



Pollinator Stewardship Council

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April 2, 2014

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80,000+ beehives damaged or dead; Beekeepers Meet With EPA

The last two weeks the Pollinator Stewardship Council has received reports of bee kills at the end of the almond bloom. A meeting with EPA was held by Pollinator Stewardship Council, American Honey Producers Association, and the American Beekeeping Federation, Monday, March 24 in Los Banos, California to discuss the pollinator losses during almond pollination. More than seventy beekeepers attended in person and on a conference call.

Bees were released from almond pollination, and beekeepers began to see the effects of a tank mix that caused dead adult bees, and dead, dying, and deformed brood. A poll taken of the seventy-five beekeepers at the meeting showed 80,000 colonies damaged: 75% of them severely damaged. Additional reports place an average loss of 60% of hives in almonds were impacted. Of that 60%, 40% lost adult bees and had dying brood, 20% of the hives were dead completely. These losses were experienced by beekeepers who wintered in California, as well as those who brought their bees into almonds from southern states.

The meeting addressed the bee kills in almonds, and the new label language for foliar applications of clothianidin, dinotefuran, imidacloprid, thiamethoxam, and the two new products tolfenpyrad and cyantraniliprole. The majority of the meeting addressed the damages beekeepers suffered from a tank mix that included an insect growth regulator (IGR) and a fungicide. The tank mix was applied “per the label.” However, the IGR has decimated the ability of beekeepers to make splits for the next crop pollination, to breed queens, or to make

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packages of bees. Many beekeepers expressed grave concern that the tank mix was applied in one area, but honey bees from other orchards, under another grower's pollination contract received damaged due to drift, and foraging range. Some of the bee damage was not evident until truckloads of bees returned to their southern homes. The effects of fungicides and IGRs were delayed just enough beekeepers did not realize the impact until their hives were released from pollinating almonds. Research has shown fungicides are detrimental to pollinators.

(Fungicides can reduce, hinder pollination potential of honey bees

<http://westernfarmpress.com/fungicides-can-reduce-hinder-pollination-potential-honey-bees>)

Research and experience has shown night applications of pesticides in almonds causes less damage to pollinators. Beekeepers at the Los Banos meeting stated they have been experiencing damage to their bees in almonds for six years. The damages decreased when growers applied products at night, or did not apply any products during the bloom; but this year some practices changed, and bees were heavily impacted. The impact was so great a few beekeepers said they would not return to almonds, as they cannot take these losses to their bees and their business.

The bee kills in almonds at the end of this season were due to products used “per the label.” The fungicides, the IGRs were all used per the label. The tank mixing of products were all used per the label. Directions on pesticide labels generally state the herbicide, fungicide, insecticide “*is physically and biologically compatible with many registered pesticides, fertilizers or micronutrients . . . If you have no experience with the combination you are considering, you should conduct a test to determine physical compatibility. To determine physical compatibility, add the recommended proportions of each chemical with the same proportion of water as will be present in the chemical supply tank into a suitable container, mix thoroughly, and allow to stand for five minutes. If the combination remains mixed, or can be readily re-mixed, the mixture is considered physically compatible.*” One beekeeper described tank mixing this way, “The pesticide label basically instructs you to take a quart jar and mix the products you want to use into the jar. If it does not ‘blow-up’ go ahead and mix the full chemicals and apply to the crop.”

(Pesticide Mixtures Have Damaging Effects on Bees

<http://extension.psu.edu/pests/ipm/news/2013/pesticide-mixtures-have-damaging-affects-on-bees>)

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Last week we reported the EPA stated the new pesticide label language will now only be required for foliar applications of clothianidin, dinotefuran, imidacloprid, thiamethoxam, and the two new products tolfenpyrad and cyantraniliprole. At the Los Banos meeting the representatives from EPA stated they had not seen the letter from Mr. Jim Jones to the bee industry, and they were not aware of the issues the bee industry had concerning the new label language. (Jim Jones' letter was posted on our Newslist and is [available here again](#)). EPA listened politely, but made no promise to do anything, stating that changing label wording is a long and drawn out process, and one that cannot be done quickly. Beekeepers on the other hand did make promises: promises to add a pesticide surcharge to pollination contracts next year; promises that if no enforceable change to labels is made before next years' pollination to stay in Georgia or Florida and make honey in a safe environment rather than risk another season of severe hive damage. Beekeepers at the meeting asked EPA for two things: adding a statement on the label instructing applicators when and how to apply pesticides to not damage pollinators; and curtail the use of tank mixing.

Paramount Farms, the largest almond grower in the world, testified at the meeting they use no crop protection products during almond pollination season, and have found their yields improved when they made the decision to better time their pesticide use.

At the Los Banos meeting March 24 the beekeepers did a rough tally of total estimated losses. 1.7M colonies supplied by 1300 commercial beekeepers were needed to pollinate almonds. Even with the drought, all available honey bees were utilized for almond pollination. Of the 1.7M total colonies, it is estimated fifteen to twenty-five percent were damaged (dead, loss of brood, loss of adult foragers in full or in part) which equals 255,000 to 425,000 colonies of honey bees severely impacted in almonds. The conservative value of these losses is \$63,750,000 to \$106,250,000; however beekeepers are still assessing their damages. This figure does not include the loss of viable colonies to satisfy subsequent pollination contracts. This figure does not take into account the losses in selling bulk packages of honey bees, queens, or frames of brood to establish new hives. With severely damaged hives some beekeepers have been forced to cancel orders.

Almonds are the beginning of the crop pollination season. Almonds are the first crop honey bees pollinate. What happens to honey bees in almonds affects the ability of crop

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pollination services to apples, cranberries, canola, tangelos, blueberries, squash, watermelon, kiwi, plums, apricots, cherries, seed crops, and so much of our vegetables and fruit. One beekeeper who pollinates Washington apples after almonds was short 1200 hives due to his losses during almond pollination. What happens to honey bees in almonds does not stay in almonds; it affects how many bees are available to pollinate other crops, the cost of pollinating those crops, and the cost of the food you buy to feed your family.

The Pollinator Stewardship Council works with beekeepers to collect reports of bee kills across the U.S. in rural, suburban, and urban areas. Please contact the Pollinator Stewardship Council to file your bee kill report at 832-727-9492 or info@pollinatorstewardship.org.

Photos of hives at the end of almond pollination affected by the tank mix of a fungicide and IGR



Dead bees under hive



Dead bees near hive entrance



Partially hatched, deformed, or dead baby bees