

Pepper Weed Control Studies 2015

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Methods: *Trial No. 1:* was conducted in a commercial pepper production field near Soledad to evaluate weed control and safety on peppers. All materials were applied pretransplant to shaped beds on April 27 and the field was transplanted on the same day. Sprinkler irrigation was applied within four hours after transplanting to set the plants and incorporate the herbicide treatments. Phytotoxicity and weed evaluations were made on three dates (Table 1). Harvest evaluations were conducted on October 5. Soil type was Pico fine sandy loam: pH = 7.35; organic matter = 1.49; sand = 60, silt = 26 and clay = 14%. The variety was 'Accura'. See table for evaluations and dates. *Trial No. 2:* was conducted in a commercial pepper production field near Gilroy. Pretransplant applications were made to shaped beds on April 28 and the field was transplanted on the same day. Sprinkler irrigation was applied within four hours after transplanting to set the plants and incorporate the pretransplant herbicide treatments. Only one phytotoxicity and weed rating was conducted on June 17 (the trial was terminated after this evaluation date). Soil type was Campbell silty clay loam and the variety was 'Baron. See table for evaluations and dates. **Methods common to both plots:** Each plot was one 40-inch bed wide by 10 feet long and replicated three times in a randomized complete block design. All treatments were applied with 2 passes of a one tip wand with an 8008EVS nozzle at 30 psi applying the equivalent of 55 GPA

Results: There was little phytotoxicity on the first evaluation date on May 12 (Table 1). Both Zidua and Zeus reduced the number of weeds in the plots on this evaluation as well; the higher rates of Zidua were also particularly effective. The Zidua treatments had little phytotoxicity on May 19 and 28, but the 1.33 lb a.i./A rate had significant phytotoxicity on June 16 (Table 2). The Gilroy trial had significant phytotoxicity on June 17 in the 0.07 and 1.33 lbs a.i./A treatments, and no further evaluations were made of this trial. Good weed control was seen in all herbicide treatments in comparison with the untreated control. There were no differences in yield among the treatments (Table 3). The results of these trials indicate that Zidua may have promise as an herbicide for transplanted peppers. More tests will need to be done to better understand the higher level of phytotoxicity that was observed at the Gilroy site. Presumably differences in soil characteristics may have been responsible for the observed differences.

Table 1. Phytotoxicity and weed evaluation (weeds/10 ft²) on May 12

Treatments	lbs a.i./A	Material/A	Phyto ¹	Malva	Shepherd's purse	Pigweed	Night-shade	Sow thistle	Total weeds
Dual Magnum 7.62 Prowl H2O 3.8	1.50 0.95	1.67 pt 2.00 pt	0.0	4.0	2.3	0.3	0.7	0.7	8.0
Zidua 85WG	0.035	0.64 oz	0.3	5.0	3.7	1.3	0.3	0.0	10.3
Zidua 85WG	0.070	1.27 oz	0.3	2.0	2.3	0.0	0.0	0.3	4.7
Zidua 85WG	0.133	2.53 oz	0.7	2.7	0.0	0.7	0.0	0.0	3.3
Zeus 4F	0.125	4.0 oz	0.7	2.0	1.0	1.0	0.0	2.3	6.3
Untreated	---	---	0.0	6.0	12.3	7.3	1.7	1.7	29.0
Pr>Treat			0.3993	0.3770	0.0791	0.3238	0.3205	0.1603	0.0003
LSD _{0.05}			NS	NS	NS	NS	NS	NS	2.5

1 – scale: 0 = no crop damage to 10 crop dead.

Table 2. Phytotoxicity and weed evaluations (weeds/6.6 ft²) on dates shown; also evaluation of the Gilroy trial on June 17

Treatments	lbs a.i./A	Material/A	19-May			28-May		16-Jun	Gilroy Trial 17-Jun	
			Phyto ¹	Malva	Dead peppers	Phyto ¹	Total weeds	Phyto ¹	Phyto ¹	Malva
Dual Magnum 7.62 Prowl H2O 3.8	1.50 0.95	1.67 pt 2.00 pt	0.0	1.7	1.0	0.7	2.0	0.3	0.0	0.0
Zidua 85WG	0.035	0.64 oz	0.0	2.0	0.3	0.0	1.7	0.0	1.0	0.7
Zidua 85WG	0.070	1.27 oz	0.0	1.3	1.7	0.0	1.3	0.7	2.0	0.0
Zidua 85WG	0.133	2.53 oz	0.0	1.0	0.3	1.7	1.3	2.3	3.7	0.0
Zeus 4F	0.125	4.0 oz	0.0	1.7	0.7	0.0	2.0	0.0	3.3	0.0
Untreated	---	---	0.0	3.3	0.7	0.0	5.7	0.0	0.0	4.0
Pr>Treat			NA	0.8588	0.7211	0.0237	0.3575	0.0033	0.0022	0.0036
LSD _{0.05}			NS	NS	NS	0.32	NS	0.32	0.54	0.58

Table 3.

