

California Pepper Commission – Final Report, 2014

Title: Preemergence Weed Control Trials in Peppers

Principle Investigator:

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Timeline: March 1, 2014 to February 28, 2015

Objective

Examine potential pre-transplant herbicides (Outlook and Zeus) for safety and effectiveness in weed control for peppers

Methods: The trial was conducted on a commercial bell pepper farm south west of Greenfield on a site with Elder loam soil. Treatments were applied to shaped beds prior to transplanting on May 23. A proprietary Anaheim pepper variety was transplanted the same day in two seedlines on the beds; transplants were watered with sprinkler irrigation immediately after planting. Each plot was one 40-inch bed wide by 20 feet long and replicated four times in a randomized complete block design. All materials were applied with two passes of a one-tip wand with an 8008E nozzle applying the equivalent of 69 gallons per acre. Yield was measured on September 25 by harvesting the fruit from 6 plants in the middle of the plot and grading them according to maturity and quality. See tables for evaluations and dates.

Results: There was very light weed pressure at this site and the weed evaluation on June 26 (34 days after treatment) showed no differences among the treatments (Table 1). The July 30 weed evaluation was following hand weeding of the field, and this evaluation was to determine the weed control treatments have longer-term ability to suppress weeds; no weeds reemerged in the plots and no weeds were present. Phytotoxicity ratings taken on June 12 and June 26, 20 and 34 days after treatment, respectively, showed clear unacceptable phytotoxicity from Outlook and slight phytotoxicity from Zeus at 4.5 ounces/A and the combination of Prowl + Dual Magnum (the standard treatment). The unacceptable phytotoxicity from Outlook was still evident on July 30 (64 days after treatment). Yield was measured on September 25, and there were fewer reds in the Outlook treatment. Overall there was a trend that indicated that the 4.5 ounce/A rate of Zeus had less yield than the 3.0 ounce/A rate which is consistent with observations made in the 2013 trial giving further evidence that on lighter soils, the rate of Zeus should be closer lower to assure crop safety.

