

Progress Report to WSCPR 2006 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 in 2006 and 2007 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'.

2007 Results: Initial efficacy data for the 2007 trials are presented in Tables 1-2. These results indicate that early-season applications of Milestone provided consistent control of crushed (Table 1) or uncrushed (Table 2) knotweed. We were not able to obtain efficacy using high rates of Renovate. Several other trials using early timings of Renovate also showed not efficacy (data not shown). Trials on full size plant this summer can not be evaluated until regrowth next spring.

2006 Results. Midseason low rates of Habitat or high rates of Rodeo control knotweed. (Table 3), while earlier season (May) application only provided ~80% control (Table 4). Milestone or Renovate applied in May did not work. All mid-summer applied herbicide treatment worked on Japanese knotweed (Table 5).

Table 1. Renovate & Milestone control of Bohemian knotweed applied at shoot emergence in April 2007

Treatment		Knotweed % Control 9/10/07	
Control		0.0	d
Renovate	2 gal/a	6.7	d
Renovate	3 gal/a	30.0	c
Renovate	4 gal/a	41.7	c
Renovate	5 gal/a	59.3	b
Milestone	14 oz/a	97.0	a
LSD (P=.05)		12.51	

Treatments were applied April 16, 2007. Knotweed had been crushed prior to treatment to remove old vegetation. Plants were 0.5 to 2' tall at the time of treatment.

Table 2. Renovate & Milestone control of Bohemian knotweed applied at shoot

Treatment		Knotweed % Control 9/10/07	
control		0	c
renovate	2.5 gal/a	24	b
renovate	5 gal/a	35	b
milestone	14 oz/a	72	a
LSD (P=.05)		21	

Treatments were applied April 16, 2007. Knotweed had been not been crushed prior to treatment to remove old vegetation. Plants were 0.5 to 3' tall at the time of treatment.

Table 3. Control of knotweed with herbicide applied in August 2006.

Treatment Name	Rate Rate Unit	% control 10/22/07
Habitat Competitor	64 oz/a 0.5 % v/v	96.3 a
Clearcast Competitor	64 oz/a 0.5 % v/v	0.0 c
Rodeo Competitor	3 gal/a 0.5 % v/v	97.3 a
Milestone Competitor	7 oz/a 0.5 % v/v	31.7 b
Galleon Competitor	11.2 oz/a 0.5 % v/v	0.0 c

Treatments applied August 2006 to 12 to 14' tall plants.

Table 4. Control of knotweed with herbicide applied in May 2006.

Treatment		control % Knotweed 10/22/07
Habitat Competitor May 5	6 pt/a 1 qt/a	47.0
Habitat Competitor May 18	6 pt/a 1 qt/a	73.5
Rodeo R11 May 5	5 gal/a 1 qt/a	25.0
Rodeo R11 May 18	5 gal/a 1 qt/a	82.3
Milestone R11 May 5	7 oz/a 1 qt/a	7.5
Milestone R11 May 18	7 oz/a 1 qt/a	32.5
Milestone R11 May 5	14 oz/a 1 qt/a	74.0
Milestone R11 May 18	14 oz/a 1 qt/a	68.8
Renovate R11 May 5	1 gal/a 1 qt/a	2.5
Renovate R11 May 18	1 gal/a 1 qt/a	7.5
Untreated Control		0.0
Lsd (P=.05)		41.95

Plants were 4-8' tall at application

Treatment		% control 6/8/07
Habitat competitor	48 oz/a 0.5 % v/v	100.0
Milestone competitor	7 oz/a 0.5 % v/v	100.0
Rodeo Milestone competitor	2 gal/a 7 oz/a 0.5 % v/v	100.0
Habitat Milestone competitor	32 oz/a 7 oz/a 0.5 % v/v	100.0
Milestone competitor	14 oz/a 0.5 % v/v	98.3
LSD (P=.05)		2.43

Table 5. Japanese knotweed control with late-season herbicides in 2006.