



Pepper News

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California Pepper Industry Report

Staff

Every three years the California Pepper Commission is required to hold nomination meetings to elect members and alternates to serve on the Commission. The Commission then holds its annual meeting where they elect a Chairman and Vice Chairman to serve as officers for the next three years. Glen Fischer of Saticoy Foods was unanimously elected to serve as Chairman, as was Mike Chuck, a grower from Gilroy as Vice Chairman.

Chairman, California Pepper Commission

Glen Fischer, Saticoy Foods

The California Pepper Commission continues to focus its efforts at improving the chemical, disease and pest issues that concern the pepper industry. The Commission met earlier this year with the purpose of discussing any current and future issues and finding research projects that can improve the California pepper industry.

Our annual newsletter contains summaries of the research projects completed during the 2009-10 year. Each of these projects was considered by the Commission's Research Committee and then recommended to the Commission for approval. Most of our projects have been ongoing, focusing on the more practical issues of farming peppers, while some focus on more basic research that the Commission feels deserves attention.

Currently the Commission is working with Valent and the Department of Pesticide Regulation on obtaining a Special Local Need 24C on Chateau. If approved, Chateau will be available to growers through the Pepper Commission after signing an Indemnification Agreement for a pre-transplanting application for weed control on mallow in the furrow bed.

Dual Magnum continues to be available as a 24C label from Syngenta through their website www.farmassist.com. You can also find a pepper-related pesticide list, which is

provided to the industry by the California League of Food Processors at their website www.clfp.com. You can sign in to view this list with the ID: nathan@tabcomp.com and password **nathan93618**.

The Commission and staff are always available to answer questions or assist in any way they can. Jerry Munson (jerry@tabcomp.com) is the Board Manager, and Nathan Sano (nathan@tabcomp.com) is the Assistant Manager, and they can be contacted via email or at 531-D North Alta Avenue, Dinuba, CA 93618 and at 559/591-3925.

2009 Project Reports

Hot Spot-Virus and Insect Localized Survey 2009

Aziz Baameur, UCCE Farm Advisor Santa Clara Co.

We tracked the movements of virus vectoring insects in two pepper fields in the Gilroy area. Field-A was located in the south-western part, while field-B was in north-eastern part of town. We placed sticky yellow cards (traps) and petunia flowerpots along the periphery of each field. We oriented the traps either East/West or North/south direction, depending on what the potential insect source appeared to be. We collected and replaced traps and flower plants weekly. We sampled pepper and weed plants and tested them for three viruses: tomato spotted wilt virus (TSWV), cucumber mosaic virus (CMV), and impatiens necrotic spot virus (INSV).

The data collected from this field study showed the following results: (a) only thrips (Western flower thrips) and no aphids were captured in both types of traps; (b) Field-A had 3 times as many insects as Field-B; (c) in Field-A 100% of sampled plants were infected with TSWV, while only 30% were infected in Field-B; (d) in Field-A most of the thrips came in from west and south directions while no directional impact was noticed in Field-B; (e) flower presence (weeds, flowering bushes and trees) prior to pepper flowers served as host and source of thrips way before pepper flowering; (f) only TSWV was detected in both fields; (g) nearby greenhouses to Field-B proved to be a lesser source of thrips than nearby creek vegetation, weedy patches, or sweet corn field.

In general, growers need to manage not only their fields, but also suppress weeds and other sources of virus vectoring insects in the vicinity. This suppressive activity in combination with their other management practices may help delay and reduce insect movement into production fields and thus lessen the occurrence of viruses. Using traps is a valuable tool to detect insect presence and pressure and can serve as a visual warning sign to field managers for timely intervention. Immediate removal or incorporation of plant residue can help disrupt virus and insect life cycles.

Recycling Drip Tape and Plastic Mulch

Aziz Baameur, UCCE Farm Advisor, Santa Clara Co.

All growers are supportive of recycling efforts and would contribute to its success. The majority would only support a genuine recycling program that did not just move spent material to other locations near or distant.

All growers in this study expressed willingness to pay for recycling if it is rendered reliable and economically feasible. They would redirect the flow toward recycling as opposed to “landfilling”.

Currently, the status of recycling used agricultural supplies is in a state of flux. At times it may be easier to send loads to landfill than to recycle it. Many growers have expressed frustration with unreliable recycling services and the length to which some have resorted – like those piling up used drip tape for years before someone came to claim it. Few growers use delayed retrieval strategy by either using tape for more than one season in crop rotation or keep it in the ground for an extended period past harvest date.

Several of the growers interviewed would like to see a public entity such as county government or one of its departments organize recycling centers to assist and encourage the recycling effort. Alternatively, they would like to have the county government contract with private recycling businesses to ensure reliable and well-organized recycling services.

Presently, only one supplier of drip tape offers their clients a courtesy service of used drip tape pick-up. There is a desire to see this provided by manufacturers as part of their services.

