



The Buzzzz

The Monthly Newsletter of the Gilroy Beekeepers Association

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Special Thanks to Randy Fox

Getting to Know Each Other!

by Vicki Basham

This month, we're getting to know Macon Sammons, who lives with his wife in Gilroy. Macon is not your average backyard beekeeper. Yes, he has a few hives in his backyard, but he focuses most of his attention on the colonies

standard sized foundation. Until last year, his colonies averaged an 80% survival rate, so he says he's inclined to stick with this method.

Macon did have a bad season last year; his colony count fell from 120 to 30. He says he underestimated the severity of the drought and the extreme cold weather, and didn't feed the bees enough when they may have needed it. "I learned that you can't ignore your bees! I'm



that he leases out for pollination. Beekeeping is in Macon's blood; his grandfather kept bees in Hollister, his father is a beekeeper in Washington state and his uncle in Los Banos keeps bees as well .

Macon is still working full-time as a union sheetmetal /HVAC worker, with beekeeping serving as a secondary source of income. But when he retires, he intends to jump completely into beekeeping, with plans to have from 200 to 300 hives for pollination. "That's about as many as I can handle by myself - any more than that and I would have to hire some help."

Macon is one of the few beekeepers in the area who raises small-cell bees, a method that he learned from his father.** Macon believes that small-cell bees may be able to fight diseases more effectively than bees raised on

looking forward to retiring so that I can give them the management time that they need."

Macon wants to slowly build his apiary back up to its earlier number of 120 colonies. As part of that effort, he'll continue to raise his own queens. He prepares thirty queen cells at a time, as many times as he can during a given year, and usually gets fifteen to twenty laying queens each time. He also seems to have quite a bit of luck with swarms. "A couple years ago, I caught six swarms in my backyard!"

***According to small-cell beekeepers such as Michael Bush and Dee Lusby, beekeepers in the late 1920's through the 1940's intentionally provided bees with foundation containing larger cells than the bees' natural cell size in an attempt to create a bigger, better, more*

productive bee. The larger size foundation cells are now the current standard on purchased foundation. Small-cell beekeepers believe that the troubles with handling mites and diseases began back in the 30's and 40's as a result of increased bee size. Small-cell beekeepers raise their bees either on foundationless frames or on combs with cells that measure 4.9 millimeters across, rather than today's standard 5.4 millimeters. This creates a smaller bee, and one that is closer in size to the original honeybee.

What Is Killing Our Bees?

By Dave Stocks

The debate still rages as to what is killing our bees. From the local bee clubs all the way to the universities, people have their theories. Some are adamant that the mites are the problem. Others are steadfast in their belief that neonicotinoids are the sole problem. Still others maintain that we still don't really know. Well folks, the answer probably lies in a combination of all of the above, and more.

Let me share a very sad story. Many years ago I lost a very good friend after a long battle with cancer. His death certificate listed the cause of death as pneumonia. Nowhere did it mention a two year battle with a terrible disease, invasive surgeries and rounds and rounds of chemotherapy. Now, in his last days he developed pneumonia. Consequently, pneumonia was listed as cause of death on his death certificate. Please do not misunderstand me. I am in no way trying to compare the tragic loss of a young man to the plight of our bees. However, There are similarities.

It seems that we always need to identify "a" problem. Whatever was the final cause, that's the issue, that's what we need to control. Seldom do we look at the whole

issue from start to finish and realize that perhaps there are many factors involved, all having an effect on the other. We still have a lot to learn. Fortunately the universities are looking at all aspects.

The following article was sent to me by GBA member Bob Weseloh. It explores one of the areas contributing to the demise of bees. The article first appeared in "Catch The Buzz" a feature of *Bee Culture* magazine.

CATCH THE BUZZ

Miticides, Ag Chems and Inert Ingredients: A Deadly Mix In A Beehive.

By Alan Harman

Disturbing new research finds four pesticides commonly used to kill mites, insects and fungi – fluvalinate, coumaphos, chlorothalonil and chlorpyrifos – are also killing honey bee larvae within their hives.

A team from Penn State and University of Florida also found that N-methyl-2-pyrrolidone (NMP) – an inert, or inactive, chemical commonly used as a pesticide additive -- is highly toxic to honey bee larvae.

