POLLINATOR PROTECTION BEE-A-WARE!

Brandi Martin
Environmental Scientist
California Department of Pesticide Regulation

TODAY'S MISSION

- Leave with an increased awareness of pollinator protection strategies
- Consider pollinator protection while evaluating sites when making pesticide use recommendations
- Realizing that your role is critical in the chain of communication of information!

PRESENTATION WILL COVER …

- Importance of pollinators
- Causes of pollinator population decline
- 2014 bee losses while in almond bloom in SJ Valley
- Government response
- Almond Board of California Response-

(*Honey Bee Best Management Practices for California Almonds)*

THE IMPORTANCE OF POLLINATORS

- **Insect pollinators are important for pollinating wild plants, contributing a food source for wildlife.**
- **Bees are important pollinators in native plant communities, gardens, and in approximately 90 crops**
- **Insects pollinate a third of our food, including fruits and vegetables, nuts (almonds) and seed crops.**
- **Managed bee pollinators contribute a value of around $29 billion to our agricultural industry.**






WHY CONCERNS FOR POLLINATOR PROTECTION

- Colony Collapse Disorder
- Bee Pests (parasites, viruses, etc..)
- Pesticides and bee incidents
- Crop Pollination
- Bee and environmental concerns

Factors Affecting Pollinator Health

http://go.usa.gov/jHH4

"The prevailing theory among scientists in EPA, USDA, and the global scientific and regulatory community is that the general declining health of honey bees is related to complex interactions among multiple stressors including:

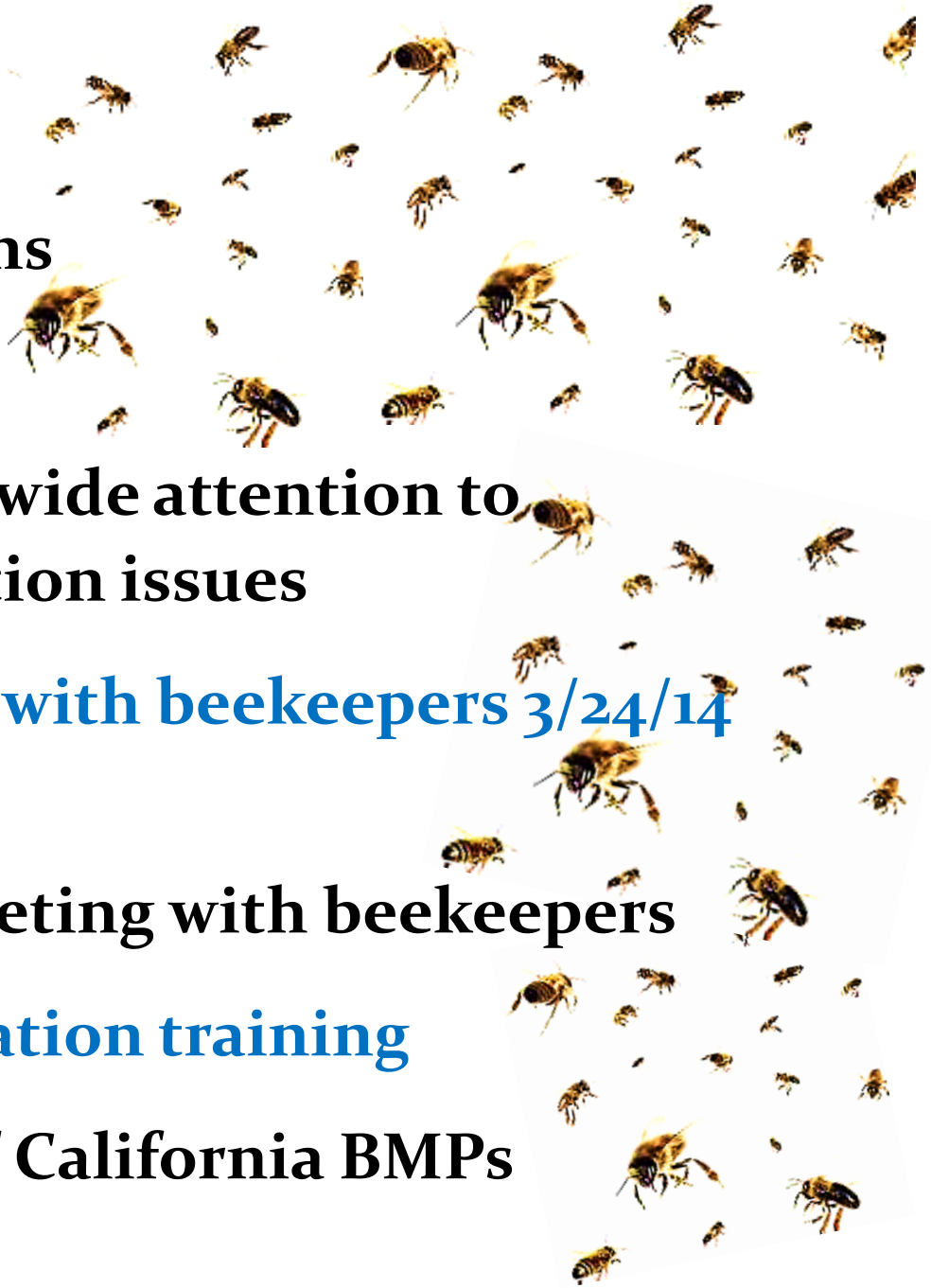
- Pests (*e.g.*, varroa mite), pathogens (*e.g.*, the bacterial disease American foulbrood) and viruses.
- Poor nutrition (e.g., due to loss of foraging habitat and increased reliance on supplemental diets).
- Pesticide exposure.
- Bee management practices (e.g., long migratory routes to support pollination services).
- Lack of genetic diversity.

2014 SPRING BEE LOSSES

- 16 Reports of Loss Forms submitted by beekeepers to Central Valley CAC's
- Beekeepers claim of 80,000 colonies damaged or died during bloom
- Stanislaus, Merced, San Joaquin, Madera, Fresno, and Kern

Responses……

- CAC Investigations
- Media attention
- Increased nationwide attention to pollinator protection issues
- Fed EPA meeting with beekeepers 3/24/14 Los Banos
- DPR Director meeting with beekeepers
- CAC bee investigation training
- Almond Board of California BMPs



CAC BEE LOSS INVESTIGATIVE RESPONSE

POLLINATOR PROTECTION
BEE-A-WARE!

- CAC's response: conduct an investigation
- Perform pesticide use report search for surrounding area
- Perform Interviews
- Perform pesticide label research

Foliage Samples

Interviews

Hive Swab Samples

Bee Samples

Pollen/Brood Sample

MEDIA , ADVOCACY, AND NATIONWIDE ATTENTION!

“PESTICIDE KILL IN ALMONDS”

Pesticide Kill in California Almond Orch

SOBA

Home News and Events A Year in

Home » Beekeeper's Corner

Pesticide Kill i

April 15, 2014

Like Share

» Beekeeper's Corner • Pesticide Kill in California Almond Orchards

Pesticide Kill in California Almond Orchards

April 15, 2014

Like Share 3 people like this. Sign Up to see what your friends like.

kill caused by pesticides in California almond groves

An unprecedented and devastating bee kill occurred this past month at the end of the almond bloom. Affected beekeepers, the Pollinator Stewardship Council (info@pollinatorstewardship.org) and the American Beekeeping Federation (www.abfnet.org), plus representatives of EPA, met Monday, March 24 in Los Banos, California to discuss the pollinator losses. 75 beekeepers attended in person or via conference call.

A poll taken of the 75 beekeepers reveled 80,000 colonies damaged, 75% of them severely. Attendees indicated 40% of colonies lost adult bees and had dying brood, 20% of the hives were dead completely. A quick tally estimated

http://www.southernoregonbeekeepers.org/beekeepers-corner/pesticide-kill-in-california-al... 11/4/2014

Pesticide blamed in death of 25.000 bumblebees in Oregon

June 21, 2013

Los Angeles Times

A pesticide used to control aphids has been singled out as the cause in this week's deaths of tens of thousands of bumblebees in a retail parking lot in Oregon, state officials said Friday.

At least 25,000 bees were found dead and more were dying in a Target parking lot in Wilsonville, about 18 miles southwest of Portland, in what experts have described as the largest known die-off of bees in the United States.

Witnesses reported bees falling from trees and littering the ground.

