

Herbicidal Efficacy Testing, Crop Safety Evaluations, and Glyphosate-Resistant Weed Management in Central Valley Almond Orchards

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PROJECT SUMMARY

Objectives:

- Evaluation of new herbicides, tank mixes, and application techniques, particularly for glyphosate-resistant weed control.
- Evaluate and diagnose almond injury symptoms from various herbicides and develop training tools for advisors and consultants.

Background and Discussion:

Weed control, including both chemical and mechanical practices, is an annual management challenge and production expense for almond growers. The majority of California's almond acreage is treated multiple times each year with herbicides including both residual preemergence and/or broad spectrum "burn down" products. Over time, new weed problems and herbicide-resistant biotypes emerge, new herbicides are considered for registration, crop safety issues arise, and changing pesticide regulations affect almond production systems. Growers and advisors need up-to-date herbicide information as weed management needs change.

Herbicide research and demonstration project continued throughout the Central Valley during the 2014 growing season. This research included efficacy and crop safety evaluations of PRE- and POST-emergent herbicides. The goal of this work is to provide the industry with information on weed control efficacy and has a special focus on glyphosate-resistant species.

Field trials were conducted in commercial almond orchards and research station sites ranging from Kern County to Colusa County during 2014 to evaluate residual herbicides (7 sites). These included the following:

POST control of hairy fleabane (3 sites); POST control of yellow nutsedge (1 site); and comparison of low VOC formulations of oxyfluorfen (2 sites). Preemergence herbicide projects this year focused largely on Alion (indaziflam) and Matrix (rimsulfuron) in various rates and combination ratios. POST herbicide research included comparisons of Venue (pyraflufen) as a tank mix partner with other burndown herbicides, new formulations of glufosinate (same a.i. as Rely 280). Additionally several experiments were conducted to evaluate a range of adjuvants as partners for GoalTender (oxyfluorfen) in an effort to increase the POST activity of this product, as VOC regulations reduce the allowable rates for Goal 2EC and other high VOC formulations.

Each year, growers and consultants have questions about possible almond injury from herbicide. Injury can come from foliar, trunk, or root exposure to herbicides registered in almond or from herbicides that drift from applications made in nearby areas. Photo sets were developed and are being prepared for an online symptomology tool to be hosted by the UC IPM Statewide Program. The anticipated launch for this website is January 2015.

The broad weed management research partially supported by this Almond Board of California project provides direct and practical benefits to almond producers, pest control advisors, county-based cooperative extension advisors, as well as related orchard and nursery industries.

Project Cooperators and Personnel:

Seth Watkins, Lynn Sosnoskie, Bahar Yildiz Kutman, Marcelo Moretti, UC Davis; David Doll, UCCE – Merced County, Franz Niederholzer, UCCE – Colusa/Sutter/Yuba Counties, John Roncoroni, UCCE – Napa County

For More Details, Visit

- Poster location 56, Exhibit Hall A + B during the Almond Conference; or on the web (after January 2015) at Almonds.com/ResearchDatabase
- 2013-2014 Annual Reports CD (13-HORT12-Hanson); or on the web (after January 2015) at Almonds.com/ResearchDatabase
- Related projects: 14-AIR9-Doll; 14-PATH1-Browne; 14-AIR5-Gao