

## **Planning for your summer tree nut weed control**

*Kurt Hembree, UCCE Farm Advisor, Fresno County*

Winter weeds were abundant this year, thanks to the high amount of rainfall we had. Hopefully you found time between storms and were able to get into your orchards and treat for weeds. Given moist soil conditions and warming temperatures close at hand, summer weed growth is also expected to be high. So, are you ready to go with your summer weed control program?

Hopefully you already know what weeds you'll be up against. If not, look to see if there are new ones emerging in recently-watered orchards or after the last rainfall. Note specific weeds so herbicide(s) can be selected accordingly. When it comes to herbicide selection, make sure you're using products that are effective against your specific weeds, which often vary from field to field. Also, select herbicides and rates that are appropriate for the soil type; lower rates of preemergent products are often needed on sandier soils than heavier soils. Consider using sequential treatments where appropriate if rainfall occurs in April, which can help extend control through summer.

Remember to add postemergent products to the tank if weeds are already up and growing when you treat. If glyphosate-resistant horseweed, hairy fleabane, junglerice, or ryegrass are present, and you still want to use Roundup or a similar material, be sure to add another burn-down material that is effective on those weeds. Combining Treevix or Rely 280, Lifeline, or similar product with Roundup has worked well on these and a wide variety of weeds. Be sure to treat when the weeds are small for optimum control. Don't wait to spray when weeds are large, droughty, or dense, or herbicide coverage and performance may suffer. Use spray tips, a spray volume, and spray pressure that adequately wets the weeds, while minimizes spray drift.

To make your tree nut weed control efforts the most effective and efficient they can be, consider these important measures before treating:

- ✓ Make sure spray equipment is functioning properly and has been recently calibrated. You should have ample spray equipment and labor available to ensure treatments are timely.
- ✓ Select herbicides and rates based on the specific weeds present or expected. Each orchard may have different weeds, so adjust herbicide mixes accordingly.
- ✓ Use spray nozzle tips, a spray pressure, and a travel speed that is adequate for the desired coverage of the herbicide type(s) (contact, systemic, and preemergent) being used. Use drift-reducing spray tips and/or spray shields where possible to help mitigate spray drift concerns.
- ✓ Make sure postemergent materials are applied to small, succulent weeds within two to three weeks after emergence. Preemergent materials need to be applied within 14-21 days of rainfall or irrigation.
- ✓ Evaluate the performance of each treatment and adjust the next treatments accordingly.

It's also very important to rotate and/or tank-mix herbicides with different mode of actions (MOA) whenever possible to reduce the risk of herbicide-resistant weed development and preserve herbicide

effectiveness. Following is a list of registered herbicides in California perennial tree nut crops, along with their specific MOA group numbers and sites of action. To rotate and/or tank-mix herbicides effectively, simply select specific herbicide products for your specific nut crop type with different active ingredient MOA group numbers.

Herbicides and their mode of actions registered in tree nuts in California

MOA (group)	MOA (site of activity)	Herbicide (active ingredient)	Herbicide (product example)
1	Acetyl CoA carboxylase	fluazifop clethodim sethoxydim	Fusilade DX Select Max Poast
2	Acetolactate synthase	flazasulfuron rimsulfuron penoxsulam (2) + oxyfluorfen (14)	Mission Matrix FNV Pindar GT
3	Microtubule assembly	oryzalin pendimethalin trifluralin	Surflan A.S. Prowl H2O Treflan HFP
4	Synthetic auxin	2,4-D amine	Orchard Master
5	Photosystem II	simazine	Princep
7	Photosystem II	diuron	Direx
8	Lipid synthesis	EPTC	Eptam
9	EPSP synthase	glyphosate	Roundup
10	Glutamine synthase	glufosinate	Rely 280, Lifeline
12	Carotenoid biosynthesis	norflurazon	Solicam
14	Protoporphyrinogen oxidase	carfentrazone flumioxazin oxyfluorfen pyraflufen saflufenacil	Shark Chateau Goal Venue Treevix
21	Cellulose biosynthesis	isoxaben	Trellis
22	Photosystem-I-electron diversion	paraquat	Gramoxone Inteon
27	Hydroxyphenylpyruvate dioxygenase	mesotrione	Broadworks
29	Cellulose biosynthesis	indaziflam	Alion

*This is not an endorsement for any of the trade names listed, nor does the omission of specific trade names reflect the view of the author. Refer to your local chemical dealer or manufacturer for specific herbicide products available. Consult the manufacturer's labels for specific crop and treatment recommendations.*

*Kurt Hembree, UCCE, Fresno County. November 2015.*

*([http://cefresno.ucanr.edu/sites/Weed\\_Management](http://cefresno.ucanr.edu/sites/Weed_Management))*

University of California  
Cooperative Extension  
Tulare County  
4437B S Laspina St  
Tulare, CA 93274-9537

Nonprofit Org  
US Postage Paid  
Visalia, CA 93277  
Permit No. 240

# *In-A-Nutshell*

---

April 2016

Elizabeth Fichtner  
Farm Advisor

It is the policy of the University of California (UC) and the UC Division of Agriculture & Natural Resources not to engage in discrimination against or harassment of any person in any of its programs or activities on the basis of race, color, national origin, religion, sex, gender, gender expression, gender identity, pregnancy (which includes pregnancy, childbirth, and medical conditions related to pregnancy or childbirth), physical or mental disability, medical condition (cancer-related or genetic characteristics), genetic information (including family medical history), ancestry, marital status, age, sexual orientation, citizenship, or service in the uniformed services (as defined by the Uniformed Services Employment and Reemployment Rights Act of 1994 [USERRA]), as well as state military and naval service. This policy is intended to be consistent with the provisions of applicable state and federal laws and University policies. University policy also prohibits retaliation against any employee or person in any of its programs or activities for bringing a complaint of discrimination or harassment pursuant to this policy. This policy also prohibits retaliation against a person who assists someone with a complaint of discrimination or harassment, or participates in any manner in an investigation or resolution of a complaint of discrimination or harassment. Retaliation includes threats, intimidation, reprisals, and/or adverse actions related to employment or to any of its programs or activities. In addition, it is the policy of the University and ANR to undertake affirmative action, consistent with its obligations as a Federal contractor, for minorities and women, for persons with disabilities, and for covered veterans. The University commits itself to apply every good faith effort to achieve prompt and full utilization of minorities and women in all segments of its workforce where deficiencies exist. These efforts conform to all current legal and regulatory requirements, and are consistent with University standards of quality and excellence. In conformance with Federal regulations, written affirmative action plans shall be prepared and maintained by each campus of the University, including the Division of Agriculture and Natural Resources. Such plans shall be reviewed and approved by the Office of the President and the Office of the General Counsel before they are officially promulgated. Inquiries regarding the University's nondiscrimination policies may be directed to Linda Marie Manton, Affirmative Action Contact, University of California, Agriculture and Natural Resources, 2801 Second Street, Davis, CA 95618, (530) 750-1318.