

Developments in Organic Herbicides in Specialty Crops

Shosha Capps and W. Thomas Lanini, University of California, Davis

Options for weed control in both organic and conventional specialty crops are restricted by the limited number of herbicides registered for use in these production systems. The purpose of this research is to increase options available to growers by investigating the efficacy of various natural product herbicides, including vinegar, C-Cide, Green Match, Green Match EX, Matran, Raps, Racer, and Weed Zap. These products have been evaluated in greenhouse and field trials to assess weed control as effected by product, concentration, spray volume, adjuvant, weed type (grass or broadleaf) and weed species. Trials were conducted in 2007 and 2008, with greenhouse trials continuing into 2009. The three field trials associated with this project were conducted in grapes, tomatoes, and lettuce, and took place in Davis, CA and Napa, CA.

Although full data analysis has not yet been conducted, basic analysis of variance shows that broadleaf weeds are more effectively controlled than grasses, and that higher concentrations and spray volumes increase control across all herbicides, with a larger effect shown from increasing spray volume. The most effective herbicides were Racer (pelargonic acid) and vinegar (acetic acid), followed by Greenmatch EX, Matran and Weed Zap. C-cide was the least effective product tested, although improved performance was observed in warm weather (tomato and lettuce) trials. (sacapps@ucdavis.edu)