



## Features

From your Farm Advisors

*May, 2012*

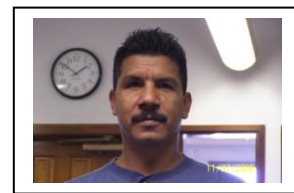
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# INSECTICIDE EFFICACY TEST AGAINST ALFALFA WORM PESTS IN 2011

**Eric T. Natwick and Martin I. Lopez**



The objective of the study was to evaluate the efficacy of the new and older insecticidal compounds used against larvae of lepidopterous pests (BAW, AC and AWW) on alfalfa grown for hay production under desert growing conditions. An insecticide efficacy trial was conducted at the UC Desert Research and Extension Center on a stand of CUF-101 alfalfa. The experimental design was RCB using four replicates with seven insecticide treatments and an untreated check. Plots were 27 ft wide by 50 ft long. Formulations and rates for each compound are provided and test materials were applied on 19 Aug 2011 at the specified rate equivalencies listed in the tables. Broadcast applications were delivered through 17, TJ-60 11003VS nozzles using a Lee Spider Spray Trac operated at 20 psi delivering 30 gpa. An adjuvant, Dyne-Amic (Helena Chemical Co.), was applied at 0.25% vol/vol with all insecticide treatments. Pretreatment (PT) evaluations of insect populations in each plot were conducted on 18 Aug. Post treatment evaluations were made on 22, 26 Aug, & 2 Sep or 3 days after treatment (DAT), 7 DAT, and 14 DAT. During each evaluation, ten sweeps per plot were collected with a standard 15-inch diameter sweep net. Sweep samples were bagged, labeled, and frozen for later counting of BAW, AC, and AWW larvae (Tables 1 - 3). Treatment means were analyzed using 2-way ANOVA and means separated by a protected LSD ( $P \leq 0.05$ ).

Pretreatment numbers of BAW larvae were similar ( $P \leq 0.05$ ) among treatments (Table 1). Beet armyworm means for all insecticide treatments except Warrior II were significantly lower ( $P \leq 0.05$ ) than the untreated check 2, 7, and DAT. Pretreatment numbers of AC were low but similar among treatments (Table 2). Means for AC were significantly lower in all insecticide treatments except Voliam Xpress and Belt at 3.0 oz per acre, compared to the untreated check 2 DAT. There were no differences among the treatment means for AC 7 DAT and 14 DAT due to the near absence of AC larvae because most of the population had pupated and were emerging as adult alfalfa butterflies. Pretreatment numbers of AWW low but were similar among treatments (Table 3). Only Intrepid and Belt at 2 oz and 4 oz per acre had AWW means that were significantly lower than the untreated check until 2 DAT. All insecticide treatments except Warrior II had AWW means that were lower than the check 7 DAT. There were no differences among the treatment means for AWW means 14 DAT. Belt 480 SC displayed superior residual activity against BAW. Warrior II did not perform well against BAW and AWW. There were no symptoms of phytotoxicity on the alfalfa plants following the any of the insecticide applications.

Table 1.

Treatment	Fl oz/acre	BAW per ten sweeps in alfalfa			
		1 DPT	3 DAT	7 DAT	14 DAT
Check	-----	22.75	22.75 a	21.25 a	3.75b
Voliam Xpress 1.25 ZC	9.0	28.25	5.50 b	2.00 c	1.50 cd
Warrior II 2.09 CS	1.92	22.75	22.25 a	19.25 ab	14.00 a
Coragen 1.67 SC	5.0	23.25	7.50 b	6.25 bc	1.50 cd
Intrepid 2F	8.0	35.50	1.25 b	1.25 c	1.00 cd
Belt 480 SC	2.0	20.50	1.00 b	1.00 c	0.25 d
Belt 480 SC	3.0	30.75	2.25 b	0.00 c	0.50 cd
Belt 480 SC	4.0	26.00	3.75 b	0.50 c	0.50 cd

Means within columns followed by the same letter are not significantly different, ANOVA; LSD ( $P \leq 0.05$ ).

Table 2.

Treatment	Fl oz/acre	AC per ten sweeps in alfalfa			
		1 DPT	3 DAT	7 DAT	14 DAT
Check	-----	6.25	4.00 a	2.00	0.00
Voliam Xpress 1.25 ZC	9.0	5.75	2.75 ab	0.00	0.00
Warrior II 2.09 CS	1.92	5.00	0.75 bc	0.00	0.00
Coragen 1.67 SC	5.0	4.75	0.00 c	0.50	0.00
Intrepid 2F	8.0	5.25	1.50 bc	0.00	0.00
Belt 480 SC	2.0	6.50	0.75 bc	0.00	0.00
Belt 480 SC	3.0	5.25	2.75 ab	0.00	0.00
Belt 480 SC	4.0	5.25	0.50 c	0.00	0.00

Means within columns followed by the same letter are not significantly different, ANOVA; LSD ( $P \leq 0.05$ ).

Table 3.