Crews worked Friday morning to wrap protective netting, purchased by the city, around the 55 European linden trees in the area. Workers stood on cherry-pickers to place the bee-proof shade material around the large trees, which are in full bloom.

On Monday, concerned calls from shoppers prompted the Xerces Society for Invertebrate Conservation -- a Portland-area conservation group -- to sound an alarm. The Oregon State Department of Agriculture responded by sending staff to collect samples of insects and foliage from the linden trees.

State officials were able to directly link the deaths to the pesticide Safari, which was sprayed on the trees Saturday to control aphids, the department said Friday in a statement. Officials have not yet identified the property management agency or the crews that applied the pesticide.

Memorial service to be held for slain Oregon bees in Target parking lot

Sure, 'bee funeral' may scream Portland but a memorial service being held this Sunday to remember the 50,000 pollinators killed by pesticides at an Oregon Target store is more crucial than quirky in nature.
Wed. Jun 26. 2013 at 05:31 PM

Photo: reader of the pack/Flickr

While massive bee die-offs are troubling no matter where they take place, I suppose that the over 50,000 victims — including 25,000 bumblebees along with honeybees and ladybugs — of last week's grisly api-cide in a Target parking lot were lucky to have perished, during National Pollinator week no less, in the vicinity of Portland, Ore., a town that cares about all of Earth's creatures; a town the fosters bio-diversity atop big box stores; a town that is willing to hold memorial services for slain insects.

Yep, a memorial service for the dearly departed Wilsonville bees — subject to what's believed to be the largest documented bee death in the Western United States — is in the works. It will be held this coming Sunday at the Wilsonville Target where the bees were found, confirmed victims of a "super-systemic" neonicotinoid-class pesticide called Safari that's used on mealybugs, whiteflys, apids and other crop-damaging critters. A landscaping firm had applied Safari to 65 linden trees around the Target store a couple of days before the dead and dying bees were discovered (the trees have since been netted to prevent any further fatalities).

Sound familiar? This past April, Neonicotinoids were positively outlawed in the E.U. after being ID'd by researchers as a key contributor to colony collapse disorder (meanwhile, the EPA continues to take its sweet time in addressing this urgent issue).

The Wilsonville Bees Memorial itself is being organized by Portland resident Rozzell Medina.

He writes on the event Facebook page:

> On Sunday June 30, 2013 at 2:00 PM, please join us at the site where an estimated 50,000 bees were killed by humans who sprayed the toxic pesticide, Safari. We will memorialize these fallen lifeforms and talk about the plight of the bees and their importance to life on Earth. If you are

ENVIRONMENT

Bee kill results in $16,000 penalty

A Eugene tree company and its applicator are fined for spraying that killed about 1,000 bees

BY CHRISTIAN WIHTOL
The Register-Guard
NOV. 11, 2014

The state on Monday said it has levied a total of $16,000 in fines against a Eugene pesticide company and one of its applicators for their negligence in a pesticide spraying episode that killed an estimated 1,000 bees at a Eugene apartment complex this summer.

Following an investigation by the Oregon Department of Agriculture's Pesticides Program, the state said it has levied a $10,000 fine against Glass Tree Care and Spray Service Inc. and a $6,000 fine against the applicator in the incident, James P. Mischkot Jr. of Eugene.

The department's investigation found that Mischkot sprayed a pesticide containing the active ingredient imidacloprid on the grounds of the apartment complex in June, including on 17 linden trees — the same tree species at which there were mass bee death incidents elsewhere in Oregon last year.

The trees in the Eugene incident were in full bloom and attracting pollinators.

Last year, based on the high-profile incidents of bee deaths, the state adopted a required label statement on pesticide products containing imidacloprid and dinotefuran. It prohibits the application of those products on linden trees and other trees of the same species, the state said.

In the past year, the agriculture department has conducted extensive outreach and education of commercial pesticide applicators and operators regarding pollinator protection, the state said.

Anticipating the presence of pollinators is part of the reasonable standard of care for pesticide application activities in Oregon, the state said.

"The trees in the Eugene incident were in full bloom and attracting pollinators."

"Anticipating the presence of pollinators is part of the reasonable standard of care for pesticide applications in Oregon, the state said."

GOVERNMENT RESPONSE

- Fed EPA meets with 75 SJV beekeepers on March 24, 2014 in Los Banos, CA
  - Beekeepers: looking for answers-Intermittent and random: brood die-off
  - Beekeepers: “Tank-mixing” raised
  - Beekeepers: Timing of applications

DPR Director Brian Leahy meets with bee keepers and almond industry on April 29, 2014 in Sacramento

Looking for a “remedy”

PRESIDENT OBAMA ESTABLISHES POLLINATOR HEALTH TASK FORCE (JUNE 30, 2014)

The president announced a federal strategy to promote the health of honey bees and other pollinators

Presidential Memorandum **creating a federal strategy to promote the health of honey bees and other pollinators!**

The White House

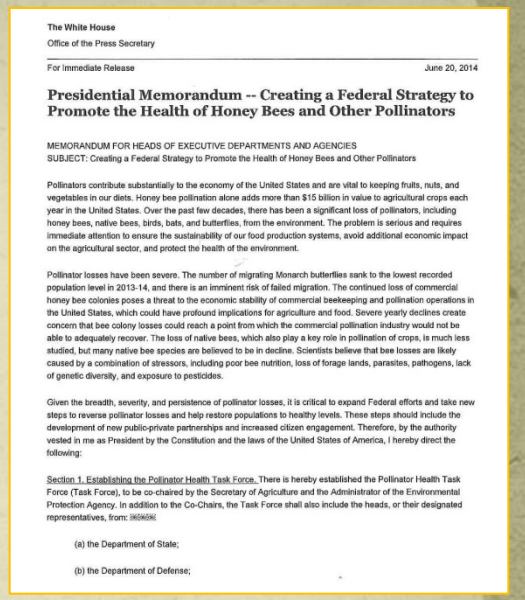
Office of the Press Secretary

For Immediate Release June 20, 2014

Presidential Memorandum -- Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators

MEMORANDUM FOR HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES
SUBJECT: Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators

Pollinators contribute substantially to the economy of the United States and are vital to keeping fruits, nuts, and vegetables in our diets. Honey bee pollination alone adds more than $15 billion in value to agricultural crops each



The White House

Office of the Press Secretary

For Immediate Release June 20, 2014

Presidential Memorandum -- Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators

MEMORANDUM FOR HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES
SUBJECT: Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators

Pollinators contribute substantially to the economy of the United States and are vital to keeping fruits, nuts, and vegetables in our diets. Honey bee pollination alone adds more than $15 billion in value to agricultural crops each year in the United States. Over the past few decades, there has been a significant loss of pollinators, including honey bees, native bees, birds, bats, and butterflies, from the environment. The problem is serious and requires immediate attention to ensure the sustainability of our food production systems, avoid additional economic impact on the agricultural sector, and protect the health of the environment.

Pollinator losses have been severe. The number of migrating Monarch butterflies sank to the lowest recorded population level in 2013-14, and there is an imminent risk of failed migration. The continued loss of commercial honey bee colonies poses a threat to the economic stability of commercial beekeeping and pollination operations in the United States, which could have profound implications for agriculture and food. Severe yearly declines create concern that bee colony losses could reach a point from which the commercial pollination industry would not be able to adequately recover. The loss of native bees, which also play a key role in pollination of crops, is much less studied, but many native bee species are believed to be in decline. Scientists believe that bee losses are likely caused by a combination of stressors, including poor bee nutrition, loss of forage lands, parasites, pathogens, lack of genetic diversity, and exposure to pesticides.

Given the breadth, severity, and persistence of pollinator losses, it is critical to expand Federal efforts and take new steps to reverse pollinator losses and help restore populations to healthy levels. These steps should include the development of new public-private partnerships and increased citizen engagement. Therefore, by the authority vested in me as President by the Constitution and the laws of the United States of America, I hereby direct the following:

Section 1. Establishing the Pollinator Health Task Force. There is hereby established the Pollinator Health Task Force (Task Force), to be co-chaired by the Secretary of Agriculture and the Administrator of the Environmental Protection Agency. In addition to the Co-Chairs, the Task Force shall also include the heads, or their designated representatives, from:

(a) the Department of State;

(b) the Department of Defense;

- **Pollinators contribute substantially to the economy of the US**
- **Vital to keeping fruits, nuts, and vegetables in our diets**
- **Honey pollination alone adds more than $15 billion in value to agricultural crops each year in US**
- **Over the past 10 years there has been a significant loss of pollinators (honey bees, native bees, birds, bats and butterflies).**

POLLINATOR HEALTH CONCERNS

"Importance of Pollinators

Many types of plants, including fruit and vegetable crops, depend on animals for pollination. In addition to honey bees, many other types of animals pollinate crops and wildflowers, including:

Wild bees, Ants, Beetles, Wasps, Lizards, Birds, Bats, Butterflies,

We are concerned about declines in pollinator health and are working to protect bees and other pollinators from pesticide risks."

