

**Project Number:** 13K 3419 5228

**Title:** Weed control in green peas.

**Personnel:** Tim Miller and Carl Libbey, WSU NWREC

**Reporting Period:** 2004-05

**Accomplishments:** A pea herbicide combination trial was conducted in 2004 in which weed control and yield parameters were measured. Eight herbicides alone and in various combinations were tested for crop safety in green peas; a total of twenty treatments were applied. Peas were also tested for sensitivity to Sandea (halosulfuron) carryover in one cucumber trial.

**Results:** Results will be presented at the Western Washington Horticultural Association meeting in January, 2004.

*Reduced rate trial.* Green pea (cv. 'Snake') was planted June 2, 2004 at WSU NWREC. PRE and POST herbicides were applied June 4 and July 2, respectively. Crop injury and weed control were rated July 9, 2004. Pea plants within a randomly placed 1-m<sup>2</sup> quadrat in each plot were pulled from the soil August 7 through 11. These plants were counted and pods containing harvestable peas stripped and counted. From those pods, 100 pods were randomly selected and opened, and peas weighed. Total pea yield for each plot was then calculated. The experimental design was a randomized complete block with four replicates. Results are included in the Table.

All tested herbicide treatments resulted in excellent weed control except Basagran alone (43% control). Outlook combinations with Spartan or Chateau resulting in slight crop injury (8 and 10%, respectively) and while neither resulted in significant differences in pea stand or pod productivity, Outlook + Chateau significantly reduced yield compared to the non-treated check (1.2 and 1.7 tons/a, respectively). Untreated peas yielded similarly to herbicide-treatment peas, although the impact to next year's crop due to weed seed production will tell a different story, as based on previous studies at WSU NWREC.

Table. Weed control on pea yield parameters from several herbicides at full and reduced rates.

Treatment	Rate product/a	Timing <sup>a</sup>	Crop injury <sup>b</sup> %	Weed control <sup>b</sup> %	Pea population <sup>c</sup> plants/a	Pod production pods/plant	Pea yield tons/a
Axiom	1.1 lb	PRE	3	100	2.38	2.8	1.5
Sencor	5.3 oz	PRE	0	100	2.65	2.8	1.7
Command	10.7 fl.oz	PRE	0	100	2.67	3.0	1.9
Outlook	14.3 fl.oz	PRE	4	90	2.57	2.9	1.7
Chateau	1.25 oz	PRE	4	99	2.85	3.1	2.1
Spartan	4.3 oz	PRE	1	97	2.43	2.6	1.0
Basagran	1.5 pt	POST	0	43	2.59	2.5	1.5
Axiom + Chateau	1.1 lb + 1.25 oz	PRE + PRE	5	100	2.23	2.8	1.4
Axiom + Spartan	1.1 lb + 4.3 oz	PRE + PRE	4	100	2.28	2.8	1.4
Sencor + Chateau	5.3 oz + 1.25 oz	PRE + PRE	1	100	2.22	2.9	1.5
Sencor + Spartan	5.3 oz + 4.3 oz	PRE + PRE	0	100	2.45	2.8	1.7
Command + Chateau	10.7 fl.oz + 1.25 oz	PRE + PRE	1	100	2.25	3.3	1.7
Command + Spartan	10.7 fl.oz + 4.3 oz	PRE + PRE	0	100	2.79	3.0	1.9
Outlook + Chateau	14.3 fl.oz + 1.25 oz	PRE + PRE	8	100	2.37	2.7	1.2
Outlook + Spartan	14.3 fl.oz + 4.3 oz	PRE + PRE	10	100	2.57	2.8	1.5
Chateau + Basagran	1.25oz + 1.5 pt	PRE + POST	3	100	2.57	2.7	1.6
Spartan + Basagran	4.3 oz + 1.5 pt	PRE + POST	1	99	2.62	3.0	1.8
Chateau + MCPA	1.25 + 4 fl.oz	PRE + POST	4	100	2.30	2.7	1.4
Spartan + MCPA	4.3 oz + 4 fl.oz	PRE + POST	1	97	2.50	3.0	1.6
Untreated	---	---	0	0	2.45	2.8	1.7
LSD <sub>0.05</sub>	---	---	4	10	ns	ns	0.5

<sup>a</sup>PRE = preemergence, applied June 4, 2004; POST = postemergence, applied July 2, 2004.

<sup>b</sup>Crop injury and weed control evaluated July 9, 2004.

<sup>c</sup>Pea population x 100,000.