

**2011 Western Alfalfa & Forage Conference
& Biofuels Workshop
Las Vegas, Nevada December 11-13, 2011**

Please take advantage of the EARLY BIRD REGISTRATION at: http://ucanr.org/sites/Alfalfa_Forges/ for details of the program, housing and registration.

This conference is organized by the Cooperative Extension Services of 11 western states including Arizona, California, Colorado, Idaho, Montana, New Mexico, Nevada, Oregon, Utah, Washington, and Wyoming and coordinated by the University of California Agriculture and Natural Resources, Cooperative Extension and the Department of Plant Sciences, UC Davis.

The Western Alfalfa & Forage Conference is a comprehensive educational meeting for growers, industry members and interested parties, covering critical new areas for alfalfa, corn silage, and many other forages. The Conference will feature: a field tour on December 11, the conference on December 12-13 with 35-40 expert speakers, written proceedings, 40-60 exhibitors, and the opportunity to meet and greet with colleagues from 11 western states, eastern, and midwestern US, and from around the world. The Western Alfalfa & Forage Conference will be followed by the 'Biofuels in the West' Workshop on Tuesday afternoon. This is a great opportunity to learn more about forage crops and biofuels in the West!

Pre-conference agricultural tour: Sunday December 11

This tour will visit Two Hawk Ranch, in Sandy Valley, Nevada. We'll depart via buses from the Las Vegas Hilton at noon and travel through the Nevada desert to Sandy Valley, an agricultural region one hour south of Vegas. Plans are to observe alfalfa production systems under pivot irrigation. Highlights will be demonstrations in the field of 1) Irrigation Management and nozzle designs, 2) Soil moisture monitoring 3) Herbicide demonstration (comparison of Roundup Ready & Conventional), 4) Discussion of forage quality in hay, 4) Swather demonstration, 5) Alfalfa cubing operations 6) Fertilizer practices.

Forage conference topics: Monday and Tuesday December 12-13

Hay industry trends
World Issues and Trends and Markets
Corn and Small Grain Silage and Forage Crops
Pest Management
Irrigation and Soils
Exhibitor's Reception (50-60 exhibitors)
Producing Quality Forages for Different Markets
GMOs and Roundup Ready® Alfalfa
Biofuels in the west

UC Alfalfa Production Trial Reports:

Publications detailing alfalfa yield trial results for single harvest, single year, and multi-year summaries for each year are available on line at <http://alfalfa.ucdavis.edu> . Both conventional and Roundup-Ready (RR) lines are generally tested. Yield trials are conducted and reported in five regions in California: the Intermountain area, the Sacramento Valley, the Westside Research Station, the San Joaquin Valley, and the Low Desert.

Alfalfa Stem Nematode management

During the past couple of years, we've conducted two spring and one fall applied insecticide trials in alfalfa for stem nematode control. Although some materials showed some stem nematode suppression in the soil, none of the insecticides resulted in enhanced yields. The University of Idaho is screening newer pesticides in the laboratory for stem nematode control; those that show promise will be evaluated in field trials here in California. In the meantime, management options for stem nematode control include:

Prevention: Avoid moving contaminated farm machinery or livestock from infested to clean fields. Harvest nematode-free fields before infested fields. Clean equipment using a high pressure washer or blower, or by cutting grass hay prior to moving back into alfalfa fields.

Cultural practices: Rotating with non-host crops such as tomatoes, sunflowers, and wheat on a 2 to 4-year basis will reduce alfalfa stem nematode populations (alfalfa is the primary host of this pest). Interplanting alfalfa with grass or other crops does not constitute rotation. The field needs to be free of alfalfa and of volunteers (including on berms) during the rotation period.

Chemical control: No nematicides are registered for use against the alfalfa stem nematode.

Resistant varieties: The level of resistance to stem nematode in currently available varieties is not very high. Therefore, even the best varieties may become infected and develop symptoms during years with extended periods of wet, cool conditions. Plant breeders are currently working on developing highly resistant varieties (with at least 70% resistance), which should be available in a few more years.

Organic alfalfa production

Entrust (Dow's AgroSciences organic form of Spinosad) is re-registered for use in organic alfalfa production in California for armyworm control. In research trials, we have seen about 70% weevil control with this insecticide. Information on organic alfalfa production can be found at <http://coststudies.ucdavis.edu> (see, "Sample costs to establish and produce organic alfalfa hay") and in the chapter on "Producing alfalfa hay organically," in the Irrigated Alfalfa Management publication at <http://alfalfa.ucdavis.edu> .

Alfalfa sclerotinia

Pristine (BASF) a new fungicide for use in alfalfa provides good control of sclerotinia, a fungal disease also known as white mold or stem and crown rot. This disease is favored by cool wet weather and can cause extensive losses to alfalfa seedling fields if left untreated.

