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Have you scouted for weeds lately? If not, it's time.

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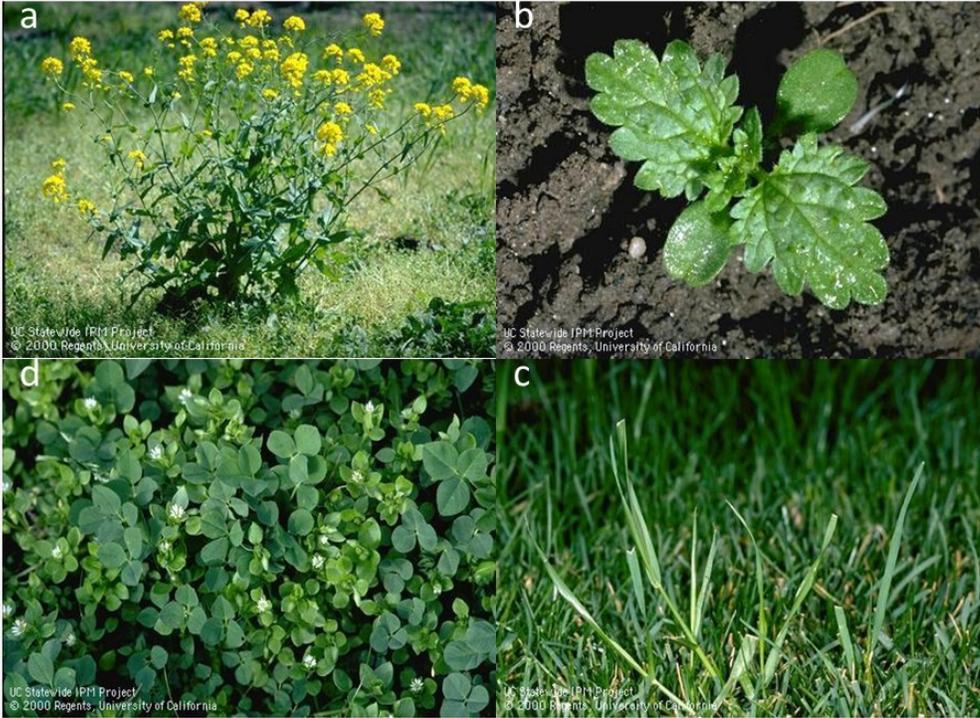
Taking the time to scout for weeds is a must for anyone serious about weed management including tree nut orchards. It not only reveals if current weed control efforts are successful, but tips us off to new invaders that might be taking over. Knowing what's going on with the weeds in a field allows for changes in control tactics to be made in a timely manner to stay one step ahead of them. Routinely scouting fields is also the best way to detect if herbicide-resistant weeds are an issue. In the end, the time spent scouting for weeds can be more than made up in better overall control, fewer spray trips, and cleaner fields.

If you haven't scouted for weeds before, or even if you have, now is the time. Most summer annual weeds are in full bloom, have set seed, or are on their way out, while the perennials are still chugging along. Some of the important annual weeds in the area include horseweed, hairy fleabane, purslane, lambsquarters, knotweed, and junglerice. Perennials like nutsedge, bindweed, johnsongrass, and bermudagrass are also out there. Knowing what weeds are out there, will help you determine whether you were successful this summer and how to best attack them next spring. Although it's still hot, some winter annuals are starting to pop-up, particularly the mustards, including shepherd's-purse. Some of the more problematic winter annuals like nettle, malva, chickweed, ryegrass, and foxtail will begin to show as temperatures fall into the 80's, so keep your eyes peeled. This will help you determine which pre- and post-emergent herbicides you will need for the coming winter.

If you're not sure what weeds are out there, or if they're not being controlled adequately by your current program, ask your PCA, chemical representative, or farm advisor for help. You can also visit http://ucanr.edu/sites/Weed_Management/Weed_Identification/, <http://wric.ucdavis.edu/>, and other web sites for pictures and descriptions of weeds commonly found in the area. The Grower's Weed Identification Handbook and Weeds of California and Other Western States are also great sources for determining which weeds you have.

