

HERBICIDE EVALUATIONS FOR CONTROL OF MEDUSAHEAD AND DOWNY BROME IN CENTRAL OREGON RANGELAND, 2003-2005

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Abstract

Herbicides were evaluated for control of medusahead (*Taeniatherum caput-medusae*) and downy brome (*Bromus tectorum*) in central Oregon rangeland. Treatments included three rates of Oust[®] (sulfometuron) plus Telar[®] (chlorsulfuron), and a single rate of Plateau[®] (imazapic) applied October 24, 2003. Oust plus Telar provided 100 percent control of medusahead and downy brome at all three rates, while Plateau provided 81 percent control of medusahead and 74 percent control of downy brome. Partial control of annual grasses was observed in the spring of 2005, a year and a half after treatment. Intermediate wheatgrass (*Thinopyrum intermedium*), the resident rangeland bunchgrass, was increasingly stunted as rates of Oust and Telar increased. No stunting of intermediate wheatgrass was observed following treatment with Plateau. Rather, there was increased growth compared to untreated plots. This was likely due to reduced competition from the annual grasses.

Introduction

Medusahead is a Category B noxious weed on the Jefferson County Weed Control List for containment, and is predominant on millions of acres of semi-arid rangeland in the Pacific Northwest. It is extremely competitive and crowds out all other vegetation on infested rangeland, including such undesirable species as downy brome.

Methods and Materials

Herbicides were evaluated for control of medusahead and downy brome in rangeland 20 miles north of Madras off South Junction Road. Treatments included Oust plus Telar at three rates, and Plateau at a single rate. Applications were made October 24, 2003 to 10-ft by 25-ft plots replicated four times using a CO₂-pressurized, hand-held boom sprayer at 40 psi and 20 gal/acre water. A non-ionic surfactant was added at a rate of 0.25 % v/v to all treatments. Plots were evaluated June 1, 2004 for control of medusahead and downy brome and the effect on intermediate wheatgrass growth. Plots were re-evaluated on June 1, 2005, a year and a half after treatments were applied.

Results and Discussion

Oust plus Telar provided excellent control (100 percent) of both medusahead and downy brome at all three rates evaluated (Table 1). However, all rates of Oust plus Telar caused 20-25 percent stunting on intermediate wheatgrass compared to the untreated plots. Plateau provided significantly less control of both medusahead (81 percent) and downy brome (74 percent), and did not stunt the intermediate wheatgrass. In fact, there was a 95

percent increase in growth of intermediate wheatgrass compared to the untreated plots. It appears this was the result of reduced competition from medusahead and downy brome.

The residual effect of the herbicide treatments was still visible in June of 2005, when partial control of annual grasses (medusahead and downy brome) was documented for all herbicide treatments (Table 2). The intermediate wheatgrass appeared to be recovering from stunting caused by the Oust plus Telar treatments.

Table 1. Effect of herbicides on the control of downy brome and medusahead in intermediate wheatgrass evaluated on June 1, 2004 north of Madras, Oregon.

Treatment	Product/acre	Medusahead	Downy brome	Size of intermediate wheatgrass
		-----Percent control-----		Percent of untreated
Oust ^a + Telar ^b	0.75 oz + 0.37 oz	100 a ^c	100 a	45 d
Oust + Telar	1.00 oz + 0.50 oz	100 a	100 a	32 cd
Oust + Telar	1.50 oz + 0.75 oz	100 a	100 a	20 c
Plateau ^d	6.00 oz	81 b	74 b	195 b
Untreated	----	0 c	0 c	100 a

^aOust = sulfometuron 75 percent, ^bTelar = chlorsulfuron 75 percent, ^cMean separation with Least Significant Difference (LSD) at $P \leq 0.05$, ^dPlateau = imazapic 2 lb/gal.

Table 2. Effect of herbicides on populations of annual grasses (medusahead and downy brome) in intermediate wheatgrass evaluated on June 1, 2005 north of Madras, Oregon.

Treatment	Product/acre	Annual grasses
		-----Percent control-----
Oust ^a + Telar ^b	0.75 oz + 0.37 oz	58 c ^c
Oust + Telar	1.00 oz + 0.50 oz	66 bc
Oust + Telar	1.50 oz + 0.75 oz	71 b
Plateau ^d	6.00 oz	81 a
Untreated	----	0 d

^aOust = sulfometuron 75 percent, ^bTelar = chlorsulfuron 75 percent, ^cMean separation with Least Significant Difference (LSD) at $P \leq 0.05$, ^dPlateau = imazapic 2 lb/gal.