“We found that four of the pesticides most commonly found in beehives kill bee larvae,” says Penn State’s Jim Frazier. “We also found that the negative effects of these pesticides are sometimes greater when the pesticides occur in combinations within the hive.

“Since pesticide safety is judged almost entirely on adult honey bee sensitivity to individual pesticides and also does not consider mixtures of pesticides, the risk assessment process that the Environmental Protection Agency uses should be changed.”

The research was funded by the National Honey Board, the U.S. Department of

Agriculture-National Institute of Food and Agriculture-Agriculture and Food Research Initiative-Coordinated Agricultural Projects and the Foundational Award programs. Frazier says the team's previous research demonstrated that forager bees bring back to the hive an average of six different pesticides on the pollen they collect. Nurse bees use this pollen to make beebread, which they then feed to honey bee larvae.

To examine the effects of four common pesticides – fluvalinate, coumaphos, chlorothalonil and chlorpyrifos – on bee larvae, the researchers reared honey bee larvae in their laboratory. They then applied the pesticides alone and in all combinations to the beebread to determine whether these insecticides and fungicides act alone or in concert to create a toxic environment for honey bee growth and development.

The researchers also investigated the effects of NMP on honey bee larvae by adding seven concentrations of the chemical to a pollen-derived, royal jelly diet. NMP is used to dissolve pesticides into formulations that then allow the active ingredients to spread and penetrate the plant or animal surfaces onto which they are applied.

The team fed their treated diet, containing various types and concentrations of chemicals, to the laboratory-raised bee larvae. “We found that mixtures of pesticides can have greater consequences for larval toxicity than one would expect from individual pesticides,” Frazier says.

Among the four pesticides, honey bee larvae were most sensitive to chlorothalonil. They also were negatively affected by a mixture of chlorothalonil with fluvalinate. In addition, the larvae were sensitive to the combination of chlorothalonil with the miticide coumaphos.

In contrast, the addition of coumaphos significantly reduced the toxicity of the fluvalinate and chlorothalonil mixture.

Penn State professor of entomology Chris Mullin says the pesticides may directly poison honey bee larvae or they may indirectly kill them by disrupting the beneficial fungi that are essential for nurse bees to process pollen into beebread. “Chronic exposure to pesticides during the early life stage of honey bees may contribute to their inadequate nutrition or direct poisoning with a resulting impact on their survival and development,” he says.

The researchers note that fluvalinate and coumaphos are commonly used by beekeepers in their hives to control Varroa mites, and are found to persist within beehives for about five years if not removed by beekeepers.

Chlorothalonil is a broad-spectrum agricultural fungicide that is often applied to crops in bloom when honey bees are present for pollination because it is currently deemed safe to bees. Chlorpyrifos is a widely used organophosphate in crop management.

“Our findings suggest that the common pesticides chlorothalonil, fluvalinate, coumaphos and chlorpyrifos, individually or in mixtures, have statistically significant impacts on honey bee larval survivorship,” Mullin says.

“This is the first study to report serious toxic effects on developing honey bee larvae of dietary pesticides at concentrations that currently occur in hives.”

The team also found that increasing amounts of NMP corresponded to increased larval mortality, even at the lowest concentration tested.

“There is a growing body of research that has reported a wide range of adverse effects of inactive ingredients to human

health, including enhancing pesticide toxicities across the nervous, cardiovascular, respiratory and hormone systems," Mullin says.

"The bulk of synthetic organic chemicals used and released into U.S. environments are formulation ingredients like NMP, which are generally recognized as safe. They have no mandated limits on their use and their residues remain unmonitored.

"Multi-billion pounds of these inactive ingredients overwhelm the total chemical burden from the active pesticide, drug and personal-care ingredients with which they are formulated. Among these co-formulants are surfactants and solvents of known high toxicity to fish, amphibians, honey bees and other non-target organisms. While we have found that NMP contributes to honey bee larvae mortality, the overall role of these inactive ingredients in pollinator decline remains to be determined."

