

Hairy Willow-herb Herbicide Screen

Materials and Methods.

Hairy willow-herb (*Epilobium hirsutum*) infesting the Britton Loop area of Bellingham was treated with various herbicides on July 17, 2006. Hairy willow-herb plants were about five feet tall and predominantly in bud stage at the time of the treatment. Few open flowers were present in the infestation at that time. Products tested were glyphosate (Aquamaster at 5%), imazapyr (Habitat at 0.5 and 1.0%), imazamox (Clearcast at 0.5 and 1%), triclopyr (Renovate at 1 and 1.5%), aminopyralid (Milestone at 0.5%), and several combination treatments (Aquamaster + Habitat, Aquamaster + Clearcast, Aquamaster + Renovate, Habitat + Renovate, and Clearcast + Renovate). Treatments were applied using a single thin-line wand on a CO₂-pressurized backpack sprayer. Foliage was dry, temperature was about 75 F, skies were clear, and the breeze was 2 to 5 mph from the NW. Plots measured 12 by 25 ft. and 2 L of solution was applied, resulting in an effective application rate of 76 gallons per acre. All treatments were mixed with 0.25% (v/v) DyneAmic surfactant prior to application.

Hairy willow-herb plants in each plot were visually rated for percent control (100% = dead hairy willow-herb plants, 0% = healthy hairy willow-herb) on August 4 (three weeks after treatment, WAT) and September 11, 2006 (2 months after treatment, MAT), and on August 30, 2007 (13 MAT). The statistical design was a Randomized Complete Block with four replicates. A general linear models procedure was used to analyze the data and Fisher's Protected LSD (P = 0.05) was used to separate the means.

Results.

Differences in product performance on hairy willow-herb at 2 and 13 MAT were slight (89 to 100% control at 2 MAT, 95 to 100% at 13 MAT) (Table). In fact, at 13 MAT, these differences are considered to be primarily due to skips in the application, as the living weeds in these plots were, for the most part, located at the far north side of the plots where weeds were somewhat screened from direct herbicide application occurring from the south side of the plots. Grass species (tall fescue (*Lolium arundinaceum*), quackgrass (*Elymus repens*), reed canarygrass (*Phalaris arundinacea*), and common velvetleaf (*Holcus lanatus*) were the predominant species still occurring in the plots at 13 MAT. There was also substantial amounts of native willow-herb species in the plots (*Epilobium* spp.) and scattered red alder (*Alnus rubra*). None of the plots were bare. Based on these results, it appears that all of these herbicides at the tested rates provide excellent control of hairy willow-herb at a year after application.

Table. Hairy willow-herb (*Epilobium hirsutum*) control after treatment with several herbicides.

Treatment ^a	Rate	8/4/06 (3 WAT) ^b	9/11/06 (2 MAT) ^b	8/30/07 (13 MAT) ^b
	% product	%	%	%
Aquamaster	5.0	65	100 a	100 a
Habitat	0.5	15	99 a	100 a
Habitat	1.0	20	95 abcd	100 a
Clearcast	0.5	15	89 d	100 a
Clearcast	1.0	35	90 cd	100 a
Renovate	1.0	70	96 abc	100 a
Renovate	1.5	75	98 ab	100 a
Aquamaster + Habitat	3.0 + 0.5	60	95 abcd	100 a
Aquamaster + Clearcast	3.0 + 0.5	50	99 a	99 a
Aquamaster + Renovate	3.0 + 1.0	65	93 abcd	97 ab
Habitat + Renovate	0.5 + 1.0	75	91 bcd	95 b
Clearcast + Renovate	0.5 + 1.0	70	94 abcd	97 ab
Milestone	0.5	50	91 bcd	100 a
LSD _{0.05}	---	ns	7	3

Means within a column followed by the same letter are not statistically different.

^aAll treatments were applied July 17, 2006, and were mixed with 0.5% nonionic surfactant, v/v (DyneAmic).

^bWAT = weeks after treatment; MAT = months after treatment.