

PERFORMANCE OF A NICOSULFURON PLUS THIFENSULFURON PREMIX IN FIELD CORN.  
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Field studies were conducted in 2006 by university and DuPont personnel to evaluate a pre-package mixture of nicosulfuron plus thifensulfuron at a 13.5:1 ratio (Stout™ herbicide) for broad-spectrum weed control in field corn. The nicosulfuron plus thifensulfuron pre-package mixture was evaluated at 25 and 38 g ai/ha alone and in combinations with various tank mix partners in both two pass and total postemergence programs. Other herbicides evaluated in these two pass and/or total postemergence programs included isoxaflutole, rimsulfuron, mesotrione, topramezone, atrazine, metolachlor, metolachlor plus atrazine, mesotrione plus atrazine plus metolachlor, pendimethalin, dicamba, dicamba plus diflufenzopyr, and fluroxypyr.

Crop response was considered minor and transient with two pass programs containing preemergence applications of metolachlor 535 g ai/ha or metolachlor 672 g ai/ha plus atrazine 868 g ai/ha followed by nicosulfuron plus thifensulfuron alone or in tank mixtures. In general, most two pass programs containing preemergence metolachlor at 672 g ai/ha plus atrazine 868 g ai/ha followed by the nicosulfuron plus thifensulfuron pre-package mixture at 25 g ai/ha provided broad-spectrum season long control of most grass and broadleaf weeds. The addition of atrazine at 1.12 kg ai/ha, mesotrione at 53 g ai/ha plus atrazine 560 g ai/ha, or dicamba 77 g ai/ha plus diflufenzopyr at 30 g ai/ha as a postemergence tank mix partner with the nicosulfuron plus thifensulfuron pre-package mix provided improved control of giant ragweed, common waterhemp, and common sunflower in these programs. Increasing the rate of the nicosulfuron plus thifensulfuron pre-package mix to 38 g ai/ha improved the control of broadleaf signalgrass.

Little to no crop response (0 to 3%) was observed in our studies evaluating total postemergence herbicide treatments with the nicosulfuron plus thifensulfuron pre-package mix. In general, most annual grasses were controlled with 25 g ai/ha of the nicosulfuron plus thifensulfuron pre-package mixture, however the 38 g ai/ha rate provided improved control of woolly cupgrass and johnsongrass. In addition, the nicosulfuron plus thifensulfuron pre-package mix applied alone at 25 g ai/ha provided greater than 80% control of the broadleaf weeds velvetleaf, hophornbeam copperleaf, redroot pigweed, common lambsquarters, jimsonweed, ivyleaf morningglory, entireleaf morningglory, pitted morningglory, Pennsylvania smartweed, Palmer amaranth, and field pennycress. Tank mixtures of nicosulfuron plus thifensulfuron with either atrazine at 1.12 to 2.24 kg ai/ha, mesotrione 53 g ai/ha plus atrazine 560 g ai/ha, mesotrione at 73 to 75 g ai/ha plus atrazine at 280 to 568 g ai/ha plus metolachlor at 568 to 750 g ai/ha, topramezone at 18 g ai/ha, topramezone at 18 g ai/ha plus atrazine 560 g ai/ha, and dicamba 77 g ai/ha plus diflufenzopyr at 30 g ai/ha provided improved control of tall waterhemp, common ragweed, cutleaf morningglory, Palmer amaranth, and Eastern black nightshade in comparison to nicosulfuron plus thifensulfuron applied alone.