

2015-16 Garlic Weed Trial

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Methods: The trial was conducted east of Gilroy on a site with Yolo silty clay loam soil. The garlic variety ‘California Late’ was planted on November 23, 2015 and the post plant, pre emergence materials were applied on the same day. Treatments were applied with a CO₂ backpack sprayer using two passes of a one tip nozzle at 35 psi which applied the equivalent of 80 gallons of water per acre. Each plot was one 40 inch bed wide by 15 feet long. The treatments were arranged in a randomized complete block design with four replications. Post plant treatments were applied when five leaves were emerged on February 25. Evaluations of number of garlic plants emerged was conducted early in the crop cycle and phytotoxicity ratings were made on three dates according to the following scale: 0 = no crop damage to 10 = crop dead. There were few weeds in this site and only one weed evaluation was conducted. Yield evaluation was conducted on July 8, 2016 by harvesting 3 feet of row and counting and weighing trimmed heads.

Results: There was no significant difference in the emergence of garlic plants on December 18 (Table 1). The 70.6 gram/A rate of Zidua had significant phytotoxicity on the first phytotoxicity rating on January 15. The phytotoxicity consisted mainly of stunting of the plants. This symptoms was evident in this treatment on the two subsequent phytotoxicity ratings on February 25 and May 3. There was also some noticeable but less significant stunting in the Zidua treatments was evident in the May 3 phytotoxicity rating in treatments that received post emergence treatment on February 25. It appears that all herbicide treatments except for Zidua at 17.6 grams/A reduced the tonnage of garlic compared to the untreated control. There were no differences in the number of plants/A. The untreated control had the greatest mean bulb weight.



Overview of the plot

Table 1. Plant emergence evaluation, phytotoxicity ratings, Marestalk (No./10 ft²) counts and harvest evaluation on July 8, 2016

Treatments	Material/A	Timing	Emerged Plants Dec 18	Phyto Jan 15	Phyto Feb 25	Marestalk Feb 25	Phyto May 3	Harvest Tons/A	Harvest Bulbs/A	Harvest Mean bulb wt grams
Zidua 85WG	17.6 grams	Post plant pre	5.8	0.3	0.8	0.0	0.5	12.3	190,588.1	59.1
Zidua 85WG	35.3 grams	Post plant pre	4.3	1.3	1.3	0.0	1.3	10.9	181,875.5	54.8
Zidua 85WG	70.6 grams	Post plant pre	3.8	3.0	2.5	0.0	3.3	10.0	177,519.2	51.4
Zidua 85WG	17.6 grams	Post plant pre	4.5	0.6	0.8	0.0	2.0	11.4	174,252.0	59.5
Zidua 85WG	17.6 grams	4-6 leaf								
Zidua 85WG	35.3 grams	Post plant pre	2.8	1.3	1.3	0.0	3.0	11.5	187,320.9	56.0
Zidua 85WG	35.3 grams	4-6 leaf								
Chateau 51WG	6.0 ounce	Post plant pre	6.0	0.8	0.3	0.0	0.8	10.6	182,964.6	53.0
Buctril 4E	1.0 pint	4-6 leaf								
Untreated	---	---	6.3	0.0	0.0	1.0	0.0	12.6	178,608.3	64.0
Pr>F			0.5531	<0.0001	<0.0001	<0.0001	<0.0001	0.0424	0.9557	0.0115
LSD _{0.05}			ns	0.6	0.7	0.1	1.1	1.6	ns	6.6

