

BEEKEEPER NEWSLETTER March 21, 201

(revised 3/24/17)

Bees Released All bees have been released. We will be removing our (your) almond locations from county pesticide notifications on March 21. If you want continued notification, let us know or contact the county where your bees are located.

This Season In spite of intermittent rains during February, bees in the San Joaquin Valley, esp. the southern half of the Valley, fared surprisingly well – ample amounts of almond pollen and nectar can be seen in colonies and the almond set looks good, esp. the hard-shells. The Sacramento Valley, which endured significantly more rain and was much colder in February right up through February 20, with temperatures in the 50s, little bee flight, and beekeepers feeding their bees. Weather in the Sacramento Valley turned around dramatically on Feb. 21st. As almond trees approached full bloom, temperatures rose over 20 degrees (to 80 degrees in Chico!) and pent-up honey bees, confined to their houses for days, roared into action bringing in lots of almond pollen and nectar. Sacramento Valley bees now look as good as their counterparts in the San Joaquin Valley and the almond crop there should be a good one. There were ample bee colonies for rent this year, with a number of beekeepers coming to California without a secure almond contract because they heard of the shortage of almond bees in 2016. 20,000+ colonies came in from Florida, further adding to the supply. Some beekeepers were forced to cut prices in order to get their bees placed. Some large almond growers pulled older trees which reduced bee demand. Supply-demand for almond bees should become more even in 2018 as extensive new almond plantings start using bees for the first time. To the dismay of some beekeepers we encourage our almond clients to use no more than 1.5 colonies/acre and most growers follow our advice (exceptions are those intimidated by crop insurance that requires 2 colonies/acre). Our one grower who has consistently used ½ colony/acre on his 600 acres appears to have an excellent crop again this year (his planting is half soft-shells and half later-blooming hard-shells). With the unsettled bloom weather this year, would using more colonies/acre have helped? Probably not, since even at 10 colonies per acre the pollination job won't get done if rain and cold keep the bees inside their houses.

Nectarine Nemesis Things were going well this season – timely bee deliveries of strong colonies due to your efforts, in spite of dicey weather and road conditions – until the last loads of bees went to almond orchards in Fresno County around February 10th. We have a long-time almond client in Kerman (west-Fresno County) where we'd never had problems but hundreds of acres of young nectarines and peaches came into bloom for the first time this year and bees started dying when these nectarines up to 2+ miles away were sprayed for thrips, a tiny insect that scars the outside skin but has no effect on fruit quality or taste (Note to the NRDC and Sierra Club: the

insecticides used to control thrips are far more harmful to bees than neonicotinoids; educate consumers to accept fruit with scarred skins). Bees in 1200 colonies in the almond orchard started dying when the nectarines were sprayed (likely with Carzol). In the Sanger area of eastern Fresno County the damage to bees was much worse with 500+ colonies badly hurt, likely from a daytime spray on Sunday, February 12 (a day that will live in infamy for the affected beekeepers). We are contemplating a \$30/col. surcharge next year for almond orchards within 2 miles of a nectarine orchard but the potential loss of bees from an untimely nectarine spray could exceed \$200/colony. The 2 eastside beekeepers that suffered devastating losses from nectarine sprays probably won't be interested in returning next year for even an extra \$100/colony and it will be difficult to persuade any beekeeper to place bees on almond orchards in areas that are getting a reputation as Death Valley for beekeepers. To their credit, Fresno County ag officials are making a real effort to track down illegal applications of insecticides to nectarines but you almost have to catch such an application in the act.

Fungicides and Bees The record rains during February meant that record amounts of fungicides were applied to almonds. The Almond Board, via Bob Curtis with an assist from Gordon Wardell, has done a great job of laying out fungicide application guidelines when bees are present -- start applications in late afternoon, after bees have stopped flying or apply at night and finish before daylight. Most growers follow these guidelines. Unfortunately, wet ground prevented ground-rig applications of fungicides for many growers this year and there were many aerial applications made during the day. One of our west-side almond growers had his crop duster fly on the fungicides at night, a common practice on many Westside farms where there are few power-lines, but not feasible on the east side. The biggest hazard to bees from fungicides is when bees feed fungicide-laden pollen to larvae, causing the larvae to die. The pollen-shedding period in almond orchards is relatively short - pre-bloom and petal - fall fungicide applications to almonds, when there is no exposed pollen, are much safer for bees. Look for the loss of a brood cycle after you get your bees home indicating that your bees consumed pollen with fungicides. Report to us if this happens.

\$ For Bee Research Each year we collect \$1/colony each from our beekeepers and almond clients and distribute the funds for bee research. We rented 33,590 colonies of bees in 2016 and distributed the funds to two entities: *Project ApisM*: \$57,180; *Randy Oliver*: \$10,000. This year we rented 33,472 colonies and plan on making similar donations. Check out the websites of the 2 parties here: www.projectapism.org and www.scientificbeekeeping.com - you'll find lots of good info there.

