

Managing Bulbous Bluegrass in Pasture

Ian Burke and Louise Lorent

Bulbous bluegrass (*Poa bulbosa* L.) is an invasive grass species. It is a perennial with a short-life span and can reproduce by seed and asexually via basal bulbous sections. It is well adapted to the wet winters and dry summers of Eastern Washington. Its low palatability and high competitiveness make it a problem weed in pasture.

Control methods include intensive grazing, which requires considerable labor and can harm present desirable species. Herbicides labeled for bluegrass control in pasture are limited and their use is problematic because of potential damage to non-target species.

Because of bulbous bluegrass life cycle and early maturity compared to other grass species, a strategy for chemical control involving early applications of herbicides with no soil activity might successfully reduce off-target injury to desirable species.

A trial near Reardan, WA was installed in a severely infested pasture to investigate effective herbicide options and application timings. Other desirable species present were intermediate wheatgrass (*Thinopyrum intermedium* (Host) Barkworth & D.R. Dewey) and smooth brome (*Bromus inermis* L.).

Glyphosate (RT3), imazapic (Plateau), clethodim (Select Max) and triasulfuron (Amber) were applied at recommended labeled rates in late January, late February and early April (Table 1). The study was designed as a randomized complete block system with 4 replications. Plots were 10 ft wide by 30 ft long.

Table 1. Conditions at time of herbicide application. Reardan, WA, 2015.

Application timing	Date (2015)	Growing Degree Day accumulation ¹	Air temperature (F)	Soil temperature (F)	Relative humidity (%)	Wind speed (mph)
A	January 28 th	37	34	32	100	3.5
B	February 24 th	220	44	38	44	3
C	April 4 th	666	52	44	34	8

¹ accumulation since January 1st (base= 32 F)

Bluegrass control and injury to smooth brome was visually rated on a scale of 0 (no control or injury) to 100 (complete control or injury) in early April and late June. Data was analyzed through an analysis of variance (ARM 8.5.0, Gylling Data Management).

Bulbous bluegrass control and intermediate wheatgrass injury ratings are presented in Table 2. Triasulfuron failed to control bulbous bluegrass regardless of time of application. When applied in January, glyphosate controlled over 90% of the bulbous bluegrass and caused less than 30% injury to the intermediate wheatgrass. Later applications of glyphosate controlled over 95% of

the bulbous bluegrass but injured intermediate wheatgrass at unacceptable levels (> 80%). Imazapic controlled between 89 and 96% of the bulbous bluegrass depending on application timing, but it caused more than 30% injury to intermediate wheatgrass when applied in January and over 50% injury when applied at later timings. Clethodim offered appealing results, as its application in January controlled over 90% of the bulbous bluegrass without causing any injury to intermediate wheatgrass. Later application of clethodim injured intermediate wheatgrass by over 60%.

Table 2. Bulbous bluegrass and intermediate wheatgrass response to different application timings of imazapic, glyphosate, triasulfuron and clethodim. Reardan, WA, 2015.

Treatment	Rate	Application timing	April 3 rd , 2015		June 23 rd , 2015	
			Bulbous bluegrass	Intermediate wheatgrass	Bulbous bluegrass	Intermediate wheatgrass
			-----%-----			
lb active ingredient/A			-----			
Nontreated check	-	-	-	-	-	-
Imazapic (+ MSO)	0.094 (2 pt/A)	A	75	68	93	33
		B	55	63	89	55
		C	-	-	96	83
Glyphosate (+ NIS + AMS)	0.84 (0.25% v/v + 17 lb/100 gal)	A	85	70	93	28
		B	93	94	98	84
		C	-	-	100	100
Triasulfuron (+ NIS)	0.022 (+0.25% v/v)	A	8	0	0	0
		B	13	5	0	0
		C	-	0	0	0
Clethodim (+ COC)	0.121 (+ 1% v/v)	A	585	23	91	0
		B	80	70	86	60
		C	-	-	97	74
LSD			17	7	7	20

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.