FEDERAL EPA'S RESPONSE TO THE PROTECTION OF POLLINATORS IN REGARDS TO PESTICIDE USE

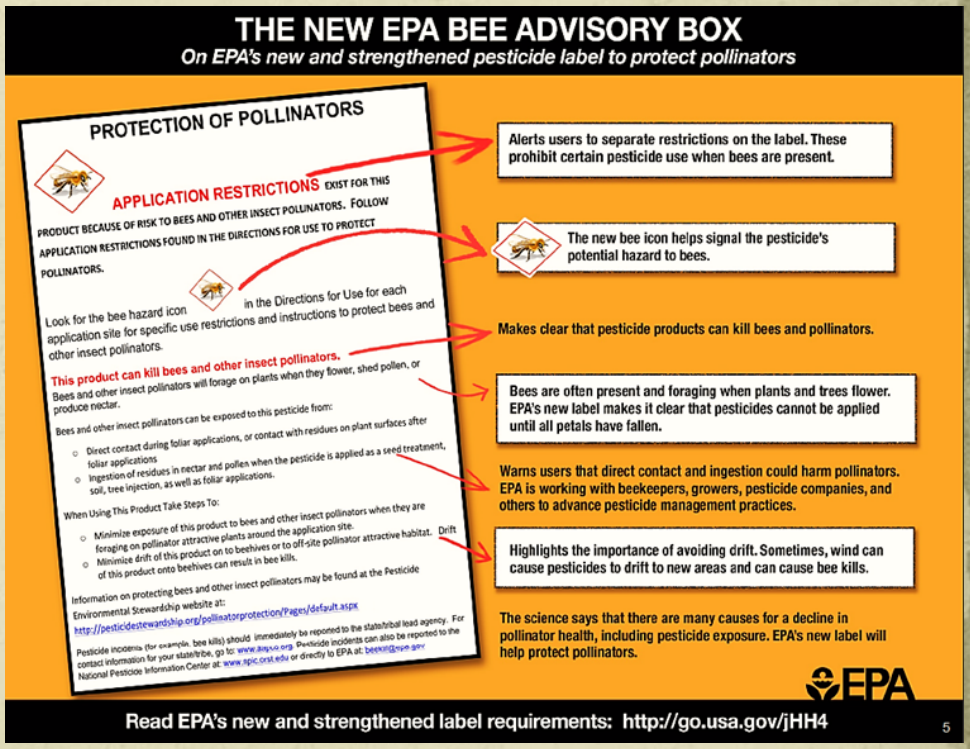
EPA Bee Advisory Box on pesticide labels

Ongoing effort to protect bees

Some labels prohibit use of some neonics where bees are present

- Neonicotinoids –

Imidacloprid, dinotefuran, clothianidin, thiamethoxam



THE BEE ADVISORY BOX

Look for the bee hazard icon  in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

The new bee icon helps signal the pesticide's potential hazard to bees.

When you see the bee icon, be aware of a potential bee hazard

THE BEE ADVISORY BOX

PROTECTION OF POLLINATORS

APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.

Alerts users to separate restrictions on the label. These prohibit certain pesticide use when bees are present.

THE BEE ADVISORY BOX

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- Ingestion of residues in nectar and pollen when the pesticide is applied as a seed treatment, soil, tree injection, as well as foliar applications.

Warns users that direct contact and ingestion could harm pollinators. EPA is working with beekeepers, growers, pesticide companies, and others to advance pesticide management practices.

THE BEE ADVISORY BOX

When Using This Product Take Steps To:

- Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants around the application site.
- Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives can result in bee kills.

Highlights the importance of avoiding drift. Sometimes, wind can cause pesticides to drift to new areas and can cause bee kills.

Label Bee Advisory Box

PROTECTION OF POLLINATORS

APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.

Look for the bee hazard icon in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators.

Bees and other insect pollinators will forage on plants when they flower, shed pollen or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications.
- Ingestion of residues in nectar and pollen when the pesticide is applied as a seed treatment, soil, tree injection, as well as foliar applications.

When using this product take steps to:

- Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants around the application site.
- Minimize drift of this product onto beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills.

(continued)

For products that pose risk to pollinators:

- **Look for Bee icon**
- **Danger to bee statement**
- **Exposure to direct application, treated surfaces or ingesting nectar or pollen with residues**
- **Report bee pesticides incidents**

PROTECTION OF POLLINATORS (continued)

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at: http://pesticidestewardship.org/pollinatorprotection/pages/default.aspx.

Pesticide incidents (for example, bee kills) should immediately be reported to the State/Tribal lead agency. For contact information for your State/Tribe, go to: www.aapco.org/officials.html. Pesticide incidents can also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at: beekill@epa.gov.

EXTRACT FROM LABEL

BEE HAZARD DIRECTIONS FOR USE

Follow these additional application restrictions for use patterns marked with the Bee Hazard Icon.

1. **FOR CROPS UNDER CONTRACTED POLLINATION SERVICES**

Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless the following condition has been met.

If an application must be made when managed bees are at the treatment site, the beekeeper providing the pollination services must be notified no less than 48 hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying. Bees must remain removed, covered or otherwise protected for 38 hours following application.

Contracted Pollination Services

- Do Not Apply until flowering is complete and all petal have fallen
- Provide 48 hr. notification to beekeeper before application
  - **Move bees**
  - **Cover or protect bees for 38 hours**

EXTRACT FROM LABEL

)OD CROPS NOT UNDER CON-
FOR POLLINATION SERVICES
RE ATTRACTIVE TO POLLINATORS

product while bees are foraging:

oxic to bees exposed to treatment
for more than 38 hours following treatment.

- Do not apply this product to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period, unless the application is made in response to a public health emergency declared by appropriate state or federal authorities.

Crops that attract bees NOT under contacting services

Do not apply while bees are foraging

- Product toxic to bees 38 hrs. after treatment
- Do not apply to blooming, pollen or nectar shedding plants

EXTRACT FROM LABEL

- A bee icon may also be found on the crops section of a label with further information

FRUITING VEGETABLES

CROPS	PESTS	PRODUCT RATES	SPECIAL INSTRUCTIONS
Bell Pepper Chili Pepper Cooking Pepper Eggplant Ground Cherry Pepino Pimento Sweet Pepper Tomatillo Tomato	Brown Stink Bug Colorado Potato Beetle Consperse Stink Bug Cucumber Beetle Flea Beetle Grasshopper Green Peach Aphid (suppression only) Green Stink Bug Harlequin Bug Leafhoppers Leafminers Potato Aphid Southern Green Stink Bug Squash Bug Thrips Whiteflies	**FOLIAR:** 1 to 4 oz/A (0.044 to 0.175 lb ai/A)	**Higher water volumes provide improved insect control.** Begin applications when first pest activity is noticed or when insects reach threshold levels per State and County Extension Service recommendations. Repeat as needed to maintain control, but not more often than every 7 days. For best results, time application before a damaging population becomes established. Under severe pest pressure, use the higher specified rates. **Restriction:** Do not apply to vegetables grown for seed. The rate applied affects the length of control. Use the high rate where infestations occur later in crop development, or where pest pressure is continuous. *Venom* Insecticide can be mixed and/or alternated with commonly used insecticides, such as *Danitol* 2.4 EC Spray and *Knack* IGR, for better knockdown and/or improved control of pests. **Stink Bugs:** Coverage is essential for adequate control. Use sufficient water volume to ensure good coverage. **Aphids:** *Venom* Insecticide provides only suppression of established or heavy aphid populations. Control may require use of tank mixes with other labeled insecticides.
	Colorado Potato Beetle Flea Beetle Grasshopper Green Peach Aphid (suppression only) Leafhoppers Leafminers Potato Aphid (suppression only) Thrips Whiteflies	**SOIL:** 5 to 6 oz/A (0.219 to 0.263 lb ai/A)	

Note: Do not combine foliar applications with soil applications, or vice versa. Only use one application method.

