Imperial County Agricultural Briefs

Features

From your Farm Advisors

June, 2011

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LEAFHOPPERS MANAGEMENT IN ALFALFA

Eric T. Natwick

Imperial County alfalfa growers occasionally suffer losses to summer hay cuttings due to leafhopper infestations. To prevent losses from leafhoppers, Growers and PCA's need to monitor alfalfa fields from May through October. Many species of leafhoppers may be found in alfalfa, but leafhoppers in the genus *Empoasca* are primarily responsible for injury and yield reductions. Three species have been found damaging alfalfa in California: *E. mexara*, the southern garden leafhopper, *E. solona* and potato leafhopper, *Empoasca fabae*. All three species cause identical injury; yellowing of foliage and stunting of stem growth. The prevalent species in the Imperial Valley are *E. solana* and *E. mexara*.

Other leafhoppers associated with alfalfa are distinguished from *Empoasca sp.* by their brown or grey color and mostly feed on grass such as jungle rice, barnyard grass, sprangle top and other common grassy weeds found in and around alfalfa fields. Adult *Empoasca sp.* leafhoppers are small (1/8 inch long), bright green, wedge-shaped insects that have piercing and sucking mouthparts and jump and fly readily when disturbed. Nymphs are also green, wedge-shaped and run rapidly sideways or backward when disturbed. The unusual rapid movements by the leafhopper and their shape easily distinguished them from lygus bug nymphs or slow moving aphids.

Empoasca sp. leafhoppers damage alfalfa through the removal of sap, but the main concern for hay producers is a type of injury referred to as "hopper burn". Hopper burn symptoms result from the injection of salivary toxins into the plant during leafhopper feeding. An early symptom of hopper burn is a characteristic V-shaped yellow area on the leaf tip. This symptom should not be confused with nutrient deficiencies or diseases, in which yellowing of foliage typically begins at leaf margins. As damage increases, the yellow area spreads over the entire leaf and the field takes on a yellow color. Alfalfa re-growth can be severely stunted, resulting in yield losses. Hay quality can be affected by severe leafhopper injury due to reduction in both the protein and vitamin A. Yellowing and stunting symptoms following a heavy *Empoasca sp.* leafhopper infestation may carry over into one or two subsequent cuttings, even through the leafhoppers are no longer in the field.

Empoasca sp. leafhoppers attack several other crops and adult leafhoppers can migrate to alfalfa fields from neighboring crops, such as sugarbeets.

Monitor alfalfa fields weekly for *Empoasca sp.* leafhoppers using a standard 15 inch insect sweep net. Also monitor nearby crops, such as sugarbeets, for these leafhoppers and look for leafhopper adult migration when an infested crop is harvested. When symptoms first appear, sample a minimum of 4 to 6 areas over the entire field by taking 5 sweeps in each

area and counting the number of adults and nymphs. Tally the leafhopper counts and divide by the total number of sweeps to calculate the number of leafhoppers per sweep. Leafhopper infestations usually begin on the field margin so be sure to include field edges in your samples.

An insecticide treatment should be applied for leafhopper control if the alfalfa crop is two or more weeks away from harvest and if counts reach five *Empoasca sp.* leafhoppers per sweep. Treat alfalfa scheduled to be harvested in ten days to two weeks if counts reach 10 *Empoasca sp.* leafhoppers per sweep. It is not unusual for leafhopper infestation of treatable magnitude to be confined to the first 50 to 100 feet of the field margin, in which case only the field margin should be treated.

Common sense should be utilized when applying treatment thresholds. Heavy leafhopper infestations on young re-growth immediately after harvest are more damaging than similar infestations later in the growth cycle. Alfalfa under stress from other insects, diseases, or lack of water is more susceptible to injury than stress-free alfalfa. Alfalfa within a week of harvest may be able to tolerate very heavy leafhopper populations without yield loss, but re-growth should be monitored closely.

Management of Post-Harvest Black Mold in Stored Onion

Donna Henderson

Black mold, caused by the fungus *Aspergillus niger,* is a soil borne pathogen that invades the bulb of injured onions. The fungus first appears on the top and sides of onions, where injury or other diseases have created open access wounds. Evidence of the fungus can first be seen on the top or sides of the bulb as a black growth under the outer layer of scales, taking on a sooty appearance. The fungus develops well under warm and humid conditions. Once the fungus has invaded the onion, it may allow the entrance of secondary soft rot pathogens. The pathogen is also capable of surviving on plant debris in the field, and may remain as inoculum for next year's crop. Currently, there are no available chemical control options for Black mold. However, there are a few options that should be considered when harvesting and storing onions.