As we begin to identify the possibility of all the issues affecting bee death, we are faced with a potentially greater problem. As individual beekeepers, how are we going to face all of these individual problems? Are we going to continue our current course of action, particularly as it relates to mites. Are we going to continue using miticides and hope for the best? Are we going to go treatment free and hope for the best. Are we going to boycott agricultural pesticides. Are we ourselves going to discontinue pesticide use in our yards? Consider these facts and do your own additional research. The decision is ours to make.

Presidents Message

by Wayne Pitts

The deadline is approaching! The last date to order packages at the regular price is 11March2014. Currently the price is \$80 for members, and \$85 for non-members. After 11March, the price jumps to \$100. Please bring a check to the next meeting made out to the Gilroy Beekeepers Association or mail it to: Wayne Pitts, 110 Bella Vista Lane, Watsonville CA 95076

Continuing our 2014 bee pest theme, this month we'll talk about yellow jackets. March and April is the time to control the yellow jackets that will be robbing your hive next fall. Why is this the time of year for yellow jacket control? Yellow jacket colonies die off each winter, except for the over wintering queen. The queen will emerge from hibernation soon and start foraging to gather enough food to start her colony. If you were to capture the queen at this time of year you will prevent an entire colony from forming this summer. Commercial traps are available from various locations such as Ace Hardware, Orchard Supply, Home Depot, Lowes, and garden supply centers.

It's also simple to make you own trap, just follow this simple recipe

You will need:

A clear 2 liter soft drink bottle with no cap

1 cup of water

1 tea spoon of dish detergent

Now to July 4th -1 ounce of protein:

hamburger meat, tuna fish, or canned cat food

July 4th until the end of the yellow

jacket season,

A banana

¼ cup of apple cider

String

2 paper clips.

Mix the water, dish detergent, and cider together, but don't mix it so well that you

create bubbles. The detergent breaks down the exoskeleton of the wasp so that it can't fly away. The apple cider repels bees, so they are not attracted to the trap. Add this to the bottle. Tie each end of an eight inch length of string to a paper clip.

Bait for now through July 4th

Form the meat into a ball around one of the paper clips that will pass through bottle opening

Bait for July 4th through the end of the season

Place a chunk of a banana on the paper clip that will pass through the opening

Lower the bait through the opening and hang with the remaining paperclip on the lip of the opening. If you so desire, you can place a loop of string around the bottle and hang it from a convenient place or place it on the ground in an area where it can't be knocked over. Either location should be out of direct sunlight for most of the day to slow down the evaporation of the liquid.

This trap will attract yellow jackets because of the odor being emitted. The yellow jackets will not be able to figure out how to get out, eventually tire and fall into the water.

As much as yellow jackets frustrate us by robbing our bee hives they are actually beneficial insects, since they will eat almost anything that gives them protein or carbohydrates. The goal is not to eliminate them but to strike a healthy balance between the number of yellow jackets and the goal of keeping bees healthy.

March in the Beeyard

March has arrived and our winter rest is over!

Chores this month can be divided into two categories. First, now is the time to complete our winter maintenance chores and get our equipment ready for spring. Equipment repairs and painting should be completed as soon as possible. Whether we are buying packages, doing splits or catching swarms, we need to have our equipment ready.

A coat of paint to repaired boxes, as well as new boxes, will greatly extend their life. Frames

should be assembled with new foundation. Nothing is worse than catching a swarm and having no equipment ready.

March is also a very busy time in the bee yard. If hives haven't been checked yet this year, NOW is the time. The bees should be very active on warm, sunny days. If your hives are not already in double brood boxes, they will need to be very soon. Remember, overcrowding leads to swarming. If you find queen cells along the bottoms of the brood frames, swarming is probably imminent. You might be able to delay this, or possibly prevent it, by removing the cells and splitting the hive. Remember that early detection of overcrowding is the only sure means of preventing swarms.

If your hives are already in double brood boxes, you have some options. They begin with closely monitoring the population of the hive. If by the middle of the month, both boxes are nearing capacity, you may either add supers or split the hive. Some feel that splitting is the best option, thinking that a nearly full box will swarm regardless of the added super. If you decide to split, you can either order a new queen or allow the bees to raise their own.