Foliar Application
Follow application instructions as indicated in the Bee Hazard Directions for Use.

- Apply with air or ground equipment in adequate water for uniform coverage (3 to 10 gals/A by air or 20 to 40 gals/A by ground).
- Do not apply *Venom* Insecticide within one (1) day of harvest.
- Do not apply more than a total of 6 oz of *Venom* Insecticide (0.263 lb ai) per acre per season.

Soil Application

- See conversion chart on this label for linear application rates.
- Apply with ground equipment in adequate water for uniform coverage (10 to 100 gals/A).
- Do not apply *Venom* Insecticide within twenty-one (21) days of harvest.
- Do not apply more than a total of 12 oz of *Venom* Insecticide (0.525 lb ai) per acre per season.

(continued)

Note: Do not combine foliar applications with soil applications, or vice versa. Only use one application method.

Foliar Application
Follow application instructions as indicated in the Bee Hazard Directions for Use.

- Apply with air or ground equipment in adequate water for uniform coverage (3 to 10 gals/A by air or 20 to 40 gals/A by ground).
- Do not apply *Venom* Insecticide within one (1) day of harvest.
- Do not apply more than a total of 6 oz of *Venom* Insecticide (0.263 lb ai) per acre per season.

Soil Application

- See conversion chart on this label for linear application rates.
- Apply with ground equipment in adequate water for uniform coverage (10 to 100 gals/A).
- Do not apply *Venom* Insecticide within twenty-one (21) days of harvest.
- Do not apply more than a total of 12 oz of *Venom* Insecticide (0.525 lb ai) per acre per season.

Bee Label Statement Interpretation Guidance

Developed by SFIREG (State FIFRA Issues Research and Evaluation Group) with Fed EPA

"Do not apply this product while bees are foraging."

Interpretation – applications are prohibited only when bees are actually foraging in the area to be treated.

Label Interpretation Guidance

Developed by SFIREG with Fed EPA

"Do not apply this product until flowering is complete and all petals have fallen – **unless**" (next slide)

- **Interpretation** – flowering is complete to extent bees are no longer foraging.

Contracted Bees

at the treatment site – 48 Notification of Beekeeper (move, cover, or protect bees)

Non-Contracted Bees

flowering is complete to extent bees are no longer foraging. (*California regulations require 48 hour notification.*)

Label Interpretation Guidance

Developed by SFIREG with Fed EPA

"Do not apply this product until flowering is complete and all petals have fallen – unless one of the following conditions is met:"

"This application is made to the target site after sunset."

- **Interpretation** – application can occur after sunset and before sunrise as established by local weather information. *(California regulations has more guidance.)*

Label Interpretation Guidance

Developed by SFIREG with Fed EPA

"Do not apply this product until flowering is complete and all petals have fallen – unless one of the following conditions is met -

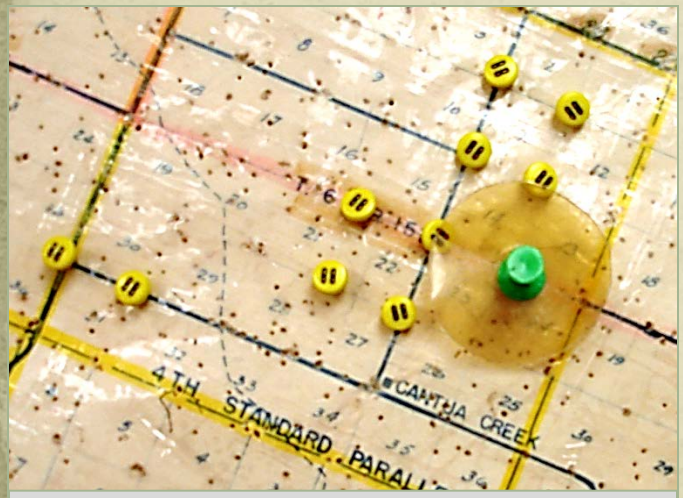
The application is made to a target site when temperatures are below 55°F"

- **Interpretation** - the air temperature must remain at or 55°F throughout the application period.

Label Interpretation Guidance

Developed by SFIREG with Fed EPA

"The application is made in accordance with an active state administered registry program where bee keepers are notified no less than 48 hours prior to the time of the planned application so that the bees can be removed, covered, or otherwise protected prior to spraying."



County Bee Map With Bee Locations

- **Interpretation** – If a state maintains a voluntary or regulatory registry program, the applicator must notify beekeepers with registered apiary locations in order to use this option. *(California has a bee registry program.)*

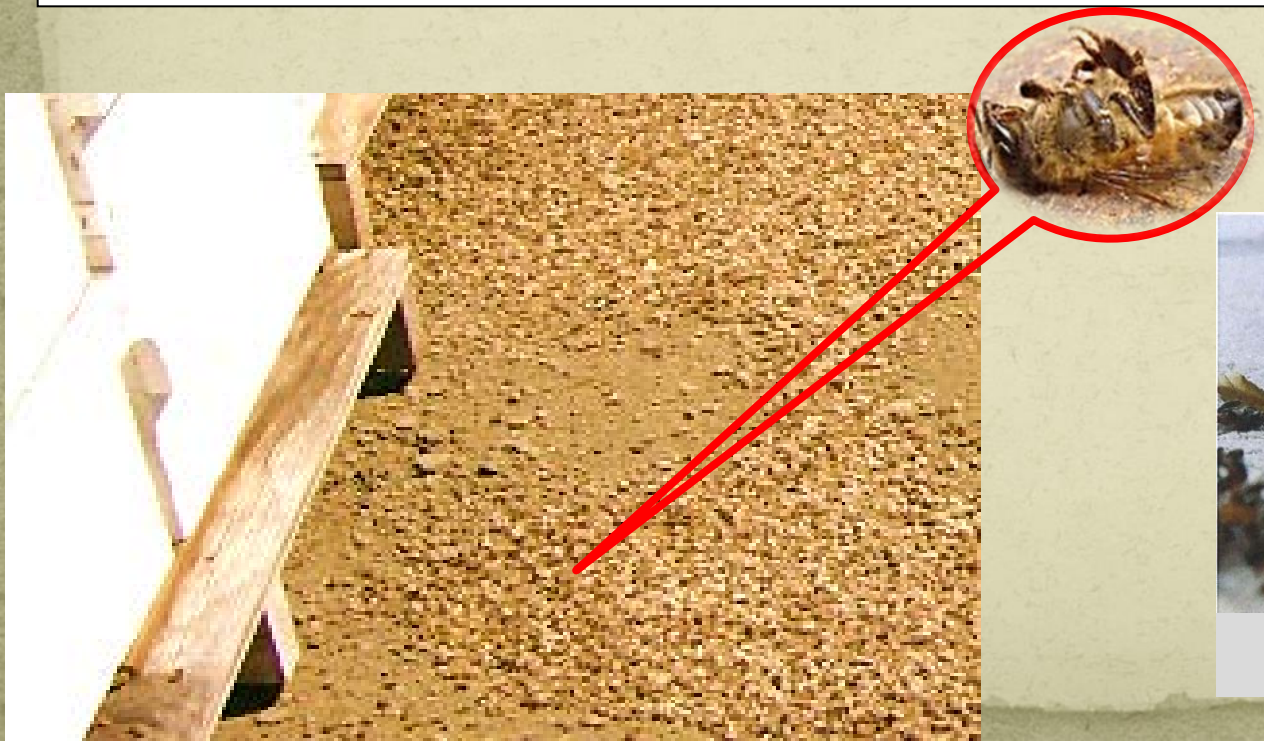
WHAT ABOUT CALIFORNIA REGULATIONS?

- Pesticides toxic to bees
- Apiary registration
- Notification of pesticide application
- Availability of Beekeeper

California Regulation: CCR 6650. Pesticides Toxic to Bees

- (a)Pesticides toxic to bees are those that include the words "toxic to bees" on the label. Regardless of modifying words on the label that state "highly" or "moderately."