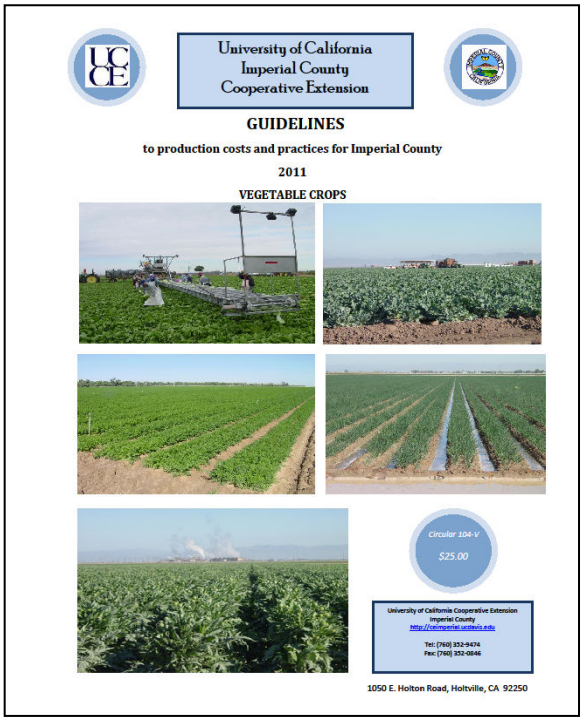
Management Reducing the amount of injury at harvest can also reduce potential entry points for the fungus. In addition, maintaining cooler storage and transit temperatures between 55°F (12.7°C) to 33°F (0.5°C) may help suppress black mold development in the harvested onions. In addition, reducing the relative humidity in the storage climate to below 80% will help reduce the growth of the fungus. However, it is vital to keep in mind that air circulation in storage sacks and bins is an important component in reducing relative humidity and maintaining a constant air temperature. If onions are packed in closely without adequate air circulation, then microclimates of high humidity and temperature can lead to Black mold growth. It is also important to keep in mind that high temperature drying practices following harvest will be within the optimal fungal growth ranges and can help establish the disease. Therefore, if high temperature drying is required, follow with cool storage conditions with low relative humidity and air circulation to prevent mold growth on the onions.

GUIDELINES TO PRODUCTION COSTS AND PRACTICES IMPERIAL COUNTY- VEGETABLE CROPS

Khaled M. Bali

The new 2011 Guidelines to Production Costs and Practices in Imperial County - Vegetable Crops is now available from the UC Cooperative Extension, Imperial County office. The information presented in the vegetable crops guidelines allows one to get a "ballpark" idea of field crop production costs and practices in the Imperial County. Most of the information was collected through verbal communications via office visits and personal phone calls. The information does not reflect the exact values or practices of any one grower, but are rather an average of countywide prevailing costs and practices. Exact costs incurred by individual growers depend upon many variables such as weather, land rent, seed, choice of chemicals, location, time of planting, etc. No exact comparison with individual grower practices is possible or intended. The budgets do reflect, however, the prevailing industry trends within the region.

The cost of the Guidelines to Production Costs and Practices for Imperial County Vegetable Crops circular (104-V) is $25. This includes a hard copy of the Guidelines, electronic version on a CD or USB thumb drive (Text in PDF and budget files in Excel format) and shipping cost. The publication is available from the UCCE. If ordering by mail, please make checks payable to: UCCE-Imperial County and mail to Annette Tietz, UCCE, 1050 E. Holton Rd. Holtville, CA 92250. Please specify if you want a CD or USB thumb drive in addition to the hard copy. Please feel free to call (760-352-9474) or email (kmbali@ucdavis.edu) if you have any questions.



USDA NOTICE TO HISPANIC OR WOMEN FARMERS AND RANCHERS:

COMPENSATION FOR CLAIMS OF DISCRIMINATION

If you believe that the United States Department of Agriculture (USDA) improperly denied farm loan benefits to you between 1981 and 2000 because you are Hispanic, or because you are female, you may be eligible to apply for compensation. You may be eligible if:

1 you sought a farm loan or farm-loan servicing from USDA during that period; and
2 the loan was denied, provided late, approved for a lesser amount than requested, approved with restrictive conditions, or USDA failed to provide an appropriate loan service; and
3 you believe these actions occurred because you are Hispanic or female.

If you want to register your name to receive a claims package, you can call the Farmer and Rancher Call Center at 1-888-508-4429 or access the following website:
www.farmerclaims.gov

In 2011, a Claims Administrator will begin mailing claims packages to those who have requested one through the Call Center or website. The claims package will have detailed information about the eligibility and claims process.

In order to participate, you must submit a claim to the Claims Administrator by the end of the claims period.

If you are currently represented by counsel regarding allegations of discrimination against USDA or in a lawsuit claiming discrimination by USDA, you should contact your counsel regarding this claims process.

USDA Cannot Provide Legal Advice to You. You are not required to hire an attorney to file a claim, but you may contact a lawyer or other legal services provider in your community for additional guidance.

