



Features

From your Farm Advisors

July, 2011

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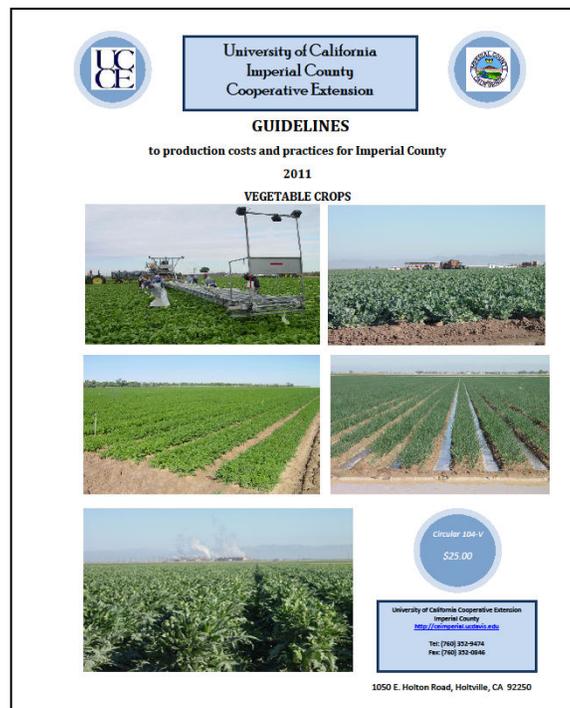
GUIDELINES TO PRODUCTION COSTS AND PRACTICES IMPERIAL COUNTY- VEGETABLE CROPS

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.



University of California
Imperial County
Cooperative Extension

GUIDELINES
to production costs and practices for Imperial County
2011
VEGETABLE CROPS

Circular 104-V
\$25.00

University of California Cooperative Extension
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1050 E. Holton Road, Holtville, CA 92250

BERMUDAGRASS SEED PRODUCTION INSECT PESTS

Eric T. Natwick



A Delphacid plant hopper found damaging bermudagrass is *Metadelphax propinqua*, formerly *Toya propinqua*, is often called a fulgorid by PCA's. Planthoppers are often abundant on bermudagrass florets and leaves from spring through fall. These tan colored planthopper are small insects about 0.13 inches long. The adults hop or fly when disturbed and nymphs resemble adults, but are wingless, run quickly or may hop when disturbed.

Planthoppers feeding reduces plant vigor and they can contaminate seed heads with honeydew deposits, making the seed difficult to clean. Insecticide treatments to prevent this damage are often needed during the spring and fall seed production seasons. Monitor for planthoppers in seed fields using a standard sweep net when florets are developing and continue until seed harvest. Treatment threshold have not been established, but treat when planthopper population buildup is observed.

The bermudagrass mirid or plant bug, *Trigonotylus tenuis*, is a small light-green colored, narrow, stilt-legged plant bug that may be abundant on bermudagrass florets and leaves. Both adults and nymphs may be found in bermudagrass at any time during the spring through fall. Their feeding can reduce plant vigor, stunting growth and delaying the development of florets. Monitor for plant bugs from regrowth through bloom and treat with an insecticide when plant bug counts reach 100 per sweep.

Thrips, *Chirothrips spp.*, are small insects, about 0.04 inches long that may be abundant on bermudagrass florets and leaves during warm month from spring through fall. Adults have are dark gray or brown and two pairs of narrow wings fringed with hairs while larvae are wingless and yellowish in color. Adult females deposit eggs in plant tissue and eggs hatch in about 5 days; the immature stages take about 5 to 7 days to complete development.

Thrips are of concern when plants are in bloom because feeding within florets blast flowers reducing seed set. Control weed in and around bermudagrass fields including surrounding crops. Monitor seed fields for thrips when florets are developing. A treatment threshold has not been established. Treat when thrips buildup is observed during bloom.

Spider mites, *Tetranychus spp.* and *Oligonychus pratensis* (Banks), can be observed by examining leaf blades with a hand lens. Infestations often include a mixture of spider mite species. Adult mites are about 0.06 inch in length, have four pairs of legs, are greenish to pink or cream colored, and have various sized black spots on the body. Spider mites have four stages of development: (1) the oval, somewhat translucent egg, (2) a six-legged translucent immature stage, (3) an eight-legged immature stage and, (4) the eight-legged adult stage. A generation may pass in as few as 5 to 7 days in mid-summer, or in a month during cool periods. Spider mites produce webbing that is often filled with cast skins, dust, and other debris. Mite feeding results in the destruction of chlorophyll; leaves become pale, stippled, and in later stages of infestation dry up and die. Loss of color is pronounced on the under surface of leaves before it becomes apparent on the upper side. Light infestations can be tolerated, but when heavy, can result in lowered seed yield.