Recyclers do not see difficulty recycling drip tape if it is clean of soil. The problem from their perspective is more demand and supply and the state of the global economy. When the energy market is high, there is more demand for plastic materials to recycle. On the other hand, plastic mulch quality presents the recycling community with challenges. Light density and plant residue presence make it difficult to recycle plastic mulch.

To date, there are many ideas in the works. Very few are close to fruition, or at least publically known. One of the most promising is that of Plasma Arc technology that uses

very high temperatures, 4,000 to 7,000 °C (7232 to 12632 °F) to gasify solid waste. However, the technology is costly and at present faces permitting barriers.

Effect of Nitrogen Fertilizer on Yield & Quality

Michelle Le Strange, UCCE Farm Advisor Tulare Co. and Marita Cantwell, UC Davis

A field study was established at the UC WSREC to investigate 5 rates of nitrogen fertilizer on the yield and post harvest quality of drip irrigated bell peppers. The variety Jupiter was transplanted and grown without plastic mulch or poles on 40-inch beds with a manifold system that allowed different nitrogen rates to be applied simultaneously through subsurface drip irrigation to different parts of the test plot. Whole leaf tissue samples collected several times over the growing season revealed increasing leaf nitrogen with increasing soil applied nitrogen.

Biomass and yield results indicated that the highest yields were not obtained with the highest amount of soil applied nitrogen. Field conditions were not perfect for a fertilizer rate study that needed the crop response to nitrogen and the best quality produce to define postharvest characteristics.

Overall green fruit were firmer, had thinner walls, and weighed less than red fruit. The dry weight of red fruit increased with increasing amounts of applied nitrogen, whereas in this study that trend was not seen in green fruit. Fruit with low nitrogen were less green and less red in color. Although some results were obtained, the results are not comprehensive and need further field and postharvest laboratory investigation.

Weed Control

Richard Smith, UCCE Farm Advisor, Monterey Co. and Michelle LeStrange, UCCE Farm Advisor Tulare Co.

Peppers are a long-season crop that are subject to early and late season weed issues. These trials focused on layby applied herbicides to reduce late season weeds. Dacthal, Dual Magnum, Prowl H2O and a combination of these treatments are registered for use on peppers and were included as standard treatments. Outlook, Chateau and Broadstar were tested as non-registered alternatives. The Chateau treatments were tested at 3 and 6 ounces, and on the Coast, Broadstar was tested at 37.6 lbs/A, which is the same amount of flumioxazin as 3 ounces of Chateau (0.093 lbs a.i./A).

Chateau was applied as a directed spray towards the base of the plant (some did contact the bottom leaves), as a shielded spray (to avoid contact with bottom leaves, although some did) and as a directed spray with the water repellent adjuvant DC-6184 (to reduce phytotoxicity of leaves that come into contact with the spray). Mallow was a predominant weed in the Coast trials, but not in the Central Valley trials. The Coast trials indicated that directed or shielded sprays of Chateau gave excellent control of little mallow, but currently registered herbicides, Dual Magnum and Prowl H2O, did not.

In the Central Valley trials nightshades, pigweeds, purslane, lambsquarters, and puncturevine were predominant weeds and excellent results were obtained with several of the layby applied preemergence herbicides.

Continued efforts need to be researched to keep the spray of Chateau off of pepper leaves during application to improve crop safety. A granular formulation of flumioxazin, such as Broadstar, has the potential to deliver the chemical to the soil surface with little to no phytotoxicity to the crop.

Use of Mulches to Repel Aphids to CCMV

Joe Nunez, UCCE Kern Co.

A trial is currently being conducted in Kern for the third year to determine if aphids can be repelled away from pepper fields as a method of preventing Cucumber Mosaic Virus (CMV). Previous work has shown that silver reflective plastic mulch could deter aphids away. Green and red plastic mulch has also shown to increase pepper plant growth. A goal of this year's trial is to verify these previous results. Another goal is to find a more economical and environmentally friendly way to repel the aphids without the use of plastic mulches.

Besides the use of plastic mulches, a spray on mulch of kaolin clay is being tested. The kaolin clay leaves a white residue on the sprayed surface. It is being tested as sprayed on mulch on the surface of the bed and as a whitewash on the plant canopy.

Earlier results have been very positive and encouraging with most treatments. The silver reflective, silver, and white plastic mulches have resulted in significant reduction of aphid counts on the yellow sticky traps placed near the canopy. The plants with the green and red mulch are also much larger and vigorous compared to the control. Also encouraging is that the kaolin clay, either as a sprayed on mulch or as a whitewash, has also reduced the amount of aphids.

