Talinor Crop Safety and Efficacy in Kentucky Bluegrass

J.E.R. Kalin & I. C. Burke

Talinor is a 4-HPPD inhibitor with soil residual activity, and is not currently labeled for use in Kentucky bluegrass grown for seed. Although it does not control annual grass weeds, Talinor does control mayweed chamomile, a listed noxious weed and a serious potential contaminate of Kentucky bluegrass for grown for seed. Talinor may be an important tool for management of mayweed chamomile in Kentucky bluegrass grown for seed. Therefore, in fall of 2022, a herbicide trial was established to evaluate Kentucky bluegrass tolerance to Talinor (bromoxynil octanoate + bicyclopyrone) and mayweed chamomile (*Anthemis cotula*) control.

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). Treatment A was applied in 2022 and treatment B was applied in spring 2023 (table 1). 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. Samples were dried, threshed, and cleaned to provide yield data for each treatment. A subset of seeds from each ½ m^2 sample were used to collect data on germination differences between treatments. Data were subject to ANOVA using the Agricultural Research Manager software (Ver. 8.5).

Table 1. *Treatment application details.*

Study Application		
Application Code	A	B
Date	10/18/2022	5/4/2023
Application volume (GPA)	15	15
Timing	Postemergence	Postemergence
Crop Stage	Newly seeded	Newly seeded
Air temperature (˚F)	57	66
Relative humidity (%)	51	46
Wind velocity (mph, direction)	6, W	7, NE
Cloud Cover (%)	30	30

Results

Overall, there was no injury to the crop from the Talinor applications, regardless of application rate or timing. There was also ubiquitous weed control across the trial, which may be due to poor establishment of the target weed, Mayweed chamomile, at the study site. Yield was also not different among treatments, at around 1,000 lbs/A (Table 2). Talinor appears to be safe on newly-seeded Kentucky bluegrass, but more work needs to be done to determine the efficacy of Talinor on mayweed chamomile in typical Kentucky bluegrass systems and application timings.

Table 2. Yield (lbs/A) of Kentucky bluegrass in response to increasing rates of Talinor. There is no significant difference between treatments ($\alpha = 0.05$).

				Yield (lb/A)
Treatment	**Timing**	**Rate**		**6/29/2022**
Callisto	A	6	oz/A	1015
Talinor	A	16	oz/A	982
Talinor	A	18.2	oz/A	1002
Talinor	A	32	oz/A	1007
Talinor	A	16	oz/A	945
Callisto		6	oz/A	
Talinor	A	32	oz/A	1042
Callisto		12	oz/A	
Huskie	A	13.5	oz/A	986
WideARmatch		14	oz/A	
Talinor	B	16	oz/A	918
Talinor	B	32	oz/A	961

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.