

2017 Leek Weed Control Studies

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Methods: *Trial No. 1:* The trial was conducted in a commercial production field near Chualar, CA. The trial site was transplanted with the leek variety 'Linkton' on August 25. Two post-transplant application timings of prometryn (Caparol) were tested: September 8 (temperature was 70 °F and wind was 1-2 mph from west) and September 14 (temperature was 70 °F and wind was 1-2 mph from west) when plants were 5-6 inches tall. The soil at the site was Salinas clay loam. *Trial No. 2:* The trial was in the same field described above and post-transplant applications were made on September 14 (see conditions above). The soil at the site was Pico fine sandy loam. *Details to both trials:* Each plot was one 40-inch bed wide by 10 feet long and replicated four times in a randomized complete block design. All applications were made with a CO₂ backpack sprayer with one pass of a one-nozzle wand with an 8008E tip at 30 psi applying the equivalent of 35 gallons per acre. Counts were made of each weed species in a 10 ft² area in each plot. Phytotoxicity (Phyto) was evaluated according to the following scale: 0 = crop unaffected to 10 = crop dead.

Results: *Trial No. 1:* On the September 20 evaluation date, there was slight phytotoxicity in the prometryn (Caparol) treatments on the leeks, but no difference between the two application timings (Table 1). Phytotoxicity consisted of a bending down of older leaves. The plants appeared to have recovered for the most part from this issue by the October 10 and November 9 evaluation dates, but bent leaves could still be observed to a small degree. Bromoxynil (Buctril) caused burning on the tips of the leaves that was evident on all evaluation dates. All rates and timings of prometryn eliminated weeds in the plots (Photos 1 & 2). There was no statistical difference in yield, but there is a trend that the prometryn treatments were 2-3 tons/A less than the untreated control. *Trial No. 2:* Post emergent treatments of prometryn were compared with linuron (Lorox) and bromoxynil (Buctril). Slight phytotoxicity was evident on the September 20th evaluation date (Table 2) and consisted of bending down of leaves (as described above) in the prometryn and linuron treatments. Linuron had slightly more leaf bending than prometryn on the October 10 evaluation date. Bromoxynil also had slight burning on leaf tips as described above. All herbicides provided excellent control of weeds. There were no statistically significant differences in yield and no trends indicating lower yields in any of the herbicide treatments.



Photo 1. Weeds in untreated control



Photo 2. Weed control in prometryn at 1.0 pint/A

Table 1. Trial No. 1. Phytotoxicity ratings and weed counts (No./10 ft²).

Treatments	Material/A	Application	Sept 20						Oct 10	Nov 9	Dec 12
			Phyto	Purslane	Malva	Shepherd's purse	Sow thistle	Total weeds	Phyto	Phyto	Yield Tons/A
Prometryn	1.0 pt	Sept 8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.05
Prometryn	2.0 pt	Sept 8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.5	32.53
Prometryn	3.0 pt	Sept 8	0.5	0.0	0.0	0.0	0.0	0.0	0.1	0.0	33.83
Prometryn	1.0 pt	Sept 14	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.04
Prometryn	2.0 pt	Sept 14	0.3	0.0	0.0	0.0	0.0	0.0	0.4	0.3	33.02
Prometryn	3.0 pt	Sept 14	0.4	0.0	0.0	0.0	0.0	0.0	0.5	0.5	32.89
Bromoxynil	1.0 pt	Sept 8	0.6	0.0	0.0	0.0	0.0	0.0	0.3	0.5	37.45
Untreated	---	---	0.0	1.8	0.0	0.3	0.8	2.8	0.0	0.3	35.27
Pr>F treat			0.0328	0.0001	---	0.4586	0.0001	0.0001	0.1718	0.5256	0.3890
LSD _{0.05}			0.4	0.7	ns	ns	0.3	0.7	ns	ns	ns

Table 2. Trial No. 2. Phytotoxicity ratings and weed counts (No./10 ft²).

Treatments	Material/A	Sept 20								Oct 10	Nov 9	Dec 12
		Phyto	Purslane	Malva	Shepherd's purse	Sow thistle	Groundsel	Night shade	Total weeds	Phyto	Phyto	Yield Tons/A
Prometryn	1.0 pt	0.0	0.0	0.3	0.0	0.3	0.3	0.0	0.8	0.3	0.0	36.24
Prometryn	2.0 pt	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	39.05
Prometryn	3.0 pt	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	36.55
Linuron	0.5 lb	0.4	0.0	0.0	0.0	0.0	0.3	0.0	0.3	1.3	0.8	35.11
Linuron	1.0 lb	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	34.48
Linuron	1.5 lb	0.3	0.0	0.3	0.0	0.3	0.3	0.0	0.8	0.5	0.5	36.06
Bromoxynil	1.0 pt	0.1	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.4	0.3	38.37
Untreated	---	0.0	1.3	0.8	1.5	1.5	0.3	0.5	5.8	0.0	0.0	34.59
Pr>F treat		0.1008	0.0069	0.1857	0.0002	0.0006	0.6976	0.0239	0.0017	0.0014	0.0876	0.0764
LSD _{0.05}		ns	0.8	ns	0.5	0.6	ns	0.3	1.1	0.5	ns	ns