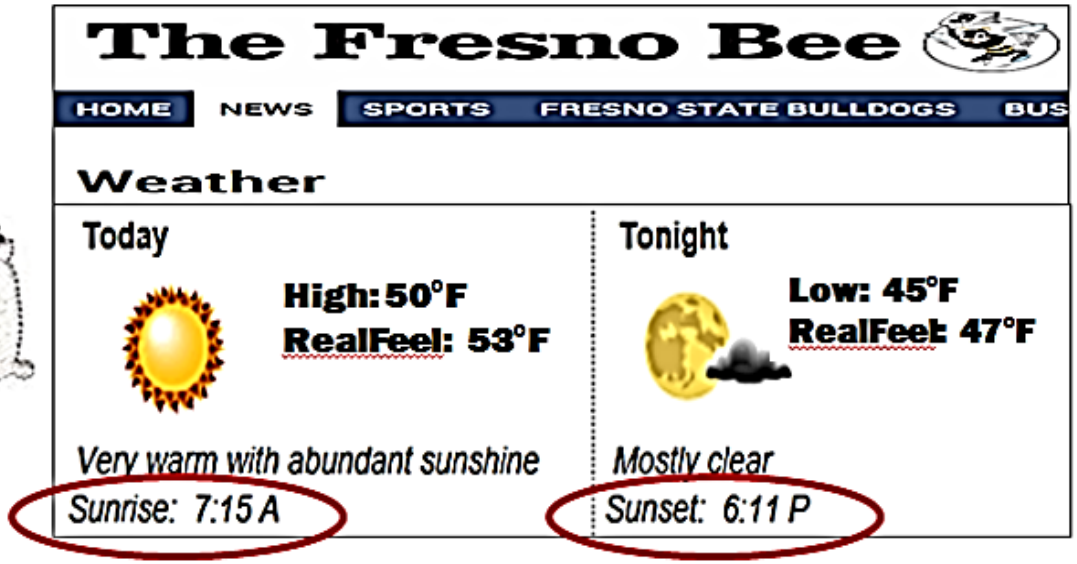
BEE CAUTION: This product is highly toxic to honeybees and other bees exposed to direct treatment or residues on crops or weeds in bloom. This product may show residual toxicity to honeybees, especially in humid climates and under slow drying conditions.



Dead Bumble Bees

CALIFORNIA REGULATION: CCR 6650. PESTICIDES TOXIC TO BEES

- (b) Bees are considered to be inactive from 1hour after sunset to 2 hours before sunrise or when the temperature is below 55° F. Sunset/sunrise times will be those indicated in the local newspaper.

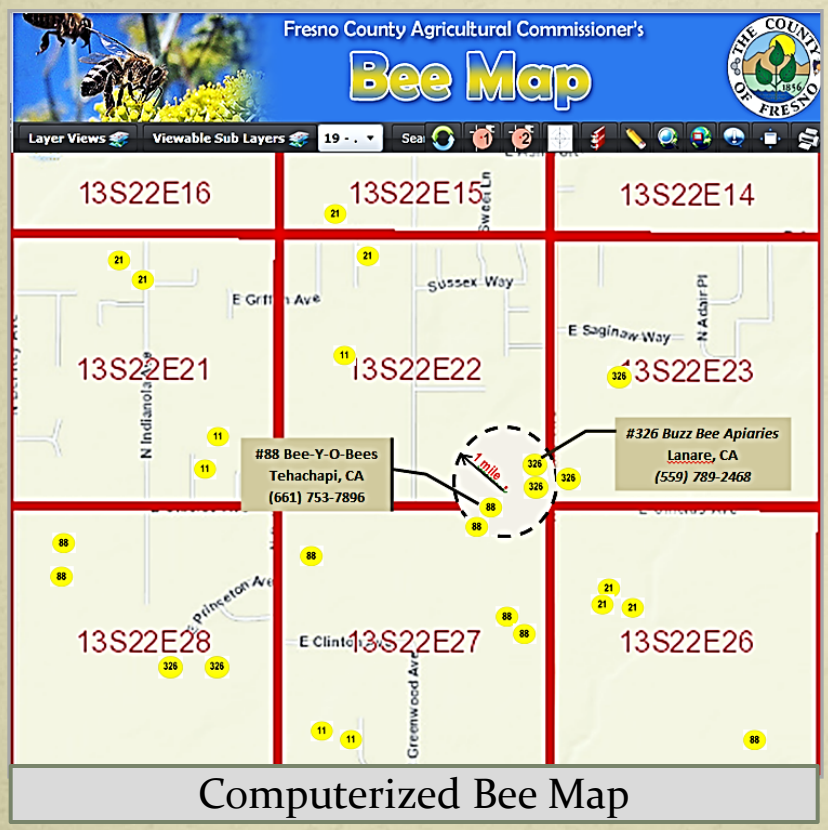


California Regulation:
CCR 6652. Availability for Notification.

- The beekeeper who desires advance notice of applications of pesticides shall inform the commissioner of a two-hour period between 6 a.m. and 8 p.m. each day, during which time the beekeeper shall be available for contact to receive advance notice from persons intending to apply pesticide(s).

WHAT IS THE "BEE MAP?"

- A map maintained by the local Agricultural Commissioner's Office which has the apiary location(s) of the registered beekeepers in that county.



Computerized Bee Map

Pin Bee Map

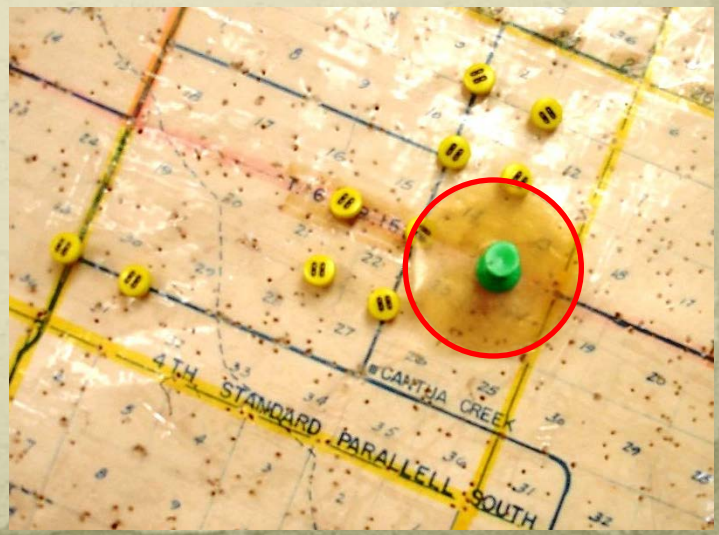
- If a beekeeper is not on the map, it means that he did not "desire" to be notified (6652) and the commissioner is not aware of the apiaries and can not provide contact info.

WHAT DOES THE AG COMMISSIONER'S OFFICE DO ONCE AN APPLICATOR CALLS?

The CAC obtains from the applicator:

- Applicator's name
- Date and time call was received
- Crop to be treated
- Material to be applied
- Location by section township and range

- The CAC provides the applicator all the contact information for those Bee Keepers within a 1 mile of the application site



THE APPLICATOR'S RESPONSIBILITY

- The applicator provides the bee keeper with a 48hr notice prior to the application
- The bee keeper may re-locate the bees, protect the bees or allow the application according to the label

What if the bee keeper does not want to move, cover, or protect his bees?

THE APPLICATOR'S RESPONSIBILITY

Failure of a beekeeper to remove hives shall not prevent the application of pesticides to blossoming plants **if** the application is consistent with the pesticide's labeling and regulations. When the pesticide applicator has complied with the notification ,the applicator shall not be liable for injury to bees that enter the area treated during or after the application.

- FAC 29103. Failure of a beekeeper to remove hives from a specific location, except during specific periods of time, as provided in subdivision (c) of Section 29102 after notification, shall not prevent the application of pesticides to blossoming plants if consistent with the pesticide's labeling and regulations. When the pesticide applicator has complied with the notification pursuant to subdivision (c) of Section 29102 the applicator shall not be liable for injury to bees that enter the area treated during or after the application.

THE APPLICATOR'S RESPONSIBILITY

- Essentially, the applicator follows the pesticide label in regards to bees.

Environmental Hazards

This product is toxic to bees exposed to treatment for 3 hours following treatment. Do not apply this pesticide to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period. This product is toxic to aquatic invertebrates. Do not

Extract from a pesticide label

ENVIRONMENTAL HAZARDS

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

Extract from a pesticide label

THE APPLICATOR'S RESPONSIBILITY

- **6614. Protection of Persons, Animals, and Property.**

(a) An applicator prior to and while applying a pesticide shall evaluate the equipment to be used, meteorological conditions, the property to be treated, and surrounding properties to determine the likelihood of harm or damage.