Insect Pest Management on Peppers

John T. Trumble, William Carson, and Greg Kund, UC Riverside

Pepper field trials were conducted at the University of California South Coast Research and Extension Center (SCREC). The project included both a chemical screening trial and an IPM trial. The chemical screening trial was used to identify new compounds that can potentially be used in a commercial IPM program. The IPM program was conducted using a large scale commercial field design and was used to evaluate treatment rotations against a complex group of insects for efficacy as well as economic benefits for pepper growers.

Chemical trials examined Voliam Flexi 40 WG, Voliam Xpress ZC, Leverage 2.7 SE, Coragen SC, HGW 86 20 SC, Movento 240 SC, Oberon SC and Durivo 2.5 SC. Movento, Oberon and Leverage were sprayed one time at

flowering. HGW 86, Voliam Flexi and Voliam Xpress were sprayed 3 times. HGW 86 was also applied two times as a soil drench in a separate treatment. Coragen was applied two times as a soil drench treatment. Durivo was applied as a soil drench one time at transplanting.

The IPM trials examined a low input treatment of Actara WDG, Coragen SC and Xentari DF. The other treatment representing a chemical standard was Lannate 2.4 LV, combined with Pounce 3.2 EC. The materials used in the IPM trial were applied according to rotational strategies that would support a commercial grower operation. Actara was applied three times, and Xentari and Coragen were applied one time separately. The chemical standard of Lannate and Pounce were applied three times.

The fruit from the chemical and IPM trials were harvested and assessed for insect damage. The chemical screening trial focused primarily on insect damage and the IPM trial included insect damage and a harvest yield component.

Worm pressure was high and the pepper weevil populations were significant. Potato psyllid, whitefly, and leafminer pressure were low in the chemical and IPM trials. Most of the treatments in the chemical trial provided good worm control. The best control of pepper weevils and worms was from Voliam Flexi. The IPM trial had two treatments. The low input treatment consisting of Actara, Coragen, and Xentari did not perform well against worm pests. The low input treatment performed better than the chemical treatment against pepper weevils. The Lannate and Pounce treatments did not provide significantly better suppression of pepper weevils when compared to the untreated control. For a complete copy of the report contact the California Pepper Commission.

Additional behavior and developmental studies on leafminer and potato psyllids are being studied. We are testing the repellency of several insecticides on both leafminers and psyllids. Additional funds from the Hansen's Trust, UC ANR and the USDA Pesticide Management Alternatives Program were also used to support our pepper research.

Listing of 2010-11 Approved Projects

Lestrangle/Cantwell – Nitrogen Fertilizer on Yield	9,408
Joe Nunez – Cucumber Mosaic	3,615
Smith/LeStrange – Weed Control	9,192
John Trumble – Insect Management	22,000
Total	\$44,215

California Pepper Commission 2010-13

California Pepper Commission

MEMBERS

ALTERNATES

Financial Report

Fiscal Year: March 1, 2009 through February 29, 2010

Producer Representatives

Burt Silva King City 831/385-4540	John Hook King City 831/385-6460
Ryan Talley Arroyo Grande 805/489-2508	Danny Pereira, Jr. Oxnard 805/2401979
Mike Chuck Gilroy 408/848-6373	Dan Fiorio Gilroy 408/842-1809
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Handler Representatives

Matthew Terra Escalon 209/838-4040	Mark Thompson Escalon 209/838-4040
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Public Representative

Dave Nirenberg Camarillo 805/484-2692	Peter Iverson King City 831/595-4776
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Staff

Jerry Munson/Manager Dinuba 559/591-3925	Nathan Sano/Ast. Mgr Dinuba 559/591-3925
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<i>Account Name</i>	<i>Amount</i>
INCOME	
Carry-over from 2008-09	\$126,181
Assessment Income, 2009-10	135,329
Interest Income	<u>4,724</u>
Total Available Funds	\$266,234

EXPENDITURES	
Management Services	\$38,400
Legal Counsel	228
Audits	1,990
Office Supplies	1,499
Telephone	500
Postage	851
Reports & Publications	88
Travel & Mileage	2,388
Meetings	365
Insurance	830
Marketing Branch, CDFR	10,536
Production Research	44,750
California Minor Crops Council	6,000
Chemical Research	<u>2,000</u>
Total Expenditures	\$110,425

Carry-over to 2010-11	<u>155,809</u>
Total Expenses & Reserve	\$266,234

2009-10 Financial Report

The accompanying Financial Report shows that the Commission continues to be in excellent financial shape, with the income from marketed peppers again exceeding the Commission's budget. The Commission budgeted on the basis of receiving income from the equivalent of 380,000 tons of fresh peppers, which would bring in \$133,000 at the \$.35 per ton rate. However, the actual tonnage from the 2009 crop brought in was \$135,329.

The Commission's books are audited annually by an independent Certified Public Accountancy firm, and any pepper industry member wanting a copy of said audit may apply to the Commission office.

Complete research reports available
from the Commission office