

2018 Leek Weed Control Studies (IR-4 P-12131)

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Methods: The trial was conducted in a commercial leek production field south of Soledad, CA. The trial site was transplanted with the leek variety 'Lexton' on June 11. Two post-transplant applications were made: June 25 (temperature 72 °F and no wind; transplants had one new emerging leaf) and the second on August 15 (temperature was 70 °F and wind was 1-2 mph from west). The soil at the site was Metz fine sandy loam. 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 of water per acre. Weed counts were made on two dates in a 10 ft² area in each plot. Phytotoxicity (Phyto) was evaluated on three dates according to the following scale: 0 = crop unaffected to 10 = crop dead. The harvest evaluation was conducted on October 9 by harvesting 12 whole plants from the middle of each plot; roots were trimmed from the plants and they were weighted. The field was grown with standard production practices in the Salinas Valley and was sprinkler irrigated through the crop cycle.

Results: The main weed at this site was hairy nightshade and Caparol and Lorox at all rates provided excellent weed control on both evaluation dates (Table 1, and see photo). There was slight phytotoxicity in the Caparol and Lorox treatments with the main symptom being a bending of older leaves early in the production cycle (see photo); the plants did not exhibit this issue later in the crop cycle. There were no differences in yield among the treatments.



Weed control
Caparol at 1.0 pint/A



Older leaf bending caused by Caparol and Lorox

Table 1. Weed counts (No./10 ft²), phytotoxicity ratings and head weight on October 9

Treatment	Active ingredient lbs/acre	Material per acre	June 29				July 24				Aug 13	Oct 9
			Night shade	Purslane	Total weeds	Phyto	Night shade	Purslane	Total weeds	Phyto	Phyto	mean head lbs
Caparol 4L	0.5	1.0 pt	0.3	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.84
Caparol 4L	1.0	2.0 pt	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.75
Caparol 4L	1.6	3.2 pt	0.0	0.0	0.0	1.0	0.3	0.0	0.3	0.7	0.2	0.88
Caparol 4L	3.2	6.4 pt	0.0	0.3	0.3	0.7	0.0	0.0	0.0	1.0	0.3	0.92
Caparol 4L	1.6	3.2 pt	0.3	0.0	0.3	1.3	0.0	0.0	0.0	0.0		0.90
Prowl H ₂ O 3.8	0.95	2.0 pt									0.0	
Lorox 50DF	0.5	1.0 lb	0.7	0.7	1.3	0.0	0.3	0.0	0.3	0.0	0.0	0.88
Lorox 50 DF	1.0	2.0 lb	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.7	0.0	0.86
Prowl H ₂ O 3.8 ¹	0.95	2.0 pt	2.3	0.0	2.7	0.0	0.7	0.0	0.7	0.0	0.0	0.85
Untreated	---	---	1.7	0.0	1.7	0.0	1.0	0.3	1.3	0.0	0.0	0.89
Pr>F treat			0.0088	0.1133	0.0116	0.0530	0.3269	0.4726	0.1485	0.3510	0.5696	0.4959
LSD _{0.05}			1.3	ns	1.5	0.9	ns	ns	ns	ns	ns	ns

1 – Grower standard