Spider Mite Biological Control: Several predators play an important role in regulating spider mite populations, including the western predatory mite (*Galandromus [Metaseiulus] occidentalis*), sixspotted thrips (*Scolothrips sexmaculatus*), western flower thrips (*Frankliniella occidentalis*), lady beetles (*Stethorus* sp.), minute pirate bug (*Orius tristicolor*), and lacewing larvae (*Chrysoperla carnea*). The western predatory mite is the same size as spider mites but lacks spots and ranges in color from cream to amber red. Sixspotted thrips and western flower thrips are also effective predators, but naturally-occurring populations of these insects generally do not develop to high enough levels that they can provide significant control until damage has already taken place. Both species are tiny, slender insects about 1 mm or less in length. Sixspotted thrips has three dark spots on each forewing; western flower thrips ranges in color from clear lemon yellow to dark brown. Monitor western predatory mites and the two species of thrips to determine if they are present in the field and their relative population density in comparison with pest mites.

Spider mites can be managed culturally by minimizing dust and encourage predators and parasites by limiting chemical rates and the number of applications. Control field bindweed growing in or at the edges of a bermudagrass field. Good water management increases plant tolerance to these pests. A treatment threshold has not been established, but when buildup is observed, either spot or completely treat the field before webbing occurs providing no predatory thrips or predaceous mites are present.

The grass whitefly, *Aleurocybotus occiduus*, is the only economically important species of several species of whiteflies found in bermudagrass. Proper identification of the whitefly species is important because the grass whitefly is the only economically important whitefly infesting bermudagrass. Silverleaf whitefly and

bandedwinged whitefly adults are commonly found in bermudagrass fields during the summer and fall, but few if any nymphs will establish on bermudagrass. Distinguishing whitefly species is difficult; use a hand lens to examine both immatures and adults. Grass whitefly nymphs have parallel sides giving them an elongate cigar shape rather than the oval shape of most other whitefly species and they do not have a wax fringe as do most whitefly species. Grass whitefly eggs are scattered on leaf blades. The tiny, oval eggs hatch into first instar nymphs called crawlers. The crawlers colonize bermudagrass leaf blades and molt losing their legs and antennae to become scale like during the remainder of the nymphal stage. The last nymphal instar, often called the pupa or the red-eyed nymph, is the stage that is easiest to identify. In light infestations of grass whitefly, leaves show no distinctive symptoms as a result of their feeding. Desiccation of plants occurs with moderate to heavy populations and the production of copious quantities of honeydew contaminates seed heads making harvest and seed cleaning difficult.

Several wasps, including species in the *Encarsia* and *Eretmocerus* genera, parasitize whiteflies. Bigeyed bugs, lacewing larvae, and lady beetles also prey upon whitefly nymphs. Monitor seed fields for whitefly adults with sticky traps and a sweep net. Monitor nymphal populations by examining leaf blades with a hand lens. No threshold is established, but treat when honeydew first becomes noticeable on leaf blades.

**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.

Contact: Brad Hanson
Telephone: (530) 752-8115
Email: bhanson@ucdavis.edu

FOR IMMEDIATE RELEASE

Weed Day 2011 comes to UC Davis July 14

The latest developments in weed control will take center stage at UC Davis once again when scores of scientists, students, regulators and more gather July 14 for the 55th annual Weed Day.

“We look forward to another great turnout with a wide range of weed-control demonstrations,” said Cooperative Extension Specialist Brad Hanson from the UC Davis Department of Plant Sciences, who is chairing this year’s popular event. “Weed Day provides a great opportunity to see, first hand, weed research being conducted on campus and to find out what we are doing throughout the state.”

Among the presentations will be weed control in fresh-market tomato, residual herbicides in almonds and walnut orchards, symptomology of herbicide drift in row crops, thermal soil disinfestation research, weed-risk assessment for the horticulture industry and many more ongoing projects with other crops and non-crops. For a full agenda, [click here](#) or visit <http://wric.ucdavis.edu>.

