

**Project Number:** 13K 3419 5228

**Title:** Weed control in green peas

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**Reporting Period:** 2001-2002

**Accomplishments:**

Twenty-two herbicides alone and in various combinations were tested for crop safety in green peas. A total of thirty-nine treatments were applied.

**Results:**

Two studies were conducted in 2001: (1) reduced rate, combination treatment study, and (2) a new herbicide screen. In both trials, weed control and yield parameters were measured, and in both trials, the green pea cultivar used was 'Charo.'

In (1), peas treated with the full rates of Command + Basagran, full or half rate of Sencor (PRE), or full rate of Sencor (POST) provided excellent weed control and were top yielders (Table 1). Combinations of Command with Sencor (either PRE or POST) were also excellent. The half rate of Command was marginal in weed control and yield, as was the half rate of Sencor (POST). Sencor (PRE) with either Basagran or MCPA gave fairly good weed control, but fairly poor pea yield. Weed control was poor with Sencor (POST) + MCPA, but yield was fairly good. All other treatments failed in weed control and yields were correspondingly reduced.

In (2), new herbicides and herbicide combinations resulting in excellent grass and broadleaf weed control included Axiom (PRE or POST), Lasso, and Dual Magnum or Spartan with Sencor (Table 2.). Nearly every tested treatment provided excellent broadleaf weed control, while Staple and Raptor + Basagran + 32-0-0 provided good broadleaf weed control. The Raptor + Basagran tank mixture gave 100 grass weed control, however. The peas were grown on very sandy soil on the northernmost tip of WSU Mount Vernon, and excessive crop injury resulted from Broadstrike, Broadstrike + Sonalan, and Staple. Spartan + Sencor also caused high crop injury May 24, but injury was not evident by June 22.

Table 1. Weed control on pea yield from several herbicides at full and reduced rates.

Treatment	Timing <sup>a</sup>	Rate	Grass	Brdlf.	Pods	Pea
			control	control	plant	yield
		product/a	%	%		ton/a
Command	PRE	10.7 fl.oz	80	97	4.8	3.4
Command	PRE	5.3 fl.oz	80	76	4.9	2.7
Sencor	PRE	5.3 oz	93	99	7.2	4.3
Sencor	PRE	2.7 oz	85	99	5.0	3.2
Sencor	POST	2.7 oz	64	92	5.0	3.0
Sencor	POST	1.3 oz	40	60	4.0	2.3
Basagran	POST	1 ½ pt	28	58	3.3	1.7
Basagran	POST	3/4 pt	40	55	3.8	1.5
MCPA	POST	4 fl.oz	35	23	3.3	1.5
MCPA	POST	2 fl.oz	50	10	3.3	1.6
Command + Sencor	PRE + PRE	2.7 fl.oz + 1.3 oz	79	99	6.1	3.9
Command + Sencor	PRE + POST	2.7 fl.oz + 0.7 oz	74	98	6.0	3.8
Command + Basagran	PRE + POST	2.7 fl.oz + 2/3 pt	50	79	4.0	2.0
Command + MCPA	PRE + POST	2.7 fl.oz + 1 fl.oz	49	71	4.0	1.9
Sencor + Basagran	PRE + POST	1.3 oz + 2/3 pt	60	94	4.4	2.4
Sencor + Basagran	POST + POST	0.7 oz + 2/3 pt	40	66	3.7	2.0
Sencor + MCPA	PRE + POST	1.3 oz + 1 fl.oz	71	88	4.2	2.4
Sencor + MCPA	POST + POST	0.7 oz + 1 fl.oz	38	55	3.5	2.2
Basagran + MCPA	POST + POST	1/3 pt + 1 fl.oz	45	40	3.1	1.5
Command + Basagran	PRE + POST	10.7 fl.oz + 1 ½ pt	88	99	6.3	4.2
Untreated	—	—	0	0	2.9	1.2
LSD <sub>0.05</sub>	—	—	21	17	1.6	1.3

<sup>a</sup>PRE = preemergence; POST = postemergence.

Table 2. Crop injury and weed control from several new herbicides in green peas.

Treatment	Timing <sup>a</sup>	Rate	Crop injury		Grass control		Brdlf. control	
			5/24	6/22	5/24	6/22	5/24	6/22
			lb ai/a	%	%	%	%	%
1. Axiom	PRE	0.75	5	8	95	98	99	94
2. Broadstrike	PRE	0.055	28	28	65	36	99	92
3. Broadstrike	PRE	0.5	20	15	55	51	100	96
+ Sonalan	PRE	+ 0.03						
4. Prowl	PRE	0.5	1	5	80	79	100	99
+ Outlook	PRE	+ 0.64						
5. Dual Magnum	PRE	0.64	0	4	75	84	100	98
+ Sencor	PRE	+ 0.15						
6. Lasso	PRE	2	1	5	89	96	98	89
7. Prowl	PRE	0.75	0	0	13	23	100	99
8. Spartan	PRE	0.15	18	4	78	92	100	97
+ Sencor	PRE	+ 0.1						
9. Cobra	POST	0.05	—	5	—	23	—	84
+ Basagran	POST	+ 0.25						
10. Axiom	POST	0.5	—	6	—	97	—	96
11. Raptor	POST	0.032						
+ Basagran	POST	+ 0.25						
+ 32-0-0	POST	+ 1%	—	0	—	100	—	77
12. Staple	POST	0.0638	—	45	—	41	—	74
13. Untreated	—	—	0	0	0	0	0	0
LSD <sub>0.05</sub>	—	—	7	13	21	29	2	14

<sup>a</sup>PRE = preemergence; POST = postemergence.