(b) Notwithstanding that substantial drift would be prevented, no pesticide application shall be made or continued when:

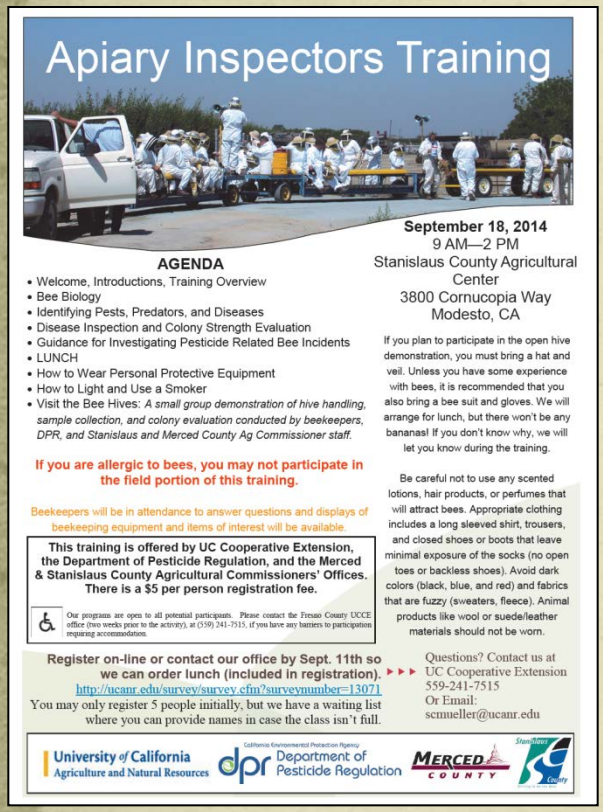
(1)There is a reasonable possibility of contamination of the bodies or clothing of persons not involved in the application process;

(2) There is a reasonable possibility of damage to non-target crops, animals, or other public or private property;

THE APPLICATOR'S RESPONSIBILITY

- 6614 essentially means that the applicator, in regards to bees, should evaluate the application site for apiaries and not substantially drift onto apiaries which are near the application site and cause harm or damage.

DPR'S RESPONSE IN PARTNERSHIP WITH UC



Apiary Inspectors Training

AGENDA

- Welcome, Introductions, Training Overview
- Bee Biology
- Identifying Pests, Predators, and Diseases
- Disease Inspection and Colony Strength Evaluation
- Guidance for Investigating Pesticide Related Bee Incidents
- LUNCH
- How to Wear Personal Protective Equipment
- How to Light and Use a Smoker
- Visit the Bee Hives: *A small group demonstration of hive handling, sample collection, and colony evaluation conducted by beekeepers, DPR, and Stanislaus and Merced County Ag Commissioner staff.*

If you are allergic to bees, you may not participate in the field portion of this training.

Beekeepers will be in attendance to answer questions and displays of beekeeping equipment and items of interest will be available.

This training is offered by UC Cooperative Extension, the Department of Pesticide Regulation, and the Merced & Stanislaus County Agricultural Commissioners' Offices. There is a $5 per person registration fee.

Our programs are open to all potential participants. Please contact the Fresno County UCCE office (two weeks prior to the activity), at (559) 241-7515, if you have any barriers to participation requiring accommodation.

September 18, 2014
9 AM—2 PM
Stanislaus County Agricultural Center
3800 Cornucopia Way
Modesto, CA

If you plan to participate in the open hive demonstration, you must bring a hat and veil. Unless you have some experience with bees, it is recommended that you also bring a bee suit and gloves. We will arrange for lunch, but there won't be any bananas! If you don't know why, we will let you know during the training.

Be careful not to use any scented lotions, hair products, or perfumes that will attract bees. Appropriate clothing includes a long sleeved shirt, trousers, and closed shoes or boots that leave minimal exposure of the socks (no open toes or backless shoes). Avoid dark colors (black, blue, and red) and fabrics that are fuzzy (sweaters, fleece). Animal products like wool or suede/leather materials should not be worn.

Register on-line or contact our office by Sept. 11th so we can order lunch (included in registration).
http://ucanr.edu/survey/survey.cfm?surveynumber=13071
You may only register 5 people initially, but we have a waiting list where you can provide names in case the class isn't full.

Questions? Contact us at
UC Cooperative Extension
559-241-7515
Or Email:
scmueller@ucanr.edu

University of California Agriculture and Natural Resources | dpr Department of Pesticide Regulation | Merced County | Stanislaus County

DPR Regional Manager Karen Francone and UC Shannon Mueller PHd

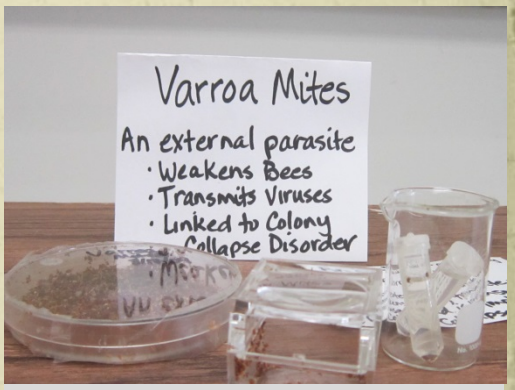
- **Provide Training:**
  - Bee Investigation
  - Bee Biology
  - Bee Disease
  - Bee PPE
  - Bee Equipment
  - Bee Investigative Sampling Methodology
- **Seasoned Trainers:**
  - DPR Experienced Investigators
  - University of California
  - CAC Apiary Specialist
  - Professional Beekeepers

OVER 140 BIOLOGIST PARTICIPATED IN TWO CENTRAL VALLEY DPR/UC/CAC APIARY TRAINING EVENTS

Classroom Instruction

Queen Identification

Bee Pests: Small Hive Beetle



Bee Pests: Varroa Mite

HANDS ON FIELD TRAINING

UC Kearney Research Station

CAC Biologist

Stanislaus CAC - Modesto

UC Kearney Research Station

HOW TO GEAR UP!

Donning The Bee Suit

Donning Bee Suit Properly

Donning Bee Veil Properly

EXPERT INSTRUCTION BY BEEKEEPERS

Igniting The Smoker

Professional Beekeeper

CAC Biologists

Using A Bee Smoker

EXTRACT FROM LABEL BEEKEEPER GUIDANCE

Bee Brood

Some Pointers

Looking For The Queen

Around The Professionals

Hands On Training

INVESTIGATIVE BEE SAMPLING

Proper Methodology

Proper Technique

Collecting Dead Bee samples

Residue Swabbing

2013 California Almond Acreage Report

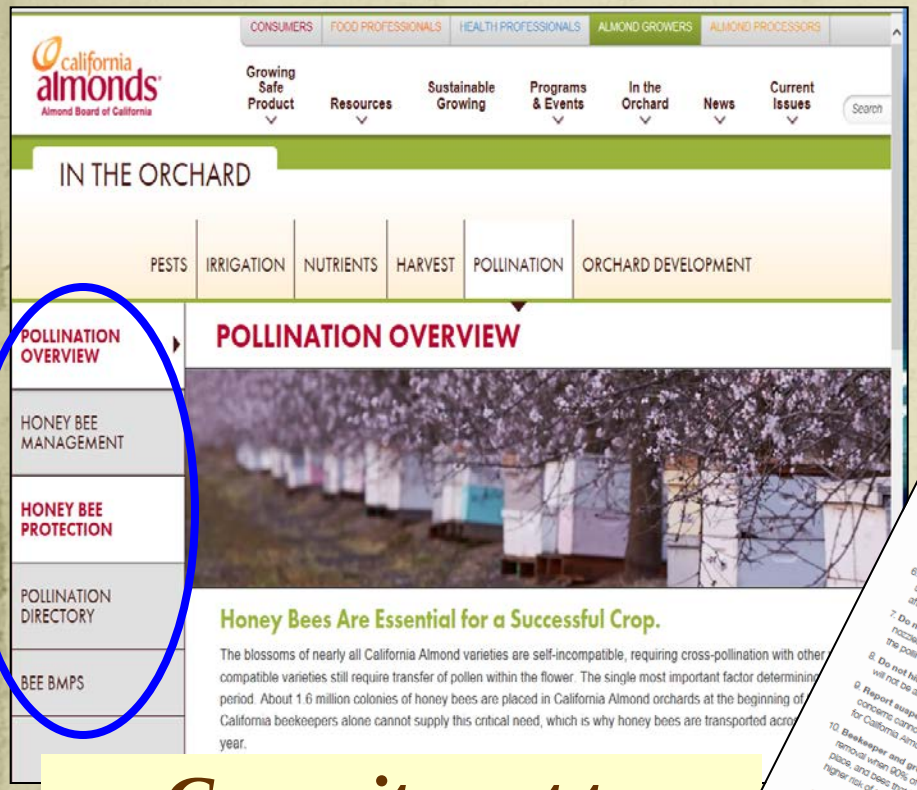
California almond acreage is estimated at 940,000 acres!