Bill Mathewson and Neil Trent Bill and Neil are our field representatives that check your colonies for strength and show your bees to growers. I used to do some of this work, but stopped when a grower complained about a 6-

frame colony after looking at twenty 14-frame colonies and I hurled my hive tool to the ground, with the sharp edge barely missing his foot. After that, I followed Clint Eastwood's dictum, *A man's got to know his limitations*, and now spend the pollination season in the office, fielding phone calls. Both Bill and Neil have great people skills and do a great job with our growers and have established close relationships with many of them. In the 20+ years they have been working with us, no beekeeper has ever argued with their colony evaluations, even on the rare occasion when a beekeeper is docked for sub-par colonies. Our company wouldn't enjoy the reputation that it does with growers without the efforts of Bill and Neil. I am indebted to them for their work, and you should be also.

Christi Heintz You've heard the old saw *It's amazing how much work gets done when no one cares who gets the credit*. Christi Heintz, who recently stepped down as Executive Director of *Project ApisM*, embodies that saying. With little fanfare over 10 years, Christi has been the driving force that has built Pam into the premiere organization that it is today. Christi left quietly recently, after doing the heavy lifting that has shaped Pam. Christi could have rightly felt - "*My job here is done*" - and coasted for a few more years, but chose instead to step away at the top of her game, unlike many athletes who don't know when to leave - Jim Brown being a rare exception. (Yeah, I know, I should probably get out of the pollination game now that my fast ball doesn't get as many people out, but I'm still having fun). Fortunately PAM has a stellar replacement for Christi in **Danielle Downey** who comes in with excellent credentials, insuring that Pam won't miss a beat in the coming years.

Billy Synk, a stellar PAM Board member in charge of pollination and bee forage, is getting almond growers and other growers to plant bee-friendly ground cover in and around their plantings - a tough sell in times of water shortages. And tougher yet to convey to almond growers that a blooming cover crop will help rather than hurt their pollination, because bee colonies will increase their populations via pollen from ground flowers and will readily switch to almond flowers because the pollen in open almond flowers is much easier to collect. It would be nice to take a stop-watch and time how much time it takes for an individual bee to collect a load of pollen from almond blossoms compared to blossoms of other crops - I'd guess 15 minutes for almonds vs. 15 hours for alfalfa. Billy has done a super job of increasing bee forage on California farms, including in and around almond orchards.

Word Matters "After" vs. "During" Randy Oliver is one of my all-time favorite bee people. The vast amount of solid bee information that he puts out month after month in the *American Bee Journal* and in presentations is truly amazing. In the March ABJ, however, Randy made some questionable comments in the caption of his photo on p. 271. The graphic, and somewhat disturbing photo in what can be considered a family publication depicts a drone bee, uh, copulating with a virgin queen. Randy characterized the

“lucky” drone as being “*in ecstasy*” while falling to the ground *after* mating. No, Randy, the drone was NOT in ecstasy, more like *agony* and his luck was short-lived. The brief mating ritual had to be followed by a brief WTF moment as the drone discovers that his endophallus (O.K., “*penis*”) is missing, and then by a longer OMG moment as he lies on the ground trying to figure out what the heck happened. In my chauvinistic opinion it is the receptive (can we say “*horny*”) queen that has a monopoly on ecstasy *during* mating and maybe for months after with each of the thousand+ eggs she lays every day. And it is not difficult to imagine the happy, newly mated, ecstatic queen proudly displaying her trophy -- the pathetic endophallus -- to virgin queens in the area. Enough to send shivers down the spines of any male, drone or human, as many of us consider the male organ to be the most important organ in the body, more important, even than the human brain. I have confirmed the above scenario by observing drones writhing on the ground, a look of betrayal -- not ecstasy -- in their large puppy-dog eyes. Some might call this *Confirmation Bias* - seizing on a questionable observation to prove a questionable, but dearly held hypothesis - see *Trump, Donald*, when our president took the tinfoil wrapper he found on his bedroom floor as evidence that Obama had implanted a microchip in his head and was scrambling his brain cells. Confirmation bias is also present in the Climate Change controversy with both believers and deniers citing the same study to make their case and, in evaluating our current president, with some feeling he will go down in history as one of our great presidents and others feeling he is a doofus, with both parties referring to the same statements to prove their point. We see this in the bee world as well with *Live and Let Die* enthusiasts and *Amitraz Forever* believers using identical data to prove that they hold the keys to the kingdom. It is not a stretch to believe that the barbaric mating ritual of honey bees has discouraged otherwise promising male undergraduate students from pursuing graduate work with honey bees - why get enmeshed in studying a society that puts little value on males, looking at them solely as sex objects. And, it is easier, now, to explain the preponderance of women currently contributing to honey bee research, a trend that started after details of the honey bee mating ritual had spread to the public domain. I can hear a female high-school student after viewing a video of honey bee mating exclaiming, “*Yeah, that’s pretty neat, I can relate to that, let’s learn more!*” Certainly females are the dominant sex in honey bees, and likely in humans - but we knew the latter all along. Getting back to Randy, I’m certainly nit-picking with my comments on his picture captions; there are far more important bee issues to discuss (and Randy has tackled them) but I thought I’d take advantage of an opportunity that may never come again.

Apology This newsletter got longer than originally intended. I’ll use Mark Twain’s classic excuse: *I apologize for writing such a long letter, but I didn’t have time to write a shorter one.*

Thanks!! We are well aware of the extra time and effort that is required to deliver the quality bee colonies you bring to us - sorting out sub-par colonies, and delivering only the best, year in and year out. Believe me, your efforts are greatly appreciated by both us and by our almond clients.

Joe Traynor