

Project Number: 13C-3419-7297

Title: Postemergence Canada Thistle and Bindweed Control in Red Raspberries

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Accomplishments: This project is the second year of testing for the effects of two formulations of Casoron (4G and CS) and Stinger applied early or late to established red raspberries. Timings would be similar to when Canada thistle or field/hedge bindweed would be at a good stage of growth for herbicide treatment. Data will be presented at the red raspberry commission meeting for project review and at winter grower meetings during 2008-09.

Results:

Plots were established in healthy, third-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 March 27 (PRE), June 26 (early postemergence, EPOST) and July 18 (late postemergence, LPOST). Floricanes had just begun breaking bud and the first primocanes were visible above the soil surface at the time of the PRE application, floricanes were in late flowering at the time of the EPOST applications, and the LPOST applications were made three days prior to first harvest.

Injury to primocanes was noted August 12 and weed control October 4. Berries were machine harvested ten times from late July 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 95% free of weeds); weed control in treated plots ranged from 98 to 100%. Primocane injury was noted after most treatments, with the highest injury resulting from treatment with Casoron applied in July (evaluation at one month after treatment). The liquid Casoron formulation (Casoron CS) at either timing caused a similar level of primocane injury as granular Casoron (ranging from 11 to 19%). Stinger applications caused only slight injury to primocanes (10 to 13%). Floricanes were not significantly injured by any herbicide application, and 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 with industry funding in second-year red raspberries. These products include Chateau, Matrix, two numbered Valent compounds, and Callisto. Canes were cut during midwinter, and products were applied in a mix with Roundup to control emerged weeds.

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

Treatment ^a	Timing	Rate product/a	Crop injury ^b %	Weed control ^c %	Berry yield ^d kg/30 ft
Casoron 4G	PRE	100 lbs	11 b	100	25.1
Casoron CS	PRE	2.8 gal	13 b	100	23.1
Stinger	EPOST	5.3 fl.oz	5 c	98	29.3
Stinger	EPOST	10.7 fl.oz	9 bc	99	25.9
Casoron 4G	EPOST	100 lbs	19 a	99	26.2
Casoron CS	EPOST	2.8 gal	18 a	100	26.3
Stinger	LPOST	5.3 fl.oz	10 b	98	26.4
Stinger	LPOST	10.7 fl.oz	13 b	99	26.5
Non-treated	---	---	0 d	95	27.0

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

^aHerbicides were applied March 27 (PRE), June 26 (EPOST), and July 18 (LPOST).

^bCrop injury estimated August 12 (no crop injury noted October 4).

^cWeed control estimated October 4.

^dBerries machine harvested eight times from late July through early August.