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Late Pre-Emergent Control of Annual Bluegrass with Flazasulfuron & Indaziflam

Jake Reeves and Jared Hoyle

Summary. All applications of flazasulfuron or indaziflam resulted in acceptable control of annual bluegrass (*Poa annua*), only allowing <3% visual weed cover (VWC) in all treatments compared to the non-treated (26% VWC) up to 133 days after application (DAA).

Rationale. There are limited chemical options for controlling annual bluegrass (*Poa annua*) when the initial timing for pre-emergence is missed. Glyphosate is the standard chemical removal option, but resistance is becoming an issue in turfgrass systems. Flazasulfuron and indaziflam are new chemistries that provide pre- and post-emergent control, which could be a viable option for a late pre-emergent application.

Objectives. Examine efficacy of a late pre-emergent application of flazasulfuron and indaziflam for the control of annual bluegrass.

Study Description. Experiments were initiated in 2014 in Fort Riley, KS at Custer Hill Golf Course (CHGC). Research at CHGC was conducted on hybrid 'Midiron' bermudagrass [*Cynodon dactylon* L. Pers. × *C. transvaalensis* Burt-Davy]. Turfgrass was maintained at 1.0 in. All treatments were applied December 9, 2014. Individual treatments are shown in Table 1. Experimental design was a randomized complete block with four replications. Herbicides were applied to 5 × 5 ft plots in 374 L/ha water at 275 kPa with a CO₂ pressurized boom sprayer with XR8004VS flat-fan nozzles. Collected data included visual annual bluegrass cover (0-100%). Data were collected every 14 days after initiation (DAI). Means were separated using Fisher's Protected LSD ($P \leq 0.05$).

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Results. All treatments, except for the non-treated, began showing post control of annual bluegrass at 83 DAA and continued to show pre-emergent control (Table 2) through trial completion at 133 DAA. All flazasulfuron and indaziflam treatments were not significantly different in the study as both controlled crabgrass pressure resulting in 3% or less annual bluegrass breakthrough. Both chemicals are viable annual bluegrass pre-emergent and post-emergent control options for turfgrass managers.

Table 1. Treatment regime for late pre-emergent control of *Poa annua* in bermudagrass with fluzasulfuron and indaziflam.

Treatment number	Chemistry	Rate
1	Fluzasulfuron ^z	1.5 oz/a
2	Flazasulfuron ^z	2.0 oz/a
3	Flazasulfuron ^z	2.5 oz/a
4	Flazasulfuron ^z	3.0 oz/a
5	Indaziflam	9.0 fl oz/a
6	Untreated	-

^z Treatments included a Non-Ionic Surfactant at 0.25% v/v.

Table 2. Means separation for visual weed cover with late pre-emergent control of *Poa annua* in bermudagrass with fluzasulfuron and indaziflam.

Treatment number	0 DAA ^z	83 DAA	133 DAA
1	2.5 a ^y	0.5 b	1.5 b
2	9.0 a	1.3 b	3.0 b
3	3.5 a	0.3 b	0.5 b
4	3.3 a	0.0 b	0.3 b
5	2.0 a	0.0 b	0.3 b
6	4.3 a	5.5 a	26.3 a

^z Days after application.

^y Means in columns for percent visual weed cover followed by the same letter are not significantly different according to Fisher's LSD at the .05 significance level.

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