Postemergence Nutsedge Management in Turf

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Yellow nutsedge is a common turf weed throughout the 48 contiguous states. Purple nutsedge is an occasional turf weed in the southern half of the US. Both species primarily spread vegetatively by rhizomes and tubers but both do produce seed. Several new herbicides have been introduced to the turf industry for control of sedges, among other weeds. Mesotrione is an herbicide that causes bleaching in susceptible species. Sulfentrazone is a contact herbicide that is available alone and in combination with prodiamine.

In the first trial, sulfentrazone was applied post for yellow nutsedge control at 0.25, 0.3125, 0.375 lb ai/A (0.28, 0.35, 0.42 kg ai/ha) to established perennial ryegrass, for comparison, halosulfuron was applied at 0.047 lb ai/A + X-77 nonionic surfactant. Injury symptoms following sulfentrazone application was observed 1 day after treatment (DAT) while injury symptom development was much slower with halosulfuron. By 20 DAT, sulfentrazone controlled yellow nutsedge 74, 80 and 90% at 0.25, 0.3125, 0.375 lb ai/A, respectively while halosulfuron provided 97% control.

Repeat applications of sulfentrazone were evaluated for purple nutsedge control. Sulfentrazone was applied once at 0.125, 0.188, 0.25, or 0.375 lb ai/A. An additional set of plots were treated with sulfentrazone at 0.25 lb ai/A followed by 0.125 lb ai/A at 28, 35, or 42 days after the first application. Sulfentrazone caused a rapid burn in purple nutsedge but control never exceeded 55% with single or repeat applications. Halosulfuron controlled purple nutsedge 100% at 21 DAT, although control decreased to 71% at 41 DAT.

Mesotrione was applied at 0.125 or 0.25 lb ai/a (0.14 or 0.28 kg ai/ha) once or repeated 14 days later for postemergence control of yellow nutsedge. At 9 DAT, mesotrione controlled yellow nutsedge 78 and 98%, respectively, at 0.125 and 0.25 lb ai/A. Yellow nutsedge regrew when mesotrione was only applied once but two applications at 0.125 lb ai/A gave good control with excellent control seen with two applications at 0.25 lb ai/A 41 DAT.

Sulfentrazone and mesotrione were compared to halosulfuron and trifloxysulfuron in another trial for postemergence control of yellow and purple nutsedge. Sulfentrazone injured both sedge species approximately 20% at 3 DAT. AT 17 and 32 DAT, yellow control with sulfentrazone increased to approximately 60%, depending on rate, but decreased at later rating dates. Sulfentrazone provided no control of purple nutsedge at 32 DAT. A single application of mesotrione at 0.25 lb ai/A controlled yellow nutsedge 50% at 39 DAT, with lower injury seen in purple nutsedge. Halosulfuron and trifloxysulfuron provided approximately 75% control of both sedge species at 39 DAT.

Sulfentrazone was compared to the sulfonylureas foramsulfuron, halosulfuron, trifloxysulfuron, flazasulfuron, and sulfosulfuron for postemergence yellow and purple nutsedge control. Sulfentrazone caused approximately 15 to 20% injury in both sedge species at 1 DAT while injury symptom development was much slower with the sulfonylurea herbicides. By 49

DAT, sulfentrazone caused 35 to 71% reduction in yellow nutsedge shoot fresh weight and 14 to 28% reduction in purple nutsedge shoot weight, depending on application rate. Foramsulfuron did not provide acceptable control of either sedge species. Halosulfuron, trifloxysulfuron, flazasulfuron, and sulfosulfuron all provided excellent control of both yellow and purple nutsedge.

Sulfentrazone provides rapid burning of yellow and purple nutsedge but provides much better control of yellow compared to purple nutsedge. Thus, repeat applications are needed to maintain control. It can cause temporary injury to bermudagrass, tall fescue, perennial ryegrass but injury disappeared by 2 weeks after application. Mesotrione was slower acting than sulfentrazone and also provided better control of yellow compared to purple nutsedge. Two applications of mesotrione provided much better yellow nutsedge control than a single application. The sulfonylureas halosulfuron, trifloxysulfuron, flazasulfuron, and sulfosulfuron are effective on both yellow and purple nutsedge.