

Progress Report to WSCPR 2005 funded project

Field Evaluations of Herbicides for Knotweed Control.

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Background: Knotweed is designated as a Class ‘B’ Noxious Weed in the State of Washington. It is one of the world’s most invasive weed species. It is found in almost every county within the State of Washington.

Methods: Several trials were conducted at Naselle, Washington, to evaluate alternative herbicides and timings. Treatments were hand sprayed, with a spray volume of 100 to 300 gpa. Plots were replicated 3 times. Plot size varied from 15’ x 20’ to 20’ x 20’.

Results: Final efficacy data will not be available until next summer. 2005 evaluations indicate that early applications of Habitat provided the best suppression of knotweed, followed by Aqua-Master (Table 1). Knotweed re-sprouted following a May application of Renovate. Mid-summer or early summer applications of Raptor did not appear to suppress knotweed (Tables 2 &3), while similar timing of GF-871 did show suppression. Any inference about long-term control can not be made at this time.

Table 1. Knotweed control with early herbicide application - Naselle River 2005

Treatment			Burndown rating (1=green 10=totally brown) Sep-27-05	Resprout % Sep-27-05
Treatment	Timing	Concentration %		
Habitat	May	1 % V/V	10.00 a	0.00 b
Competitor		1 % V/V		
Habitat	May	0.5 % V/V	9.67 a	0.00 b
Competitor		1 % V/V		
Habitat	August	1 % V/V	7.33 b	0.00 b
Competitor		1 % V/V		
Habitat	May	0.5 % V/V	10.00 a	0.45 b
Aqua-Master		2 % V/V		
Competitor		1 % V/V		
Aqua-Master	May	5 % V/V	9.67 a	2.24 b
Competitor		1 % V/V		
Renovate	May	2 % V/V	9.67 a	51.6 a
Competitor		1 % V/V		
LSD (P=.05)			0.808	16.9

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
Treatment applied 5.23/05 or 8/3/05. Plots 15x20’, 3 replications, 100 gpa spray volume.

Table 2. Knotweed control with mid-summer application of alternative herbicides - Naselle River 2005

		Burndown Rating 1 to 10 sept-27-05	Resprout % Sep-27-05	
Treatment Name	Rate			
GF-871 R11	7 FL OZ/100 GAL 0.25 % V/V	6.7 b	0.0	b
Raptor competitor	32 FL OZ/A 1 % V/V	2.7 c	0.0	b
Habitat competitor	32 FL OZ/A 1 % V/V	3.3 c	0.0	b
Habitat Rodeo competitor	0.5 % V/V 2 % V/V 1 % V/V	8.3 ab	0.0	b
Rodeo Agridex	5 % V/V 1 % V/V	9.3 a	3.7	a
Renovate Agridex	2 % V/V 1 % V/V	10.0 a	0.0	b
LSD (P=.05)		2.09	1.72	

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
Treatments applied on 8-0-05, 3 replications per treatment, 15' x15' plots; 300 GPA spray volume.

Table 3. Knotweed control with early-summer application of alternative herbicides - Naselle River 2005

				Burndown rating (1=green 10=totally brown) Sep-27-05
Treatment Name	Form Conc	Form Type	Rate Unit	
GF-871 R11	40.6 L 100 L		3 FL OZ/100 GAL 0.25 % V/V	7.3 c
GF-871 R11	40.6 L 100 L		5 FL OZ/100 GAL 0.25 % V/V	8.3 b
GF-871 R11	40.6 L 100 L		7 FL OZ/100 GAL 0.25 % V/V	10.0 a
Raptor (imazamox) competitor	12.1 L 100 L		8 FL OZ/A 0.25 % V/V	2.0 ef
Raptor competitor	12.1 L 100 L		24 FL OZ/A 0.25 % V/V	2.3 e
Raptor competitor	12.1 L 100 L		32 FL OZ/A 0.25 % V/V	4.0 d
Habitat competitor	28.7 L 100 L		32 FL OZ/A 0.25 % V/V	8.3 b
Control				1.0 g
LSD (P=.05)				0.81

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
Treatments applied on 6-20-05, 3 replications per treatment, 15' x15' plots; 270 GPA spray volume