Dry bean production

"Common Dry Bean Production in California", is a free downloadable publication at <http://anrcatalog.ucdavis.edu/Items/8402.aspx> that focuses on agronomic practices for growing common beans, including organic methods. Currently we are working on a lima bean production manual, which

should be available next spring. Both of these will be important resources given that Steve Temple, our UC Davis dry bean and grain legume breeder, will be retiring this December.

Ascochyta blight in garbanzos

Although there are resistant varieties and fungicides to effectively manage this disease in garbanzo production, the fungus (*Ascochyta rabiei*) is well known for overcoming varietal resistance and developing tolerance to fungicides. As a result, the following management practices are recommended:

- Incorporate garbanzo residue after harvest for decomposition and reduced survival of the fungus.
- Destroy volunteer garbanzo seedlings, as these can be a source of infection for the next garbanzo crop.
- Avoid planting garbanzos in the same or adjacent fields to reduce infection risk to the new crop.

Taking these steps now to reduce disease levels will prolong the life of resistant varieties, will delay the development of fungicide-resistant strains of *A. rabiei*, and may reduce the number of fungicide applications needed. Even if ascochyta blight was not observed in the field, it is still important to follow these recommendations. Just a few volunteers or residue on the soil surface could produce enough spores to result in widespread infection and losses in the next crop. Management of this disease is important because we are many years away from developing newer ascochyta resistant garbanzo varieties.

Lima bean nutrient management

Research on bean crops in other parts of the U.S. has suggested the following nitrogen rates (see table below) be applied when soils are sampled for nitrate nitrogen to a depth of 24 inches just prior to sidedressing. Of most interest was that when we sampled for nitrate-N in mid-April in our lima bean nutrient trial at UC Davis, we found only 0.4 ppm in the surface foot, suggesting we were deficient in nitrogen. However, when we sampled again in mid-June, just before sidedressing with ammonium sulfate, our nitrate-N concentrations ranged from 14.6 to 17.8 ppm (total for the 0 – 24 inch soil profile). What we suspect is that as the soil warmed, there was enhanced microbial activity, making nitrate-N biologically available.

These results document the need to test soils for nitrate-N right before sidedressing to guide the application rate of nitrogen to apply. Given that we had high levels of nitrate-N in our soils we did not see much of a yield response in our trial from sidedressing 20 to 80 lbs of N about 6 weeks after planting. The field that was used for the trial location has had a history of bean crops, cereals, and winter cover crops including legumes. This was probably one of the main reasons the soil nitrate concentrations accumulated to the rather high levels between the mid-April and mid June soil sampling.

Lbs NO ₃ -N in surface 24-inch	ppm NO ₃ -N in surface 24-inch	Fertilizer N – lbs/A
0 - 16	0 – 2	100
17 – 32	2.1 – 4	80
33 – 48	4.1 – 6	60
49 – 64	6.1 – 8	40
65 – 80	8.1 – 10	20
> 80	> 10	0

Onion Seed Production

Onion seed yields were down this year due to several diseases including purple blotch and downy mildew favored by our cool wet spring. Continued research documents the importance of limiting the number of insecticide applications for onion thrips control due to impacts to honey bees. In general, the higher the number of insecticide sprays used in onion seed fields, the lower the honey bee activity and subsequent yields.

Hedgerows

Hedgerows of California native flowering perennial shrubs, grasses, and forbs attract and enhance beneficial insect activity in adjacent crops (including natural enemies and native bees). In contrast, weedy field edges (especially mustard, wild radish, and *Malva*) attract pests such as stinkbugs, cucumber beetles, *Lygus* bugs, and flea beetles. As a result, replacing weedy field edges with managed native vegetation can help reduce pests and enhance beneficial insects, favoring pollination and pest control in adjacent crops. More information on hedgerows can be found in the following publications:

Establishing hedgerows on farms in California. UC ANR #8390, <http://ucanr.org/pubs.cfm> (R Long and J Anderson).

Hedgerows enhance beneficial insects on farms in California's Central Valley. J. California Agriculture. Vol. 65(4):197-201. <http://californiaagriculture.ucanr.org/> (L Morandin and R Long).

New cost studies at <http://coststudies.ucdavis.edu>

Sample costs to produce sunflowers for seed in the Sacramento Valley, 2011. University of California Cooperative Extension.

Sample costs to produce safflower, in the Sacramento Valley, irrigated-bed planted and dryland flat planted, 2011. University of California Cooperative Extension.

Holiday Office Closure

The UCCE Yolo Office will close for two weeks for county furlough, from Monday, December 19th through Monday, January 2nd. We will reopen to the public on Tuesday, January 3rd, 2012.

*Hope to see some of you at the upcoming Alfalfa Symposium in Las Vegas.
Enjoy the fall season and upcoming holidays.*

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