If your hives are lagging, you need to attempt to identify why. Hives with a spotty brood pattern or high concentration of drone comb may indicate a weak or failing queen. If this is the case, re-queen as soon as possible.. The old queen will not get better!

A lagging hive may also indicate a high Varroa mite population. There are several methods to determine mite populations, and treat if the concentrations are high. Choose the ones which best meet your philosophies of beekeeping.

Nosema (both strains) may also be the problem with poorly performing hives. Nosema can be very common in cool, damp conditions (i.e. a normal March) There are treatments. Again, pick the one that best suits your philosophies.

March begins the busiest time of the year in beekeeping. It also begins the most exciting.

Drippings From The Extractor

(Notes from the Editor)

If you're planning on ordering packages this year, time is running out. Many queen suppliers have quit taking orders. As Wayne mentioned in his President's Message, the last date to order through GBA at the current price is March 11th. Another possibility is Paul Riggs in Salinas. Paul was taking orders for five frame nucs, which he is selling for \$85 apiece. His original plan was to sell fifty nucs. According to Vicki Basham, our contact, he has almost reached that number. If you are interested, you might contact Paul at (831)240-8840 and see if he might offer more.

This month we have a new contributor to *The Buzz*. Randy Fox will be writing a monthly article about bee friendly plants. Randy is a Santa Clara Master Gardener and has tremendous insight to offer about bee friendly plants. Thanks Randy.

This month's "Quest Column" wouldn't have happened without the contribution of Bob Weseloh. Bob forwarded the article around which the column is based. Which brings me to a very important point. My goal is to make this a newsletter that hopefully addresses all aspects and philosophies of beekeeping. However, when you are limited to four or five contributors, the input tends to become slanted. Please take the opportunity to submit articles or ideas for articles? All will be considered equally. Send them to dave.stocks@yahoo.com or call me at 94080605-3977.

This might have been more appropriate in "March in the Beeyard" but I'll include it here. March can be a fickle month. Remember the old adage 'in like a lion, out like a lamb'. Weill, we need to keep the weather in mind when working our bees. We need to consider three weather related items when working our bees. Bees aren't fond of cold, bees aren't fond of overcast

and bees don't like wind. Very likely we will see bees flying under these conditions. However, their disposition will not be what we would like it to be while working their hives. Wait to do your hive inspections until conditions are clear, temps are at least in the high 60°s and winds are light.

It wouldn't be a "Drippings" column without talking about the weather. The most recent drought monitor map (February 18) shows the southern Santa Clara Valley has reached extreme drought. Certainly the rain over the last few days has helped. The frequency of the storms will most likely contribute to run-off into our reservoirs. But is it enough? A spokeswoman from the Santa Clara Valley Water District on Thursday night estimated that we would need eight inches of rain to bring our season total to norm. At 9:30 this morning (February 28) my rain gauge at home shows just under three inches of rain. Technically we are still in a drought and need to conserve. However, it sure is nice to see the hills turning green.

As you have undoubtedly noticed, we are a bee club hunting for a home. We're on the move again. This month's meeting will be at the Gilroy Old City Hall, 7400 Monterey, Gilroy. I hope to see you there.

Plant of the Month

by Randy Fox

The planting season is rapidly approaching so as an added service to The Buzz we are adding a new section discussing Bee friendly flower and plants. To get the ball rolling, so to speak, I am going to write this month about one of my favorite plants ... Borage

Borage is one of the easiest and best bee plants that I have found. It has many advantages for both gardeners and beekeepers:

For gardeners

Borage is a herb and the seed packet will tend to tell you that the cucumber leaves taste nice in a salad. This is true but greatly undervalues the plant;

- grows very easily from seed – just push the big seeds into the soil and off they go
- plants grow to about 2ft with masses for beautiful blue 5 petal flowers from May to October – employ the ‘Chelsea chop’ to some plants in June to keep them tidy and flowering well.
- because bees love them they are great for attracting pollinators to your veg or soft fruit patch
- they self seed so, as long as you avoid weeding them out, you will get a good crop free next year in either flowerbed or veg patch

For Beekeepers

Borage provides high levels of both nectar and pollen and flowers for 3 months or more providing:

- food supply from late spring/early summer, through the June gap, into late summer
- depending on how much is available, can produce a very high yield of honey
- the honey is pale, runny, delicate and slow to set – may be able to off-set some of the fast setting effects of rape if both are present in the area
- if planted around the hive as a forage boost, it will out-compete weeds if planted early
- Once an individual flower has given it’s nectar to a bee the plant will replenish that nectar within a few hours.