Most fields vary in weed species, even those within the same general area or section of ground. Because herbicides are only effective on certain weed species (listed on the label), regular scouting will help you select and time treatments accordingly. In most cases, a combination of pre- and post

-emergent materials will be required for adequate control. Be sure to scout treated fields within a few weeks after treatment or as new weeds begin to emerge so you can assess how treatments performed and be



ready to go with new treatments to control any escapes. This is particularly important in managing herbicide-resistant weeds.

Take notes as fields are scouted and keep them in a log for future reference. You should also have a map of each field. Pay particular attention to perennial weeds and other problem weeds and note their location on the map. Sometimes, weedy areas occur in patches, so knowing this might be better addressed with a spot treatment, which can save treating the entire field. Low areas or areas with excessive wetting or poor drainage often lead to more weeds, so pay attention to these kinds of

Winter annuals like a) Mustard, b) nettle, c) ryegrass, and d) chickweed may already have started popping up in your orchards.



Hairy fleabane, an annual weed commonly found in nut crop orchards. Weed scouting can help you spot problematic weeds like this. (Photo: Gurreet Brar)

areas as well. Weeds found in tree rows and middles often times vary (in species and control), so should be noted separately. It's important to keep records of specific treatment or application timing, rates, dates, methods, volumes, etc., so you can make adjustments quickly for economical control.

Survey information collected over a period of years shows how weed species and populations change in any given field. More importantly, it gives us a tool to better address these changes in weed pressure. In the long run, scouting each field a few times a year will improve overall weed control and eliminate some unnecessary treatments, saving time and money. Even though it's a busy time of year for tree nut growers, taking a little time now to scout for weeds will have you ready-to-go for the coming year.

Happy scouting!

Postharvest operations checklist for Almonds

Gurreet Brar, UCCE Farm Advisor (Fresno & Madera Counties)

Post-harvest Fertilization: Postharvest period can be a good time to apply many nutrients to your almond trees. By now you will be having the results of your July leaf tissue samples analysis with you, which can help in planning fertilizer applications for fall. Based on the results of these samples, you can determine how much fertilizer you need to apply postharvest.

The critical values of leaf nitrogen are:

Below 2.0%- deficient

2.2-2.5%- adequate;

>2.5%- high.

If leaf N is in normal range, then you should apply 20% of your total N budget postharvest. In almonds, flower bud development occurs about two weeks after Nonpareil harvest, therefore N application should be targeted for this developmental phase.

Potassium is another important macronutrient, which if deficient, can affect almond yields. Potassium levels below 1.4% in July tissue samples are considered as low and below 1.0% as deficient. If your leaf tissue shows potassium levels at or below 1.4%, you may consider applying this nutrient this fall. Potassium can be soil-applied as banded application in orchards where flood or sprinkler irrigation is used, however, in case of drip irrigation it is preferably applied directly through drip system.

Taking hull samples during harvest for boron analysis is critical step to avoid boron deficiency during the growing season. Boron is essential in pollen tube growth and fertilization of the flowers and the nut set on the trees may decrease even with moderate boron deficiency. Post harvest is a good time for boron applications if the hull analysis results show deficiency. Current critical values for boron are:



Taking hull samples during harvest for boron analysis is very important. (Photo: Gurreet Brar)

Table: 1. Critical nutrient levels for almonds.

Nutrient	Deficient if below	Adequate over	Excessive over
Macronutrients (levels in %)			
Calcium (Ca)		2.0	
Chlorine (Cl)			0.3
Magnesium (Mg)		0.25	
Nitrogen (N)	2.0	2.2-2.5	
Phosphorus (P)		0.1-0.3	
Potassium (K)	1	1.4	
Sodium (Na)			0.25
Sulphur (S)			
Micronutrients (levels in ppm)			
Boron (B)	80	80-150	200
Copper (Cu)		4	
Manganese (Mn)		20	
Molybdenum (Mo)			
Zinc (Zn)	15		

Courtesy: Roger Duncan, UCCE Farm Advisor, Stanislaus County

80 ppm or lower = deficient

80-150 ppm = adequate

Over 200 ppm = may be toxic

To correct a deficiency, boron may be applied to soil by broadcasting. Research by the University of California has shown that in orchards with hull boron content of upto 120, a postharvest foliar boron spray can increase nut set and yield by 20 to 30%. The best time for foliar spray is during post-harvest period but before the leaves become inactive in late October. One to two pounds of Solubor (or a similar product with 20% Boron) per 100 gallons of water may be applied for good results.

