatments consisted of CGA 362622 at two rates (0.0047 and 0.0071 lb ai/A) plus Staple at two rates (0.047 and 0.063 lb ai/A), and CGA 362622 at two rates plus MSMA at one rate (0.75 lb ai/A). An untreated check was included to give seven total treatments in a randomized complete block design, with three replications at each location. Herbicide applications were made to cotton at the four true leaf stage of growth and all included 0.25% (v/v) nonionic surfactant. Plots consisted of four rows, thirty feet in length, with applications made to and data taken from the middle two rows. Conventional tillage practices were used in Prattville while plots at Headland were in a no tillage tier following winter wheat.

Visual crop injury at Headland was transient, with herbicide treated plots showing no difference from the untreated at 28 days after treatment (DAT). At Prattville, visible crop injury was higher for all treatments than at Headland, but also decreased over time. Those treatments including CGA 362622 at the high rate and/or MSMA showed higher crop injury 28 DAT than the untreated (8-13%). Good to excellent (89-93%) control of sicklepod (*Senna obtusifolia*) was achieved with all treatments at Prattville. Likewise, all treatments gave superior control of Florida beggarweed (*Desmodium tortuosum*) at Headland, with control ranging from 96-98%. CGA 362622 (both rates) plus MSMA gave the greatest control of volunteer peanut (*Arachis hypogaea*), however, no treatment exceeded 76%, which is not considered an acceptable commercial control level (commercial control $\geq 80\%$). CGA 362622 plus Staple mixtures did not give acceptable control of yellow nutsedge (*Cyperus esculentus*) 28 DAT at Headland. Seed cotton yields were higher at Prattville (2138-2888 lb/A) than Headland (484-1807 lb/A). Treatments including MSMA did not yield higher than the untreated at Prattville. All CGA 362622 plus Staple mixtures did result in yields significantly higher than the untreated (2686-2888 lb/A). In light of crop injury data, CGA 362622 plus MSMA mixtures appear to negatively affect cotton. No treatment differences were detected in seed cotton yields at Headland where all yielded higher than the untreated.