

# Control of Medusahead and Cheatgrass in Central Oregon Rangelands Using Olympus, 2006

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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 less feed for cattle and more prone to devastating fires and soil erosion. Olympus herbicide was applied March 7 and November 7, 2006. Olympus<sup>®</sup> provided inadequate control that was significantly less than the industry standard, Plateau<sup>®</sup>.

## 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 or downy brome (*Bromus tectorum*). Medusahead and cheatgrass often out compete bunch grasses that stabilize the soil and provide feed for cattle and other grass feeders. In addition, medusahead and cheatgrass dramatically increase the fuel load creating hotter, more destructive range and forest fires.

## Methods and Materials

Olympus<sup>®</sup> (Bayer Crop Science) alone was applied at three rates on March 7 and November 17, 2006. It was also applied in combination with the numbered compound AE F130060 on March 7 and Roundup Pro<sup>®</sup> (Monsanto) on November 17. These treatments were compared to the industry standard Plateau<sup>®</sup> (BASF Ag Products) and an untreated check. Treatments were applied across four replications in randomized complete blocks with a CO<sub>2</sub>-pressurized hand-held boom sprayer outfitted with TeeJet 8002 nozzles on a 9-ft boom operated at 40 psi and applying 20 gal/acre. Plots were evaluated for percent control of the annual grassy weeds medusahead and cheatgrass, and for percent reduction in the growth of intermediate wheatgrass (*Thinopyrum intermedium*) for the March 7 application on May 2, 2006 and the November 17 application on April 23, 2007.

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## Results and Discussion

Olympus applied March 7 did not provide adequate control of the annual grasses medusahead and cheatgrass (Table 1). Plateau provided significantly greater control than Olympus compared to the untreated control. However, Olympus at the lower rates caused significantly less stunting to intermediate wheatgrass compared to Plateau. When these plots were evaluated again on April 23, 2007 there was still a high level of annual grass control in the Plateau plots and the intermediate wheatgrass was 150% of the untreated control due to minimal competition.

Fall application of Olympus did not provide control of medusahead and cheatgrass unless it was applied in combination with Roundup Pro (Table 2). The combination treatments provided 74 to 75 percent control, while Plateau provided 99 percent control. Plateau alone did not affect intermediate wheatgrass size, while treatments of Olympus plus Roundup Pro provided a slight increase in plant size. Spring appears to be the preferred application timing for Olympus applied alone.

Table 1. Effect of herbicides on the control of cheatgrass and medusahead and reduced growth of intermediate wheatgrass in rangeland north of Madras, Oregon, applied March 7, 2006 and evaluated May 2, 2006.

Treatment <sup>1</sup>	Product/acre	Annual grasses --Percent control--	Bunchgrass size Percent of untreated
Plateau	6 oz	92 a <sup>2</sup>	47 a
Olympus	1.22 oz	50 b	70 ab
Olympus	0.92 oz	23 c	77 bc
Olympus	0.61 oz	38 b	80 bc
AE F130060	0.286 oz		
Olympus	0.61 oz	18 c	95 c
Untreated	----	0 d	100 c

<sup>1</sup>Plateau = imazapic 2 lb ai/gal, Olympus = propoxycarbazone 70 DG, AE F130060 = 75 DG. All treatments included a non-ionic surfactant at 0.25 percent V/V.

<sup>2</sup>Mean separation with Least Significant Difference (LSD) at  $P \leq 0.05$ .

Table 2. Effect of herbicides on the control of cheatgrass and medusahead and reduced growth of intermediate wheatgrass in rangeland north of Madras, Oregon, applied November 17, 2006 and evaluated April 23, 2007.

Treatment	Product/acre	Annual grasses --Percent control--	Bunchgrass size Percent of untreated
Plateau	6 oz	99 a	107.5 ab
Olympus	0.92 oz	75 b	105 ab
Roundup Pro	12 fl oz		
Olympus	1.22 oz	74 b	117.5 a
Roundup Pro	12 fl oz		
Olympus	0.92 oz	0 c	100 b
Olympus	1.22 oz	0 c	100 b
Untreated	----	0 c	

<sup>1</sup>Roundup Pro = glyphosate

<sup>2</sup>Mean separation with Least Significant Difference (LSD) at  $P \leq 0.05$ .