Postharvest irrigation: Postharvest water stress has been known to affect nut yields for the next season. Some varieties are more sensitive to post-harvest water stress than the others. Because this is the critical time for flower bud development, therefore water application is extremely important during this period. Also, the root growth flush starts after the nut is fully developed in late sum-

mer and continues until fall.

Monitoring for diseases: Monitor the trees for rust lesions. The rust fungus survives from one season to the next via infected leaves and twigs, however twig lesions are not seen commonly in almonds. Therefore, the leaves must be monitored in order to prevent the inoculum buildup, which can infect leaves during next spring season. On the leaves look for small, yellow spots on upper leaf surface. On the lower surface these spots will be rusty red when the spores are produced. If rust is present, apply zinc sulfate (20 to 40 pounds per acre) in late October to hasten the leaf fall which reduces overwintering leaves and hence the disease inoculum.

Monitor trees for shot hole lesions and fruiting structures during fall. The fruiting structures of this fungus typically appear after first rains in fall and these small black spots can be seen with a hand lens. Zinc sulfate applications in late October to hasten leaf fall can reduce shot hole inoculum as well.



Fall weed survey: Fall is a great time to survey weeds in order to prepare your herbicide application plans. While fall weed survey will help you identify any summer species that escaped current years weed control, it will also identify any emerging winter species. You can time your pre-emergence and post-emergence herbicide application based on this survey. The observation form for fall weed survey can be printed from this webpage: <http://www.ipm.ucdavis.edu/PMG/C003/almond-fallweed.pdf>

The leaves must be monitored for rust lesions in order to prevent the inoculum buildup.

(Photo: Gurreet Brar)

Grower Cooperators Needed for Research on Almond Replant Disease

Replanted almond orchards face threat from a variety of soil-borne pathogens. Efforts are being made by researchers to fully understand replant disease complex in order to develop guidelines for management of this disease. Currently, there are guidelines to predict fumigant need due to nematode risk, but there are no guidelines for replant disease. Also, by developing non-fumigant alternative we can avoid unnecessary and expensive fumigation practices in addition to environmental and safety benefits.

A team of USDA and UC researchers led by Dr. Greg Browne is conducting Almond Board-funded

research for developing such guidelines and is looking for grower cooperators who will be fumigating this year. If you are going to replant almond trees or replacing peach or nectarine trees with an almond orchard and planning a preplant fumigation, you can become a grower cooperator for this research. In this way, you will not only be providing positive contribution to the almond industry but will also be at the expanding front of knowledge and development of new technologies.

Would you be interested in participating? Contact Dr. Greg Browne at (530) 754-9351 or, Gurreet Brar at 559-241-7515 or gurbrar@ucanr.edu.

Attention: California Landowners and Growers

Forage seed available to nourish honey bees

California almond orchards host about 1.6 million bee colonies every year during almond bloom when bees are brought in to the state to help pollinate the crop. In recent years, we have faced issues like poor bee health and colony stresses due to various factors. Proper nutrition is very important for honey bees when it comes to dealing with stress factors. When adequately nourished, bees can better withstand pest and parasite pressure as well as stress from transportation.

In order to build a sustainable bee supply for pollination services in California, Project Apis m. (PAm) is distributing bee forage seeds to interested almond growers and other farmers and landowners. To provide floral diversity before and after almond bloom, PAm has developed mustard and clover seed mixes, which are available to interested growers.



Photo: Gurreet Brar

If you are interested in providing proper nutrition to bees and want to contribute to the overall goal of enhancing bee health for a better almond crop in California, contact Meg Ribotto at ProjectApism@gmail.com or Gurreet Brar at 559-241-7526 or gurbrar@ucanr.edu. All you need to do is

to identify yourself as a grower and share your willingness to grow these seeds. You can plant these seeds on marginal lands on your property such as right-of-ways, roadways, or other open spaces. Early fall (September) is the best time to sow these seeds so that you may take advantage of late fall/winter rains.

