

Ventenata (*Ventenata dubia*) Control in Rangelands for Central Oregon with Fall Applications

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Abstract

Ventenata an invasive annual grass is found infesting rangelands in central Oregon. In order to limit the spread of this weed, the implementation of integral control approach is necessary, and chemical control is an important tool. A field study was conducted in Ashwood, Oregon to evaluate ventenata control with fall applications of imazapic, propoxycarbazone sodium, and sulfosulfuron. Ventenata control was high six months after the applications with imazapic applied at 6 oz/acre and sulfosulfuron at 2 oz/acre. Results from this study suggest that these two herbicides can be used for ventenata control in rangelands in central Oregon, but further evaluations are necessary to verify performance under different environmental conditions.

Introduction

Extensive areas of the Pacific Northwest are infested with downy brome and medusahead, but another annual invasive grass, ventenata (*Ventenata dubia*) is becoming a concern because this species can out-compete perennial grasses. Ventenata is capable to infest a wide range of habitats similarly to downy brome and medusahead. In rangelands the grazing potential of ventenata infested areas is affected because, similarly to medusahead, the silica content in ventenata makes this species poorly palatable. In central Oregon, downy brome, medusahead and ventenata can be found coexisting in rangelands and in some areas ventenata is displacing the two other species. The mechanisms which allow ventenata to displace the other two species are so far unknown, but current hypothesis included different germination patterns, response to moisture and species selection through grazing. The implementation of an integrated program for ventenata control is important to limit the spread of this weed. Herbicides are important tools for chemical control of weeds. The objective of this study was to evaluate ventenata control in infested rangelands with herbicides applied in fall.

Materials and Methods

A field study was conducted in Ashwood, Oregon, looking at different herbicides applied in fall for ventenata control in rangelands. The study design was a randomized complete block design with four replications. Plot size was 10 ft wide by 30 ft long. The treatments consisted of imazapic (Plateau[®]), propoxycarbazone sodium (Canter R+P[®]) and sulfosulfuron (Outrider[®]). Herbicide efficacy was determined by visual evaluation six months after the application, in the spring of 2013. Herbicides were applied with a backpack sprayer calibrated to deliver 20 gallons of spray solution per acre at 40 psi pressure using XR 8002 Teejet[®] nozzles. Application date and environmental conditions are detailed in Table 1. Herbicide rates and adjuvants are detailed in Table 2.

Results and Discussion

Ventenata control differed between treatments with high levels of control recorded with Plateau[®] at 6 oz/acre (91 percent), and Outrider[®] at 2 oz/acre (94 percent) when applied in fall. Ventenata control was poor with Canter R+P[®] at 1.2 oz/acre, and Outrider[®] at 1 oz/acre. Results from this study suggest that fall applications of Plateau[®] and Outrider[®] can be useful tools as part of integrated program for ventenata control in rangelands. Further evaluations are necessary to evaluate the performance of these treatments under different environmental conditions and application timings.

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Table 1. Application date, environmental conditions, for all application timings.

Application Date	11/3
Time of Day	9 AM
Air temperature (F)	48
Relative Humidity (%)	42
Wind Speed (MPH)	4
Wind Direction	S

Table 2. Ventenata percent control compared to the untreated checks, 180 days after the last application.

	Treatment ¹	Rate	Unit	% Control ²
1	Plateau [®]	6	oz/acre	91 a
2	Canter R + P [®]	1.2	oz/acre	30 b
3	Outrider [®]	1	oz/acre	35 b
4	Outrider [®]	2	oz/acre	94 a
7	Untreated Check			0 c
	LSD (P=.05)			9

¹Some treatments included in the study were used for experimental purposes and are NOT currently labeled for public use. Before using an herbicide, make sure it is properly labeled for the intended use.

²Means among columns followed by the same letter are not different at P=0.05.