

## POSTEMERGENCE WEED CONTROL IN ONIONS

Corey V. Ransom and Joey Ishida  
Malheur Experiment Station  
Oregon State University  
Ontario, Oregon, 1997.

### Introduction

Trials were conducted to evaluate various herbicide tank mixtures for weed control in onions.

### Methods

'Quest' onions were planted May 5 with a spacing of 3.3 inches between plants on 22-inch rows. Lorsban was applied over the row at 3.8 oz/1000 ft of row. Postemergence herbicide treatments were first applied to onions in the 1 true leaf stage on May 29. Additional applications were made at approximately 7 day intervals. A total of four herbicide applications were made. At the time of the first application, weeds were already large with redroot pigweed ranging from 0.5 to 4 inches tall. Common lambsquarters were 1 to 4, barnyardgrass 2 to 6, and hairy nightshade 0.5 to 6 inches tall. Treatments were broadcast applied with a backpack sprayer delivering 20 gpa at 30 psi. Plots were 7.3 feet wide by 30 feet long and treatments were replicated four times. Weed control was evaluated visually June 7. Weed biomass was determined July 29.

### Results

Weed control in general was poor because the weeds were large at the time of the first herbicide application. Hairy nightshade control was highly variable and few differences were apparent among treatments. The addition of Goal, Prowl, Dual, or Frontier to Buctril plus Poast increased barnyardgrass control while the addition of Nortron did not. Common lambsquarters control was similar among treatments with Cobra plus crop oil concentrate (COC) providing less control than the other treatments. Cobra treatments also caused at least 40 percent injury to onions four days after application. Injury symptoms included necrosis of the leaves and reduced plant height. None of the other treatments injured the onions. Redroot pigweed control was poor among all the treatments. The addition of Prowl or Nortron to Buctril plus Poast provided among the highest redroot pigweed control, while the addition of Dual or Frontier had no effect on redroot pigweed control. However, redroot pigweed biomass was greater with the Buctril plus Dual combination than with Buctril alone. In addition, the combination of Buctril with Prism and crop oil had significantly more redroot pigweed biomass than the Buctril plus Poast treatment. Buctril plus Frontier and the Buctril and Prism mixture without crop oil also had among the highest redroot pigweed biomass.

Table 1. Weed control on June 7, and weed biomass taken July 29 in onions treated with sequential herbicide applications (May 29, June 7, June 14, and June 25), Malheur Experiment Station, Oregon State University, Ontario, Oregon, 1997.

Treatment <sup>1</sup>	Rate	Weed control				Weed biomass			
		Pigweed	Lambsquarters	Barnyardgrass	H. nightshade	Pigweed	Lambsquarters	Barnyardgrass	H. nightshade
		%				g/ft <sup>2</sup>			
Buctril	0.15	49	86	56	56	28	0	0	1
Buctril + Prowl	0.15 + 1.5	78	86	70	79	15	0	0	0
Buctril + Goal	0.15 + 0.03	64	81	74	69	30	0	0	0
Buctril + Goal + Prowl	0.15 + 0.03 + 1.5	73	85	83	75	11	0	0	0
Buctril + Nortron	0.15 + 0.25	70	84	58	79	3	0	0	0
Buctril + Dual	0.15 + 2.0	36	86	78	65	48	0	0	0
Buctril + Frontier	0.15 + 1.17	41	86	71	69	42	0	0	0
Buctril + Prowl + Dual	0.15 + 1.5 + 2.0	59	84	70	73	32	0	0	0
Buctril + Nortron + Dual	0.15 + 0.25 + 2.0	80	86	78	85	2	0	0	0
Buctril + Goal + Dual	0.15 + 0.03 + 2.0	60	85	84	70	32	0	0	0
Cobra + COC	0.125 + 1%	81	48	33	74	8	2	0	1
Cobra + Prism + COC	0.125 + 0.094 + 1%	88	76	85	84	8	0	0	0
Buctril + Nortron + Prowl	0.15 + 0.25 + 1.5	71	85	71	80	1	0	0	0
Buctril + Prism	0.15 + 0.094	40	85	75	63	44	0	0	0
Buctril + Prism + COC	0.15 + 0.094 + 1%	46	85	76	51	46	0	0	0
Untreated		0	0	0	0	35	5	4	11
LSD (0.05)		17	10	13	18	13	1	1	2

<sup>1</sup>All treatments were applied with Poast at 0.1 lb ai/acre unless Prism is specified in the table. Dual, Frontier, and Prowl were included only in the first application. Cobra treatments were also applied only at the first treatment. Sequential treatments consisted of Buctril + Poast and included Goal or Nortron if they were applied initially.