






Thanks to our supporters:

NRCS Resources to Support Pollinators

Wondering how you can improve your yard to support pollinators? NRCS has published [Hawaii Backyard Conservation: Ideas for every homeowner](#), addressing soils, insects, plants, water and habitat. Other land managers and agriculturalists may also be eligible for reimbursement for installing pollinator habitat, through the Environmental Quality Incentives Program ([EQIP](#)). Contact Kori Hisashima: 933-8359

Beekeepers Needed! Bee Informed Survey in April

Every beekeeper becomes a honey bee spokesperson and educator, like it or not. As the world becomes more aware that bees are not just important for production of honey— but for all foods that bees pollinate— they get curious. When people find out you keep bees, they will ask many questions, about stings, Colony Collapse Disorder and “how are bees doing?”

Although we don't have Colony Collapse Disorder or Winter losses in Hawaii, our beekeepers are learning to manage small hive beetle and varroa mite, two devastating pests. This has been our own perfect storm, with high colony losses and many beekeepers being wiped out.

As the list of pests and parasites grows, its harder and more costly to keep bees alive. There are many pro-

jects and programs (like this very Apiary Program) that have grown out of these hardships to support beekeeping.

One of the most important components to further our understanding of ‘how bees are doing’ is getting an accurate big picture. Not just by rumor or word on the street, but by beekeepers from all locations answering standard survey questions each year.

Hawaii's beekeepers have been participating in this survey for several years. Here is the number of Hawaii beekeepers who participated, and the number of colonies they manage for each annual loss survey:

- 2008-2009: 0
- 2009-2010: 9 (58 col)
- 2010-2011: 42 (5,520 col)
- 2011-2012: 30 (11,719 col)
- 2012-2013: 61 (12,900 col)

A few important points about Hawaii's participation:

1. Hawaii's participation has been growing each year, this is great!
2. Many of the problems on the mainland are different from Hawaii's, so not all the survey questions are relevant, but...
2. There are an estimated 400 beekeepers in Hawaii, maybe more. If each of us participates, we get a more accurate picture of our own situation. In fact, it's the only way we can do this. **We Need Your Help!**

How do I participate?

During the month of April, go to <http://beeinformed.org> and look on the home page for directions to participate in the 2013-2014 National Winter Loss Survey.

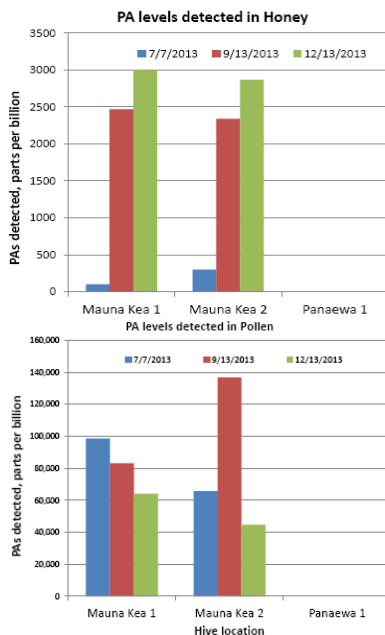


Be Included! Be Involved! Bee Informed! Help Hawaii weigh in by taking the annual survey [here](#).

Hawai`i Apiary Program
Where we're at:
16 E. Lanikaula Street
Hilo, HI 96720
808-352-3010

www.hawaiibee.com
Facebook: HawaiiBee

Research Update: fireweed toxins in pollen & honey



These graphs show PA levels in honey and pollen from two hives in heavy fireweed habitat (Mauna Kea 1 & 2) and a hive not near fireweed (Panaewa) sampled on three dates.

Pyrrolizidine alkaloids (PAs) are toxic to mammals, including livestock and humans. Some are carcinogens, and many produce cirrhosis of the liver. In Hawaii the fireweed plant (*Senecio madagascariensis*), which contains PAs, is of concern because it is widespread and extremely invasive.

Hawaiian honey and pollen was analyzed for PAs. Experimental hives maintained on Mauna Kea near a fireweed stand were compared to hives located in a mac-nut orchard at Panaewa, Hilo, with no fireweed nearby.

Our analysis showed the honey from Panaewa contained no detectable PAs. The hives sampled near fireweed contained 100-3000

parts per billion (ppb) of PAs and the pollen samples had up to 330K ppb. Six commercially available honey and pollen samples were also analyzed, and had levels from 0-90ppb.

There are not regulations in place for PA tolerance in food, but a [report](#) from the UK suggests that more than 0.007 micrograms PA/kilogram body weight/day would be a concern. For 132lb person, this recommendation would be exceeded by consuming less than a gram per day of honey from the fireweed hives.

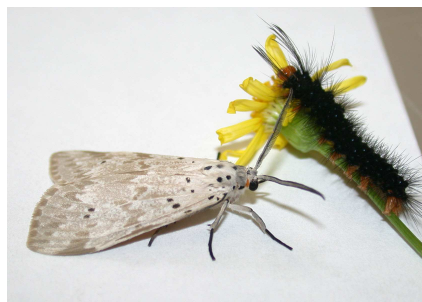
This information will be made available in more detail, but these conclusions can be drawn:

- Bees near fireweed do accumulate PAs in the honey and even more in pollen.
- Contamination does exceed the levels of concern documented (but not yet regulated) in Europe, Australia and New Zealand.

Recommendations:

Site hives in areas where there are no extensive stands of fireweed. If scattered plants are around, make sure that there is a plentiful source of desirable nectar in the immediate area. Do not consume pollen or advocate its use as a dietary supplement if you do not know its exact source.

Thanks to [Russell Molyneux](#) for collaboration on this project.



The Department of Agriculture has a [biocontrol program](#) for fireweed. Partners, including land managers, ranchers and CTAHR, release moths and caterpillars that eat fireweed.



Educational Apiary Project & Classes on Maui

HDOA will be working with the UH CTAHR Extension, and UH Manoa [Honeybee Project](#), led by Dr. Ethel Villalobos, to establish a teaching and demonstration apiary on Maui. The site will

be hosted and apiary maintained by the [Maui Master Gardener](#) program. A series of courses will also be offered through UH Maui Community College on 17 May, and 18-19 July. The series will

start with Bee Biology and management, then progress through Bee Health issues and end with a course in Queen Rearing. Find more information and enroll [here](#).

Finding queen bees near you...

There are several queen producers in Hawaii, if you need queens check them out! Only Big Island and Oahu have Varroa mites, so if your island is Varroa free, don't order queens from those islands!

On Oahu:
Big Island Queens, 530-0298
Hawaiian Queens, 328-2656
Karrus Queens, 895-2563
Hawaii Bee Co, 339-5931

On Kauai:
Aloha Honey Bee, 639-3214
Kula Bee Apiary, 828-1714

On Maui:
Maui Queen Co, 269-7619

On Big Island:
Big Island Queens, 530-0298
Hawaiian Queens, 328-2656
Karrus Queens, 895-2563
Hawaii Bee Co, 339-5931
Kawika Seabag, 987-7821