

Control of Medusahead and Cheatgrass on Central Oregon Rangelands Using Outrider and Roundup Pro Alone and in Combination, 2006-2007

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Abstract

Annual grassy weeds medusahead (*Taeniatherum caput-medusae*) and cheatgrass (*Bromus tectorum*) are capable of crowding out bunchgrasses, leaving rangelands with little feed for cattle and more prone to devastating fires and soil erosion. The herbicides Outrider and Roundup Pro applied alone and in combination were evaluated for control of these weeds at two locations. The products in combination provided significantly greater control than either product alone.

Introduction

Medusahead (*Taeniatherum caput-medusae*) is a Category B noxious weed on the Jefferson County Weed Control List for containment. It is predominant on millions of acres of semi-arid rangeland in the Pacific Northwest. It is extremely competitive, crowding out all other vegetation on infested rangeland, including such undesirable species as cheatgrass, also known as downy brome (*Bromus tectorum*). Medusahead and cheatgrass often out-compete bunchgrasses that stabilize the soil and provide feed for cattle and other grass feeders. In addition, medusahead and cheatgrass dramatically increase the fuel load, which can result in hotter, more destructive range and forest fires.

Methods and Materials

Outrider at two rates and Roundup Pro at four rates were evaluated alone, and two rates of each in combination. Plots 10 ft by 25 ft were replicated 4 times in a randomized complete block design. Treatments were applied at the 1 to 2 leaf stage for medusahead near Antelope on November 14 and near South Junction on November 17, 2006. Application equipment was a CO₂-pressurized hand-held boom sprayer outfitted with TeeJet 8002 nozzles on a 9-ft boom operated at 40 psi and applying 20 gal/acre water. Plots were evaluated for percent control of medusahead or cheatgrass on May 23 at South Junction and June 22, 2007 at Antelope.

Results and Discussion

The combination of Outrider and Roundup Pro generally provided significantly greater control of medusahead and cheatgrass at both locations (Table 1). In general as the rates increased for each product, so did the level of control. However, it appears that the margin of improved control is minimal at rates of Outrider above 1.25 oz and Roundup Pro above 6 fl oz/acre. Higher rates of Outrider at 2.0 oz and Roundup Pro at 12 fl oz/acre increased control only slightly (1.5%) at South Junction and modestly (6.25%) at Antelope. The trend was for Outrider alone to perform better than Roundup Pro alone.

Table 1. Percent control of medusahead and cheatgrass near South Junction and Antelope, Oregon 2006-2007.

Treatment ¹	Rate of Product/a	2 Locations			
		South Junction		Antelope	
		Applied	November 17	Applied	November 14
Outrider	2.0 oz	100 ³	a	94.5	a
+ Roundup Pro	12 fl oz				
Outrider	1.25 oz	99.7	a	93.25	a
+ Roundup Pro	12 fl oz				
Outrider	0.75 oz	99.5	a	90.75	ab
+ Roundup Pro	12 fl oz				
Outrider	2.0 oz	99.25	a	91.25	a
+ Roundup Pro	6 fl oz				
Outrider	1.25 oz	98.5	a	88.25	ab
+ Roundup Pro	6 fl oz				
Outrider	0.75 oz	92.5	ab	73.75	bc
+ Roundup Pro	6 fl oz				
Outrider ²	2.0 oz	67.5	bc	45	de
Roundup Pro	16 fl oz	66.25	c	58.75	cd
Outrider ²	1.25 oz	61.25	cd	53.75	de
Roundup Pro	8 fl oz	38.75	de	47.5	de
Roundup Pro	12 fl oz	37.5	de	50	de
Roundup Pro	6 fl oz	17.5	ef	40	e
Untreated	---	0	f	0	f

¹Outrider = sulfosulfuron 75%, Roundup Pro = glyphosate 3 lb ae/gal.

²Treatment included a silicon surfactant at 0.25% V/V

³Mean separation with LSD at $P \leq 0.05$.