

**Project Nos:** 13C 3419 7297

**Title:** Postemergence Canada Thistle Control in Red Raspberries

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**Reporting Period:** 2007-08

**Accomplishments:** This project is testing the effects of two formulations of Casoron (4G and CS) and Stinger applied early or late to established Canada thistle in red raspberries. Data will be presented at the red raspberry commission meeting for project review and at winter grower meetings during 2007-08.

**Results:**

Plots were established in healthy, second-year 'Meeker' raspberries at WSU Mount Vernon NWREC. Each plot was 30 feet long by 5 feet wide and contained a single row of raspberries. Herbicide applications were made either as a directed spray to the base of the canes (liquid Casoron or Stinger) or sprinkled among the canes (granular Casoron). Herbicide applications were made May 21 (early postemergence, EPOST) and June 14 (late postemergence, LPOST). Floricanes were just beginning to bloom at the time of the EPOST applications, and first green berries were present at the time of the LPOST (late flowers still present). Injury to primocanes and floricanes and weed control was noted June 25. Berries were machine harvested ten times from late June through early August and total berry weight per plot was recorded. Primocane counts in treated plots will be recorded when raspberries are in winter dormancy. The experiment is a randomized complete block with four replicates.

As this was a young raspberry planting, few weeds were present on which to evaluate weed control (non-treated plots showed 90% free of weeds). Still, treated plots were slightly improved, with control rated at 96 to 100%. Primocane injury was noted after most treatments, with the highest injury resulting from treatment with Casoron. The liquid Casoron formulation (Casoron CS) caused a similar level of injury from EPOST application as did granular Casoron applied either EPOST or LPOST, but injury from LPOST Casoron CS was only half as severe. This probably occurred due to leaf interception of product during the application, resulting in less herbicide reaching the soil. Stinger applications caused only slight injury to primocanes (0 to 8%); in fact, the level of injury was statistically similar to non-treated raspberry. Floricanes were not significantly injured by these herbicide applications. Berry yield was also not significantly affected. Primocanes will be measured this winter to determine if any of these treatments caused lasting injury to red raspberry.

An additional herbicide test is being conducted in red raspberries this year (Sakuma Brothers Farms, cooperator) with industry funding. These products include Chateau, Matrix, two numbered Valent compounds, Casoron 4G and Casoron CS, Firestorm (paraquat), and Callisto. Most products were applied on March 28-29, with one later application on April 30. Herbicide trials on baby raspberry, as well as on tissue-cultured raspberry and blackberry transplants are also being conducted at WSU Mount Vernon NWREC for Sakuma Brothers Farms.

Table 1. Primocane and floricanes injury, weed control, and berry yield following application of several herbicides in red raspberry.

Treatment <sup>a</sup>	Timing	Rate product/a	Crop injury <sup>b</sup>		Weed control <sup>b</sup>	Berry yield <sup>c</sup>
			Primocanes %	Floricanes %		
Casoron 4G	EPOST	100 lbs	36 a	3	100 a	10.7
Casoron CS	EPOST	2.8 gal	31 a	3	99 ab	11.6
Stinger	EPOST	5.3 fl.oz	0 c	1	100 a	13.8
Stinger	EPOST	10.7 fl.oz	3 c	1	98 a	8.7
Casoron 4G	LPOST	100 lbs	30 a	1	98 ab	10.0
Casoron CS	LPOST	2.8 gal	18 b	3	99 ab	10.3
Stinger	LPOST	5.3 fl.oz	8 bc	3	96 b	9.9
Stinger	LPOST	10.7 fl.oz	6 bc	1	98 ab	11.1
Non-treated	---	---	3 c	0	90 c	9.3

Means followed by the same letter are not significantly different ( $P < 0.05$ ).

<sup>a</sup>Herbicides were applied May 21 (EPOST) and June 14 (LPOST).

<sup>b</sup>Crop injury and weed control estimated June 25.

<sup>c</sup>Berries machine harvested ten times from late June through early August.