Your cooperation can go a long way in providing better bee health leading to a better almond crop. Lets get together to build sustainable food production systems in California.

MARK YOUR CALENDARS!



THE ALMOND CONFERENCE

DECEMBER 3-5, 2013 • SACRAMENTO, CA

Each year, The Almond Conference planning team raises the bar to ensure that The Almond Conference is better than ever. With an expected 2,500 attendees and greater representation from all growing regions, this year's conference includes many upgrades. Research updates and plenty of time to interact with industry experts are at the top of the list of improvements.

Mark your calendar December 3-5, 2013, and register today at AlmondConference.com.

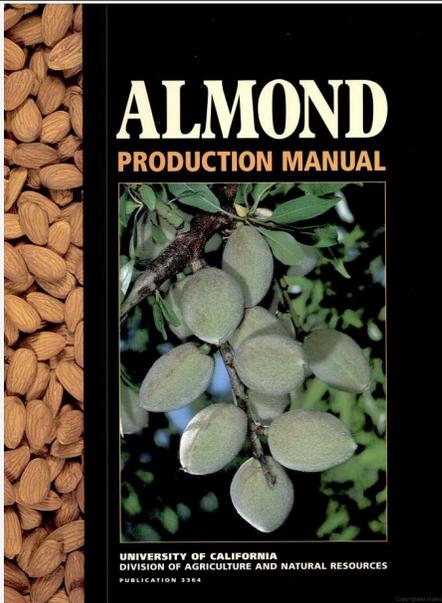
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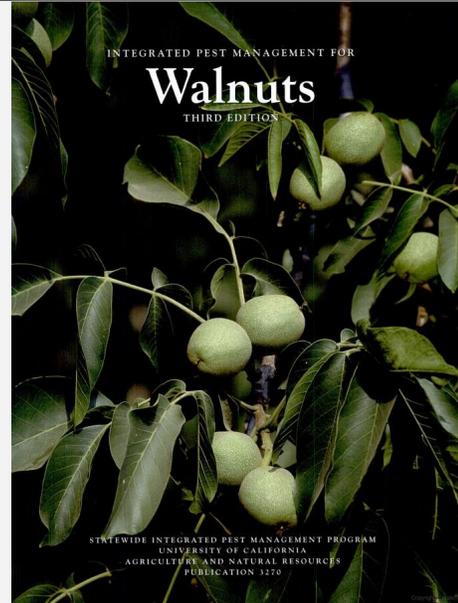
california
almonds
Almond Board of California

Important UC Resources for Nut Crop Growers



Almond Production Manual

Author: WARREN MICKE
Inventory Type: Paperback
Language: English
Length: 294 pp.
\$30.00 / EACH



Integrated Pest Management for Walnuts

Author: LARRY L. STRAND
Inventory Type: Paperback
Language: English
Length: 136 pp.
\$30.00 / EACH

The Almond Doctor- a blog started by David Doll, University of California Farm Advisor for Merced County, contains articles on a variety of topics related to nut crops production, written by UC farm advisors and other researchers. Here is the link to the blog- <http://thealmonddoctor.com>

Website of UC IPM program is a great resource for not only agricultural and horticultural crops, but for home, garden, landscape and natural environment pest issues as well. Go to <http://www.ipm.ucdavis.edu/> for find more about UC IPM program and pest management guidelines.

Picture Speaks a Thousand Words

Patch budding in walnuts

Patch-budding is a commonly used technique to propagate walnut trees. Once the rootstock is established, the English scion variety is fall-budded onto it during August-September. The finished tree will grow by next fall.

(Photos by-Gurreet Brar)



'From the Shell' is produced by UCCE Nut Crops Farm Advisor Gurreet Brar. Contact him for further information, or to be added to the e-mail list, at (559) 241-7526; or e-mail: gurbrar@ucanr.edu

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Our programs are open to all potential participants. Please contact the Fresno County UCCE office (two weeks prior to the scheduled activity) at 559-241-7515 if you have any barriers to participation requiring accommodation.

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