



Super Science

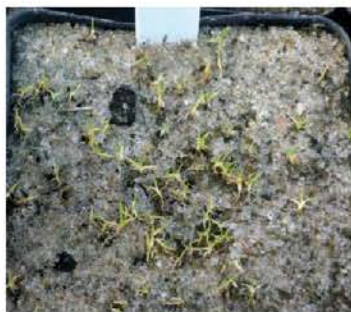
// HERBICIDE RESISTANCE

CONTROLLING DINITROANILINE RESISTANT GOOSEGRASS IN TURF

Patrick McCullough, Ph.D.

Prodimine is a dinitroaniline (DNA) herbicide that is widely used in turfgrass management for preemergence weed control. However, overuse of prodimine has increased the spread and establishment of weeds resistant to DNA herbicides. Goosegrass is a particularly problematic weed that has developed resistance to prodimine and other DNA herbicides in the southern U. S., and turf managers may need to rotate herbicides with different modes of action in order to control these DNA-resistant biotypes.

Research was conducted at the University of Georgia to evaluate resistance levels to prodimine for a susceptible goosegrass compared to a suspected resistant biotype from Griffin, Ga. Field experiments were also conducted to evaluate efficacy of preemergence herbicides with different modes of action for control. In greenhouse experiments, prodimine rates required for 50% control of DNA-resistant goosegrass was >32x greater than susceptible biotypes.



Initial germination of DNA-resistant and susceptible goosegrass biotypes following an application of Barricade (prodimine) at 1.5 lbs. a.i./acre in a greenhouse experiment at the University of Georgia.

while Ronstar (oxadiazon) provided >85% control. Single and sequential Dismiss (sulfentrazone) applications controlled goosegrass <60% in 2011, but averaged 94% control in 2012.

If resistance to DNA herbicides is suspected in goosegrass populations, indaziflam and Ronstar may be good choices to consider for preemergence control. Dimethenamid and sulfentrazone may also control DNA resistant goosegrass, but efficacy may be inconsistent.

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NEWS UPDATES

CIVITAS ONE GETS OMRI LISTING

Civitas One, the latest advancement from the makers of Civitas, is now listed by the Organic Materials Review Institute (OMRI) for organic golf course maintenance practices. New OMRI listed Civitas One provides an effective solution for today's progressive superintendents, the company says.

"We all have a social responsibility to work towards innovative solutions that will provide product efficacy and help build a sustainable future," explains Oriana Persechini, Lawncare Category Portfolio Manager, Petro-Canada Lubricants Inc., a Suncor Energy business. "Acquiring OMRI listing for Civitas One is just one more way that we're going beyond today's standards to transform plant protection for more resourceful growth and continuing to help superintendents do more with less."



Civitas One is a premix of the Civitas mineral oil — synthetic Isoparaffin and Civitas Harmonizer in one 2.5-gallon jug, which superintendents can expect to protect about 18,800 to 37,600 square feet of turf when used at label rates.

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ADDING 2 TO 6 OZ/ACRE (OF DIMISS) AS A SPRAY TANK ADDITIVE PROVIDES QUICKER HERBICIDE ACTIVITY, BUT ALSO 'HEATS UP' THE TANK-MIXTURES IN TERMS OF WIDER AND MORE COMPLETE WEED CONTROL."

Bert McCarty, Ph.D.

(see full story on page 30)