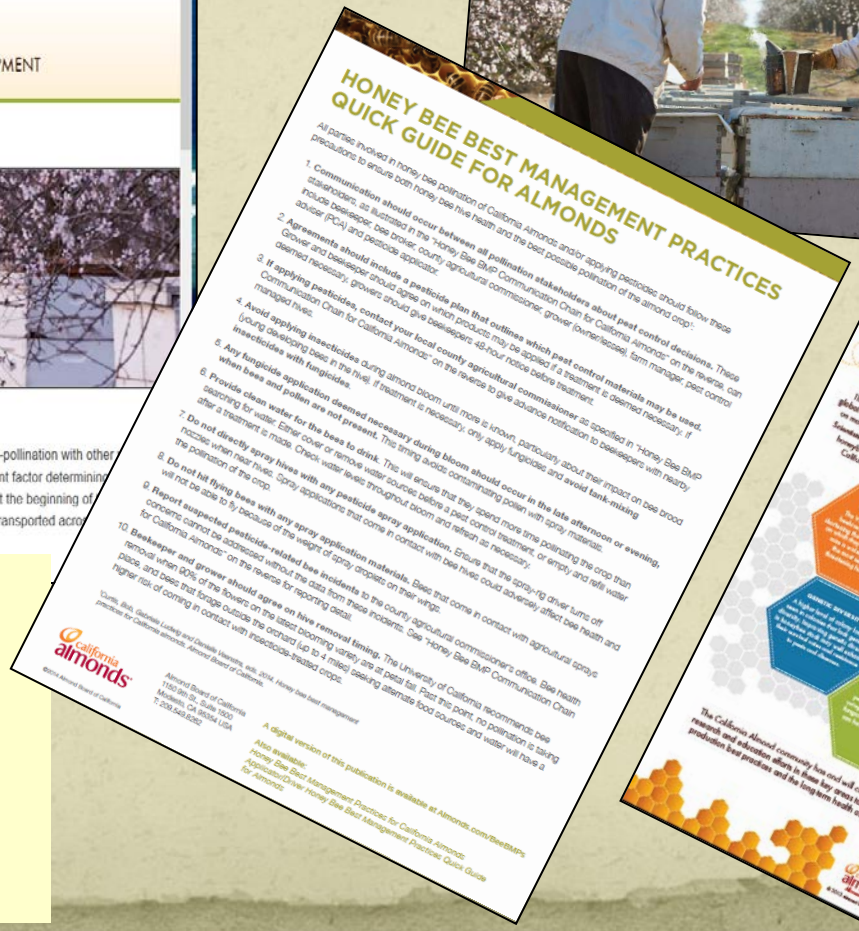
- ALMOND BOARD OF CALIFORNIA -

Honey bees are essential for a successful almond crop!

- About **1.6 million colonies** of honey bees are placed in California almond orchards at the beginning of the bloom period to pollinate the crop. (Where do these bees go after pollination?)

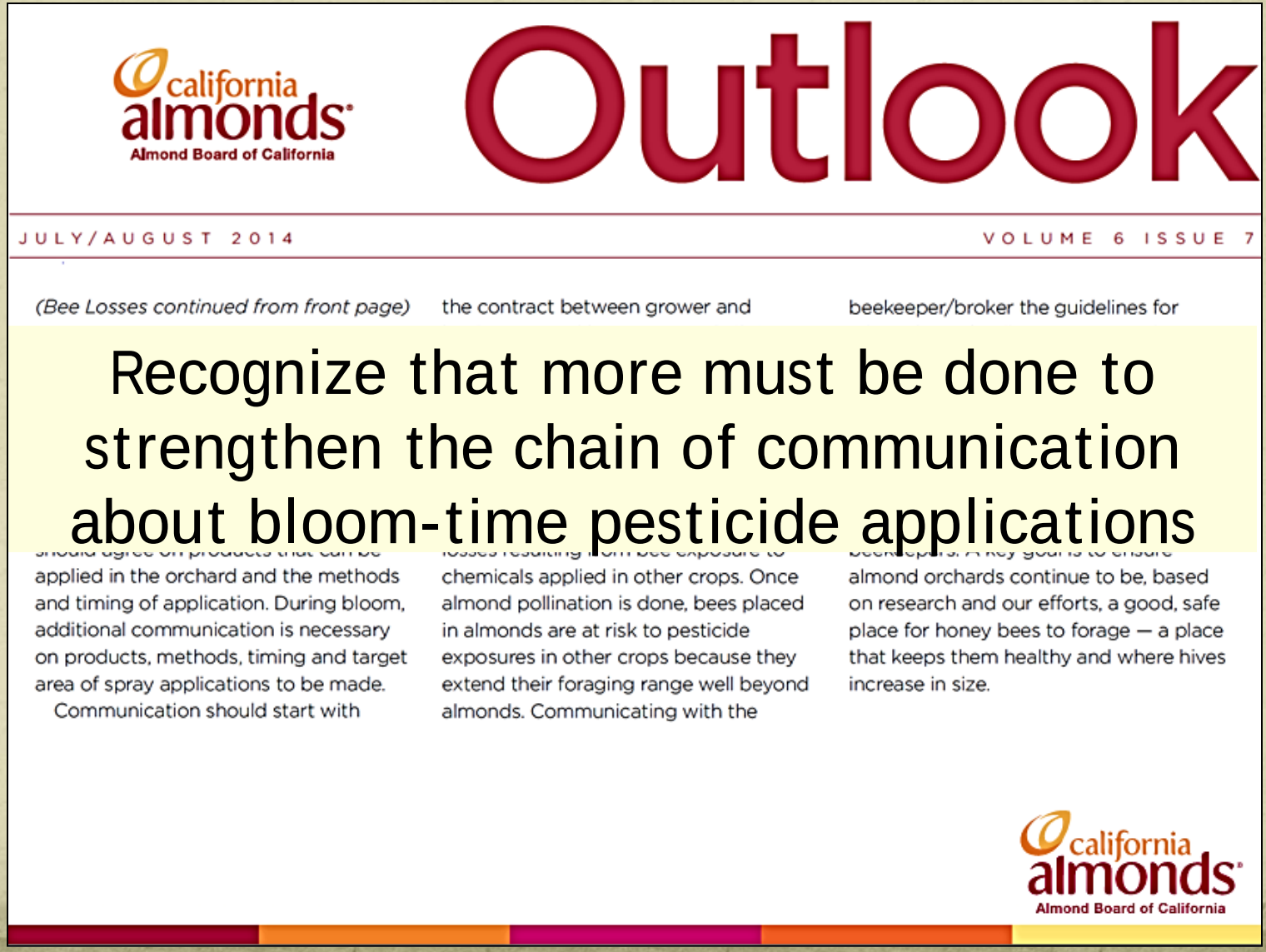
ALMOND BOARD OF CALIFORNIA RESPONSE





Commitment to Honey Bee Health Almond Board of California

ALMOND BOARD OF CALIFORNIA: SPRING BEE LOSSES



california almonds
Almond Board of California

Outlook

JULY/AUGUST 2014 VOLUME 6 ISSUE 7

(Bee Losses continued from front page) the contract between grower and beekeeper/broker the guidelines for

Recognize that more must be done to strengthen the chain of communication about bloom-time pesticide applications

applied in the orchard and the methods and timing of application. During bloom, additional communication is necessary on products, methods, timing and target area of spray applications to be made.