Treatment	Fl oz/acre	AWW per ten sweeps in alfalfa			
		1 DPT	3 DAT	7 DAT	14 DAT
Check	-----	4.25	2.75 ab	3.75 a	0.25
Voliam Xpress 1.25 ZC	9.0	5.25	1.00 bc	0.75 b	0.00
Warrior II 2.09 CS	1.92	3.50	4.75 a	3.75 a	1.00
Coragen 1.67 SC	5.0	5.00	2.75 ab	0.00 b	0.25
Intrepid 2F	8.0	4.25	0.25 c	0.25 b	0.00
Belt 480 SC	2.0	4.50	0.25 c	0.25 b	0.25
Belt 480 SC	3.0	8.25	1.00 bc	0.75 b	0.00
Belt 480 SC	4.0	4.75	0.25 c	0.00 b	0.00

Means within columns followed by the same letter are not significantly different, ANOVA; LSD ( $P \leq 0.05$ ).

# **FLOW MEASUREMENT WORKSHOP**

## **Collecting Open Channel Flow Data with the Son Tek-IQ**

**Location: UC Desert Research and Extension Center**

**Time & Date: 7 AM -1 PM, May 23, 2012**

To register click on the following link

<http://www.actonsoftware.com/acton/fs/blocks/showLandingPage/a/1253/p/p-000b/t/page/fm/0>

For additional information, contact Mike Cook

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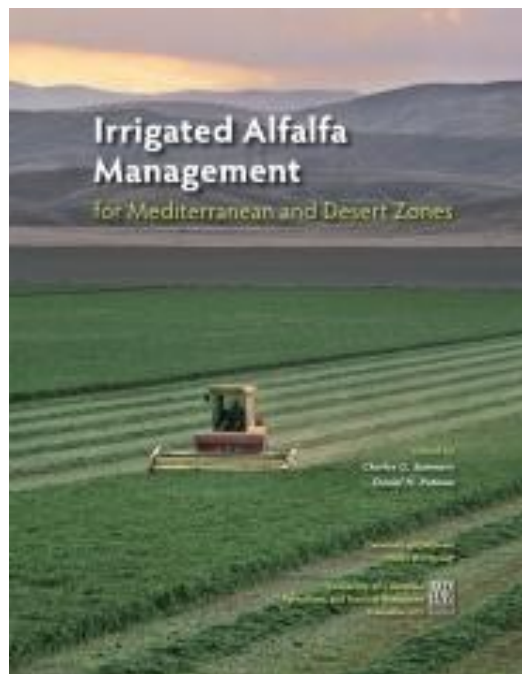
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[www.sontek.com](http://www.sontek.com)

# Good Reading!

## **Irrigated Alfalfa Management for Mediterranean and Desert Zones (UC ANR publication 3512)**

This 372 page book on alfalfa production in California was written by University of California Extension specialists, farm advisors, and faculty. The publication is intended for growers, pest control advisors, and allied industry. This book is available from our office and the cost is \$65 plus tax. The book contains color photographs of disease symptoms and insect pests, including a diagnostic key. The 24 chapters cover alfalfa production from start to finish, from selecting varieties through harvest to marketing and economics. There are chapters on organic alfalfa, grazing, irrigation, manure application, and many other topics. Electronic version of the book is available at the UC alfalfa website: [alfalfa.ucdavis.edu/IrrigatedAlfalfa/](http://alfalfa.ucdavis.edu/IrrigatedAlfalfa/).



## 2012 GUIDELINES TO PRODUCTION COSTS AND PRACTICES-IMPERIAL COUNTY - FIELD CROPS

**Khaled M. Bali**

The new 2012 Guidelines to Production Costs and Practices in Imperial County- Field Crops are now available from the Cooperative Extension office. The information presented in the field 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 agrichemicals, 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.

Since all of the inputs used to figure production costs are impossible to document in a single page, we have included extra expense in man-hours or overhead to account for such items as pipe setting, motor grader, water truck, shovel work, bird and rodent control, etc. Whenever possible we have given the costs of these operations per hour listed on the cultural operations page. Some custom operators have indicated that they are instituting a "fuel surcharge" to reflect "spikes" in fuel cost.

Not included in these production costs are expenses resulting from management fees, loans, providing supervision, or return on investments. The crop budgets also do not contain expenses encumbered for road and ditch maintenance, and perimeter weed control. Presented within are examples of crop budget for major field crops in the Valley. Crop budgets can be determine by substituting costs relevant to each individual farm enterprise using the prevailing rates tables. Sample Excel sheets for all major field crops are included in the document. The user needs to input production data appropriate to their individual operations to estimate production costs.

This circular (104-F) is available on compact disc or USB thumb drive. The text files are in Microsoft Word format. The spreadsheet files (i.e., production costs tables) are in Excel format. One advantage of having electronic versions of the crop production files is that they may be loaded into a spreadsheet program and the values altered to fit your needs. You can build a spreadsheet for your individual crop inputs while retaining the formulas for instantaneous recalculation of the whole page. For example, how would overall costs be affected if land rent were \$50 per acre less, or if you chose a less expensive variety? The answer is right at your fingertips! You can see your cost projection instantly at any given price and yield level, plus a break-even price.

The cost of the CD, USB thumb drive, or electronic version of Guidelines to production costs and practices for Imperial County Field Crops circular (104-F) is \$25. This includes the hard copy of the Guidelines, one of the above electronic choices, and shipping costs.

## **CIMIS REPORT AND UC DROUGHT MANAGEMENT PUBLICATIONS**



**Khaled Bali and Sharon Sparks\***

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

\* Ag. Water Science Unit, Imperial Irrigation District.

**Link to UC Drought Management Publications**

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