Weed Day is held each July to give pest control advisors, farm advisors, chemical company cooperators, college faculty, students and regulatory officials the opportunity to learn more about current weed science research at UC Davis. The event begins at 7:30 a.m. with registration and a morning bus tour to the campus research fields to view demonstrations and research in terrestrial and aquatic weed control. Lunch and afternoon presentations will be held indoors and will wrap up by 4:30 p.m. Continuing education credits have been requested from the Department of Pesticide Regulation.

Cost is \$65 for those who register and pay before July 6 and \$90 for those register after that date. The cost for students with ID is \$20. Class size is limited so early enrollment is always a good idea.

Registration is open:

[On-line registration](#) (credit card only)

[On-line registration](#) (UC recharge number only)

[Print registration form](#) to fax or mail.

For more details, see [Weed Day 2011](#).

TO OUR UNIVERSITY OF CALIFORNIA EXTENSION CLIENT:

Federal mailing regulations require that we periodically revise our mailing list. This mailing will give you the opportunity to request retention/addition to our mailing list and will provide us with information that will help us serve you more efficiently.

YOU MUST RETURN THE REQUEST FORM TO REMAIN ON OUR MAILING LIST.

Optional Questionnaire: Your UC Cooperative Extension Farm Advisors are actively involved in conducting applied research and educational programs aimed at addressing the need of the agricultural community. By completing the Optional Questionnaire you will provide information that will assist us in serving you better. We welcome the opportunity to serve Imperial County agriculture and look forward to your response.

Please check the appropriate boxes and review your address for corrections, then fold, stamp, and return this page to our office by July 31, 2011.

- I request that my name be retained on UC Cooperative Extension mailing lists.
- I request that my name be removed from UC Cooperative Extension mailing lists.
- I request that I only receive information via e-mail. (please be sure to put your address below)
- I have corrected my address below. Please make the necessary changes.

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Company Name: _____

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State: _____ Zip: _____

Phone: _____ FAX: _____

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PLEASE INDICATE WHICH NEWSLETTER(S) YOU WISH TO RECEIVE/CONTINUE RECEIVING:

Ag Briefs PCA Pest-O-Gram Meeting Notices only

VOLUNTARY SELF IDENTIFICATION STATEMENT

Male Female Handicapped (specify) _____
 Caucasian African American Hispanic American Indian Asian Other

In furtherance of Federal, State, and Local Civil Rights Laws, this department extends its services and outreach to all. To better identify the recipients of our programs, please complete the above questions. Your response is voluntary and will be kept in strict confidence.

Khaled M. Bali
County Director

**Cooperative Extension
U.S. Department of Agriculture**

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IMPORTANT!!!!
MAILING LIST RENEWAL FORM
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Please return by July 31, 2011

The University of California prohibits discrimination or harassment of any person on the basis of race, color, national origin, religion, sex, gender identity, pregnancy (including childbirth, and medical conditions related to pregnancy or childbirth), physical or mental disability, medical condition (cancer-related or genetic characteristics), ancestry, marital status, age, sexual orientation, citizenship, or status as a covered veteran (covered veterans are special disabled veterans, recently separated veterans, Vietnam era veterans, or any other veterans who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized) in any of its programs or activities.

University policy is intended to be consistent with the provisions of applicable State and Federal laws.

Inquiries regarding the University's nondiscrimination policies may be directed to the Affirmative Action/Staff Personnel Services Director, University of California, Agriculture and Natural Resources, 300 Lakeside Drive, 6th Floor, Oakland, CA 94612-3550, (510) 987-0096.

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IMPERIAL COUNTY COOPERATIVE EXTENSION
1050 E. HOLTON ROAD
HOLTVILLE, CA 92250

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_0) for the period of July 1 to September 30 for three locations in the Imperial County are presented in Table 1. ET of a particular crop can be estimated by multiplying ET_0 by crop coefficients. For more information about ET and crop coefficients, contact the UC Imperial County Cooperative Extension Office (352-9474) or the IID, Irrigation Management 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_0) in inches per day

Station	July		August		September	
	1-15	16-31	1-15	15-31	1-15	16-30
Calipatria	0.39	0.38	0.35	0.32	0.30	0.27
El Centro (Seeley)	0.38	0.37	0.32	0.29	0.29	0.26
Holtville (Meloland)	0.39	0.38	0.34	0.31	0.30	0.27

* Ag Water Science Unit, Imperial Irrigation District.

Link to UC Drought Management Publications

<http://ucmanagedrought.ucdavis.edu/>