

REFLEX USE IN COTTON

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Abstract

The herbicide fomesafen (Reflex) was evaluated in 1996 and 1997 for use in cotton as a preplant burndown treatment to control winter annuals tank-mixed with paraquat (Gramoxone Extra); applied ppi and pre to conventional planted cotton; post-directed alone and tank-mixed with MSMA; and used under the hooded sprayer alone and in tank-mixtures with paraquat.

Preplant burndown applications made to winter annuals showed fomesafen at 0.42 kg/ai/ha when tank-mixed with paraquat at 0.70 kg/ai/ha improved the control of horseweed (ERICA), cutleaf eveningprimrose (OEOLA), henbit (LAMAN), Pennsylvania smartweed (POLPY), dandelion (TAROF), nutsedge species (CYPSS), wild onion (ALLCA), clover (TRFDU), vetch (VICSS), swinecress (COPDI), wild garlic (ALLVI), and Virginia pepperweed (LEPVI) over paraquat sprayed alone at the same rate. The improvement in control showed fomesafen to perform similar to cyanazine (Bladex) at 1.12 kg/ai/ha.

Residual activity of fomesafen may help suppress possible regrowth following weed desiccation from paraquat. No cotton injury was observed from planting back into fomesafen treatments.

Fomesafen applications were also evaluated in conventional planted cotton ppi and preemergence. Rates evaluated alone were 0.28, 0.42, 0.56, and 0.84 kg/ai/ha. Tank-mixtures were also evaluated with fomesafen at 0.42 kg/ai/ha and flometuron (Cotoran) at 1.12-1.68 kg/ai/ha. Cotton injury evaluated at 28-56 DAT over 8 trials showed injury levels to be higher for the ppi treatments than the preemergence treatments. Weed control levels were higher for applications applied preemergence vs ppi. Preemergence applications showed good activity for the control of cocklebur (XANST), pigweed species (AMASP), yellow nutsedge (CYPES), prickly sida (SIDSP), morningglory species (IPOSS), crabgrass (DIGSA), and seedling johnsongrass (SORHA). The tank-mixture of fomesafen at 0.42 kg/ai/ha with flometuron at rates from 1.12-1.68 kg/ai/ha provided weed control levels higher than either

product used alone. Flometuron improved the control of sicklepod (CASOB) and Florida beggarweed (DEDTO) which are weaknesses for fomesafen. Fomesafen improved the control of cocklebur, morningglory, pigweed, yellow nutsedge, prickly sida and devils claw (PROLO) over flometuron used alone.

Post-directed sprays with fomesafen at 0.42 kg/ai/ha tank-mixed with MSMA at 2.24 kg/ai/ha provided superior control of yellow nutsedge(CPYES), morningglory species(IPOSS), and pigweed species(AMASP) than either fomesafen or MSMA applied alone.

Applications of fomesafen at 0.42 kg/ai/ha in a tank-mixture with paraquat at 0.35 kg/ai/ha applied under the hooded sprayer showed control levels for smell melon(CUMMD), Texas panicum(PANTE), morningglory species(IPOSS), crabgrass(DIGSA), and seedling johnsongrass(SORHA) to be improved over paraquat used alone at the same rate. Control levels were similar to paraquat tank-mixed with cyanazine and applied under the hooded sprayer. Fomesafen plus paraquat provided higher control levels for morningglory than glyphosate(Roundup Ultra) at 1.12 kg/ai/ha under the hooded sprayer.