Communication should start with

chemicals applied in other crops. Once almond pollination is done, bees placed in almonds are at risk to pesticide exposures in other crops because they extend their foraging range well beyond almonds. Communicating with the

almond orchards continue to be, based on research and our efforts, a good, safe place for honey bees to forage — a place that keeps them healthy and where hives increase in size.

california almonds
Almond Board of California

Honey Bee Best Management Practices For California Almonds

&

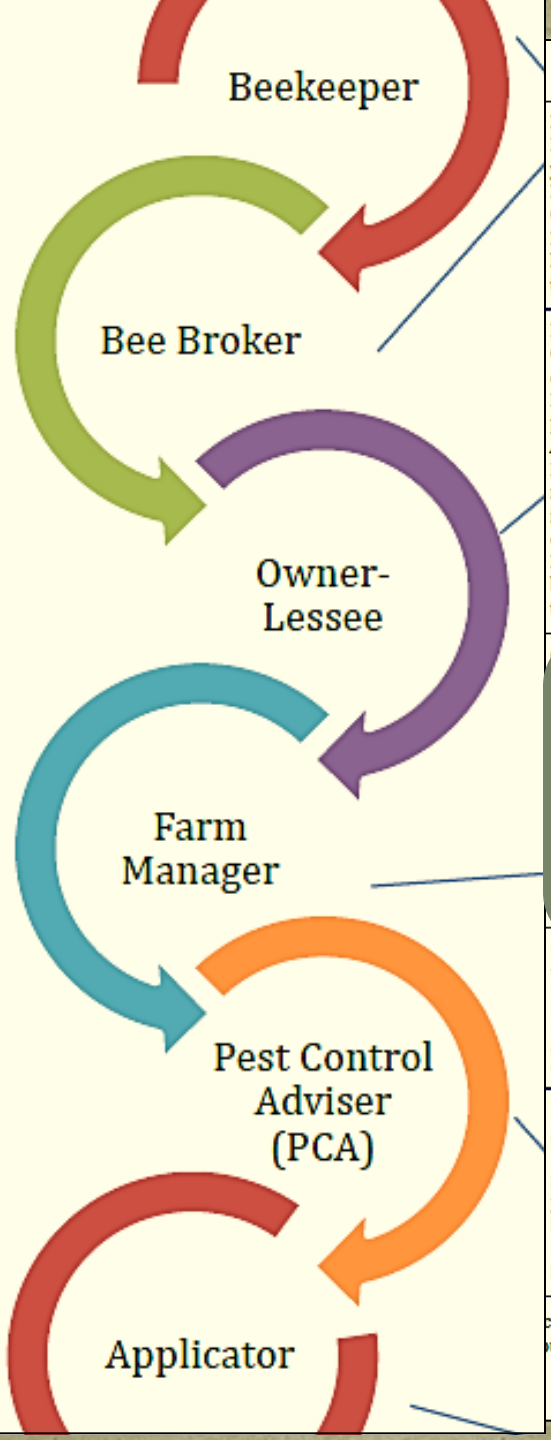
Bee BMP Quick Guide for Almonds

(Extracts)

california almonds®
Almond Board of California

Communication

1. **Communication should occur between all pollination stakeholders about pest control decisions.** This chain can include beekeeper, bee broker, County Agricultural Commissioner, grower (owner/lessee), farm manager, pest control advisor (PCA), and pesticide applicator.



Bee BMP Communication Chain for California Almonds

Engage in agreements with growers
Register hives with County Agricultural Commissioner by January 1 each year or upon arrival in California
Request optional notification (if desired) from County Agricultural Commissioner each year upon registration and with any hive movement
Immediately report any suspected pesticide related bee incidents to owner-lessee/County Agricultural Commissioner at almond bloom and throughout the year

Engage in agreements with beekeepers/bee brokers
Communicate details and specifications of agreements with stakeholders down the chain (farm manager, PCA, applicator)
Follow the *Bee BMP Quick Guide for California Almonds* and if applying pesticides, follow the *Applicator /Driver Bee BMP Quick Guide for California Almonds*
If applying pesticides, contact County Agricultural Commissioner for nearby managed bee locations before making applications any time of the year. This is mandatory for "toxic to bees" label statements* and recommended for other applications, particularly during almond bloom.
Immediately report any suspected pesticide related bee incidents to beekeeper/County Agricultural Commissioner at almond bloom and throughout the year

Communicate details and specifications of pesticide application agreement to applicator
Follow the *Bee BMP Quick Guide for California Almonds*
Immediately report suspected pesticide related bee incidents to grower/beekeeper/County Agricultural Commissioner at almond bloom and throughout the year

Follow the *Applicator /Driver Bee BMP Quick Guide for California Almonds* and relay messages to the spray-rig driver
Before applying pesticides, contact County Agricultural Commissioner for nearby managed bee locations before making applications any time of the year. This is mandatory for "toxic to bees" label statements* and recommended for other applications, particularly during bloom.
Immediately report suspected pesticide related bee incidents to farm manager/owner/beekeeper/County Agricultural Commissioner

County Agricultural Commissioner

- Collect and map locations of managed bees throughout the county based on information provided by registered beekeepers
- Provide pesticide applicators the location of managed bees upon request so applicators can contact beekeepers who have requested notification
- Investigate reported suspected pesticide related bee incidents

The chain of communication

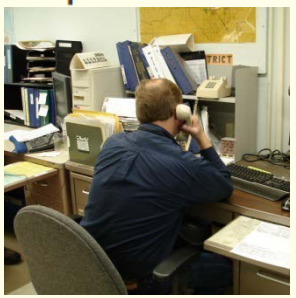
to bees" label statements, beekeepers with hives within 1 mile of the application must be notified (if they have requested urs before the planned application.

Almond Board of California
September 9, 2014

Report Incidents to Co. Ag. Commissioner

9. Report suspected pesticide related bee incidents to the County Agricultural Commissioner's office. We cannot address bee health concerns without the data from these incidents. See "Bee-Almond BMP Communication Chain" for reporting detail.

- Immediately report suspected pesticide related bee incidents to farm manager/owner/beekeeper/County Agricultural Commissioner
- It is in the best interests of beekeepers and growers to immediately report suspected pesticide-related bee incidents to the county agricultural commissioner's office.
- Symptoms detailed in BMP guide
- Guidelines on what to provide to Co. Ag. Commissioner detailed in BMP guide



Investigation

- Suspected honey bee pesticide-related incidents are investigated by the local county agricultural commissioner, aided at times by the California Department of Pesticide Regulation, to determine if there were any problems associated with the use of a pesticide.
- Only if suspected bee incidences are properly reported and investigated can accurate information and real data be obtained. Without an investigation, it becomes a matter of opinion and supposition.

FINAL PRINTED VERSION ON ALMOND BOARD WEBSITE

- www.Almonds.com/BeeBMPs

BEE-A-WARE IN SUMMARY …

- Pollinators and managed bees are important for the production of many agricultural commodities.
- Many organizations are very aware and concerned about the declining health of managed bees
- Pesticide labels are becoming more specific with directions for use to protect bees
- Government and industry strategies to “remedy” the concern until more is known
- PCAs role is critical in fostering communication!

Bee Aware! Symposium

On November 10, 2015 at the San Joaquin CAC's Office, PCA's, Applicators, Growers, Beekeepers, and regulators attended the Bee Aware Bee Symposium

NEW! DPR BEE WEBPAGE

What Beekeepers Can Do to Help Protect Bees!

What Beekeepers Can Do to Help Protect Bees!, PDF (396 kb)

Beekeepers play a vital role in the protection of managed bees placed in agricultural settings for pollination services. Identifying hives, registering apiaries and reporting suspected loss or harm to bees with the local county agricultural commissioner (CAC) along with improving communication and cooperating with growers and pesticide applicators will help protect bees.

What Pesticide Applicators Can Do to Help Protect Bees!

What Pesticide Applicators Can Do to Help Protect Bees!, PDF (476 kb)

Pesticide applicators can help protect bees by improving communication with beekeepers. Communications and collaboration between pesticide applicators, growers, pest control advisers, beekeepers and local county agricultural commissioners (CACs) help keep managed bees, their hives and habitats safe.

What Pest Control Advisers Can Do to Help Protect Bees!

What Pest Control Advisers Can Do to Help Protect Bees!, PDF (368 kb)

Pest control advisers can help protect managed bees by sharing pollinator protection information and drift protection strategies with all stakeholders and reminding them to check with the local county agricultural commissioner (CAC) about apiary locations and notification requests to help protect bees.

BRANDI MARTIN
559-243-8114
559-243-8111
BRANDI.MARTIN@CDPR.CA.GOV

Next Generation Pollinator

THANK YOU FOR YOUR ATTENTION