Alion Crop Safety and Efficacy in Kentucky Bluegrass

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Introduction

In fall of 2022, an herbicide trial was established to evaluate Kentucky bluegrass tolerance to Alion (indaziflam). Annual grass weeds are difficult to control in grass seed fields and infestations can reduce stand longevity and productivity. Alion controls annual grass weeds by inhibiting cellulose biosynthesis in newly germinated seedlings.

Methods

The study was established in a newly seeded Kentucky bluegrass field near Rockford, WA. Treatments were applied when the Kentucky bluegrass was 3 to 5 tiller and actively growing in the fall of 2022. Treatments were applied with a CO_2 powered backpack sprayer and a 5 ft boom with 3 Teejet 11002VS nozzles with an effective spray pattern of 8 ft and calibrated to deliver 15 gallons per acre (GPA). The study was conducted in a randomized complete block design with 4 replications. Plots were 10 ft by 25 ft long. Treatments were assessed for crop response and weed control in the spring, 6 months after treatment. Two ½ m^2 subsamples were harvested from each plot. Biomass samples were dried and weighed and yield samples were dried, threshed, and cleaned. Data were subject to ANOVA using the Agricultural Research Manager software (Ver. 8.5).

Table 1. *Treatment application details.*

Study Application	
Date	10/18/2022
Application volume (GPA)	15
Timing	Postemergence
Crop Stage	3 to 5 Tiller
Air temperature (˚F)	57
Wind velocity (mph, direction)	6, N
Cloud Cover (%)	0

Results

The Kentucky bluegrass in this trial did not have injury as a result of the Alion herbicide treatments. Italian ryegrass control was between 90 to100% and not significantly different between treatments ($\alpha = 0.05$, not shown). Again, biomass (Table 2) was not significantly different between treatments ($\alpha = 0.05$). Alion appears to be a safe and effective herbicide on newly seeded Kentucky Bluegrass. Continued research is needed to evaluate newly seeded compared to first year stand response to Alion. Cultivar variation in rhizome production may play an important role in tolerance as well. Overall, Alion appears to be a highly effective annual grass weed control herbicide for Kentucky bluegrass for seed.

Table 2. Biomass (g/0.5m^2) of Kentucky bluegrass (n = 8 per treatment) in response to increasing rates of Alion herbicide treatments.

Treatment	Rate		Biomass (g/0.5m^2) 6/1/2022
Alion	1.5	oz/A	155
Alion	2	oz/A	153
Alion	3	oz/A	147

Biomass was not different among treatments (α=0.5).

Off-label or Experimental-Use Disclaimer

Some of the pesticides discussed in this presentation were tested under an experimental use permit granted by WSDA. Application of a pesticide to a crop or site that is not on the label is a violation of pesticide law and may subject the applicator to civil penalties up to $7,500. In addition, such an application may also result in illegal residues that could subject the crop to seizure or embargo action by WSDA and/or the U.S. Food and Drug Administration. It is your responsibility to check the label before using the product to ensure lawful use and obtain all necessary permits in advance.