EL USDA AVISO A AGRICULTORES Y GANADEROS HISPANOS O MUJERES AGRICULTORAS O GANADERAS:
COMPENSACIÓN POR RECLAMACIÓN DE DISCRIMINACIÓN

Si usted considera que el Departamento de Agricultura de Estados Unidos (USDA por sus siglas en inglés) le negó indebidamente beneficios de préstamos agrícolas entre los años 1981 y el 2000 por ser hispano o mujer, es posible que cumpla con los requisitos para solicitar compensación. Podría cumplir con los requisitos si:

1. solicitó del USDA un préstamo agrícola o la prestación de servicios con respecto a la administración de un préstamo agrícola durante ese periodo, y

2. el préstamo fue negado, otorgado tarde, aprobado por un monto menor al solicitado o aprobado con condiciones restrictivas, o el USDA no prestó un adecuado servicio de préstamo, y

3. usted considera que estos actos ocurrieron por ser usted hispano o mujer.

Si desea inscribirse para recibir los documentos para reclamación, puede llamar al Centro de Llamadas para Agricultores y Ganaderos al 1-888-508-4429 o ingresar a la página web: www.farmerclaims.gov

En del 2011, un administrador de reclamaciones empezará a enviar los documentos para reclamación a quienes los hayan solicitado por medio del Centro de Llamadas o la página web. Los documentos para reclamación tendrán información detallada sobre los requisitos y el proceso de reclamaciones.

Para poder participar, debe enviar su reclamación al administrador de reclamaciones antes de la fecha límite para presentarla.

Si actualmente lo representa un abogado con respecto a quejas de discriminación contra el USDA o ha iniciado una demanda judicial alegando discriminación por el USDA, debe ponerse en contacto con su abogado respecto a este proceso de reclamaciones.

El USDA no puede darle consejos legales.
No es necesario contratar un abogado para presentar la reclamación, pero puede ponerse en contacto con un abogado u otro proveedor
de servicios legales de su comunidad si desea orientación adicional.

The University of California Cooperative Extension and UCR's Center for Conservation Biology present:

ADVANCES IN DESERT WEEDS

Desert Weed Management Conference

CONTACT
CHRIS MCDONALD, PH.D
Desert Natural Resources Advisor
UC Cooperative Extension
(909) 387-2242
cjmcdonald@ucdavis.edu

June 16, 2011- 9am to 3:30pm

University of California, Riverside, Palm Desert Graduate Center in Palm Desert, California

For this year's symposium we will be going to weed school and getting our management "degree."

Registration Fees are **$55** before May 27 and $80 after. To register go to: http://saharamustard.ucanr.org

THE SCOPE OF THIS YEAR'S SYMPOSIUM:

Our goal is to give you enough information to answer the questions: What makes a plant invasive? Why are invasive weeds spreading? How can I better manage invasive plant populations in a cost-effective manner? What variety of techniques can I use to control invasive plants? What are the effects of invasive plants on desert ecosystems?

The symposium will cover weeds that are encroaching the desert region of Southern California, Arizona and Southern Nevada. This conference will provide information for land managers, biologists and the public to improve their management skills.

Talks will focus on the ecology and biology of invasive species including: invasive plant biology and population dynamics, ecology of seed banks, integrated pest management (IPM) highlighting non-chemical management, chemical weed management, herbicide application systems and calibration, Sahara Mustard management, Tamarisk management and low budget weed management.

Red Brome encroaching on Anza-Borrego State Park

Phacelia flowers

Sahara Mustard

OR CONTACT
CARL BELL
Invasive Plant Advisor
UC Cooperative Extension
(858) 694-3386
cebell@ucdavis.edu

For California certified applicators we have applied for Continuing Education Credits

CIMIS REPORT AND UC DROUGHT MANAGEMENT PUBLICATIONS

Khaled Bali and Steve Burch*

California Irrigation Management Information System (CIMIS) is a statewide network operated by California Department of Water Resources. Estimates of the daily reference evapotranspiration (ET_o) for the period of June 1 to August 31 for three locations in the Imperial County are presented in Table 1. ET of a particular crop can be estimated by multiplying ET_o by crop coefficients. For more information about ET and crop coefficients, contact the UC Imperial County Cooperative Extension Office (352-9474) or the IID - Ag Water Science Unit (339-9082). Please feel free to call us if you need additional weather information, or check the latest weather data on the worldwide web (visit http://tmdl.ucdavis.edu and click on the CIMIS link).

Table 1.Estimates of daily Evapotranspiration (ET_o) in inches per day

Station	June		July		August	
	1-15	16-30	1-15	15-31	1-15	16-31
Calipatria	0.39	0.40	0.39	0.38	0.35	0.32
El Centro (Seeley)	0.36	0.38	0.38	0.37	0.32	0.29
Holtville (Meloland)	0.38	0.39	0.39	0.38	0.34	0.31

* Ag Water Science Unit, Imperial Irrigation District.

Link to UC Drought Management Publications

http://ucmanagedrought.ucdavis.edu/