How is Borage Grown?

Borage is an annual plant with branching stem that usually reaches a height of about 25 inches that is believed to originate from

Syria. Now it is grown literally everywhere, and only in North America it takes an overall area of 20,000 acres.

Centuries ago, the Europeans used to make some tea from the leaves of the plant by soaking them in wine. In 1597 a herbalist named John Gerard pointed out several advantages of the herb and even said that the syrup made from the flowers of borage helps healing depression. Nowadays borage is being sown in order to attract bees, which makes it a valuable honey plant. The plant is usually sown during early spring, and the harvest is carried out right before seeds’ maturation. At the beginning, borage blossoms are pink, and then they become blue. The plant has a long flowering period that is basically during the middle of the year, which makes it one of the bees’ most-loved plants during this period. The stems of borage are covered with dense pappus, and the blossoms are extremely beautiful, painted in violet-blue and gathers in loose clusters. The leaves of the plant are thick and succulent and have a scent of cucumber.

Borage is not demanding when it comes to the soil. It is very well-grown in humus-rich, more loose soils, and also tolerates shading pretty well. The soils that are considered to be the best for growing borage are the ones fertilized with organic fertilizers.

Borage usually gives about 30 kg of honey per acre, and nectar excretion is benefited mostly by warm weather and moist soil. However, the benefits from borage are not only associated with beekeeping. Its blossoms are used for medical purposes, and it is also considered to be great grass for cattle.

Apart from being used as one of the main honey plants in beekeeping, borage is also used in: In the medical world its leaves

and flowers have anti-inflammatory, antispasmodic and tranquilizing effect. It is also used as a diuretic and has a beneficial effect for stomach,
The cosmetics industry uses the plant as an ingredient of many skin rejuvenating lotions and creams.
Finally, in the organic farming world it is mainly used for soil fertilization.

Calendar of Events

Meetings

March 1, 2014

Monterey Bay Beekeepers - 8 am
2450 N. Fremont St.
Monterey, Ca

<http://www.montereybaybeekeepers.org/>

March 3,2014

Santa Clara Valley Beekeepers Guild - 6:15
1292 Minnesota Ave.
San Jose, Ca

<http://beeguild.org/>

Topic:

Package Bees

March 5,2014

Santa Cruz Beekeepers Guild - 6:30 pm
El Rio Mobile Home Park
N. Pacific Ave
Santa Cruz, Ca

<http://santacruzbees.com>

Topics:

Newbie's and New Bees
Package Installation
New Hive Inspection
Finding a Mentor

March 6,2014

Beekeepers Guild of San Mateo County- 7
pm

1106 Alameda de Pulgas
Belmont, Ca

<http://www.sanmateobeeguild.org/>

Topic:

Spring Management

March 11, 2014

Gilroy Beekeepers Association - 7 pm
Gilroy Old City Hall

7400 Monterey

Gilroy, CA

<http://www.uvasgold.com/gba/>

Speaker:

Art Hall

March 11, 2014

Alameda County Beekeepers Association -
7:30

600 Bellevue Ave.

Oakland, Ca

<http://site.alamedabees.org>

Classes

March 1, 2014

Beeginning Beekeeping

San Mateo

Details at

<http://www.sanmateobeeguild.org/>

March 15-16, 2014

Top Bar Beekeeping

Gilroy , Ca

For information contact
dave.stocks@yahoo.com

March 22-23, 2014

Queen Rearing Workshop
Gilroy, CA

For information contact
dave.stocks@yahoo.com

August 2-3, 2014

2nd Annual Treatment Free workshop
Medford, Or

Details at www.blisshoneybees.org

April 12, 2014

Honey Bees and Beekeeping
Saratoga, CA

Details at <http://beeguild.org/>