

# Social media abuzz about how to breed super queen bees

February 8 2013

---



Penn State researchers aim to use communication technologies to spread revolutionary beekeeping techniques. Credit: Cristol Gregory

(Phys.org)—While honey bee populations dwindle across the globe, Penn State researchers aim to use communication technologies to spread revolutionary beekeeping techniques that will help offset the effects of Colony Collapse Disorder (CCD).

CCD is an epidemic that started making headlines in 2006 when beekeepers began reporting unusual losses of 30-90 percent of their hives. Even before this phenomenon gained international attention, the number of domesticated [honey bee colonies](#) in Pennsylvania dropped

from 80,000 to 30,000 in just 20 years. These sizable losses decreased the in-state production of honey by more than 2 million pounds annually – and if the trend continues, it could threaten the stability of \$60 million worth of Pennsylvania's bee-dependent agriculture.

Christina Grozinger, associate professor of entomology at Penn State's College of [Agricultural Sciences](#), is just one of the many local beekeeping experts creating solutions to CCD. Recently, Grozinger and her colleagues shared their methods in the annual Queen Rearing Workshop at the Arthropod Research Facility.

"The goal is to train a network of beekeepers who are capable of rearing their own queens, who also can participate in the stock [evaluation program](#) and the breeding program. Once they become familiar with these techniques then they can start educating the rest of the beekeeping community through various online resources," explained Grozinger. "By utilizing online networking opportunities, there is no limit to how many beekeepers we can connect with."

At the workshop, 12 beekeepers learned how to selectively breed [queen bees](#) that have desirable resistances to pests, parasites and harsh winter conditions. By using these experimental green methods, beekeepers can reduce or eliminate the application of pesticides that are used to combat common parasites. This is ideal not only because the pesticides are toxic to the honey bees, but because many of the parasites have become immune to the pesticides and antibiotics that once kept them at bay.

Grozinger believes that if more beekeepers learn to practice these groundbreaking strategies, then perhaps "this dark age of beekeeping" could finally come to an end. Unfortunately, the hands-on nature of the Queen Bee Rearing Workshops limits the amount of beekeepers who can participate.

These concerns are driving her interest in future applications of podcasts, educational videos and social networking sites like Facebook to create an enlightened network of beekeepers that can continue to spread, expand and provide feedback on these techniques.

Joe Deluca, a Web manager for the Eberly College of Science at Penn State, is one of many amateur beekeepers within the state who is excited about Grozinger's research and its possible social networking applications.

"I could see a lot of people making use of those resources ... we certainly would consume that type of stuff if it was produced," Deluca said.

Deluca is already very much aware of the beekeeping resources that currently exist on the Internet. In his free time, he keeps a blog on his Penn State provided Web space that showcases what he learned at the Queen Rearing Workshop.

There are also online webinars provided by Brushy Mountain Bee Farm, and the Mid-Atlantic Apiculture Research and Extension Consortium in partnership with Penn State.

"They have a video section on their website," Deluca said. "So whenever they have these webinars they record them so we can go back and check them out later. You might not be ready for raising queens yet in your second year, but maybe a year later you'll say 'Hey I'm ready to start raising queens.' You can go back to that library and listen to that webinar again."

Invaluable resources like these are similar to what Grozinger and her colleagues hope to produce, enabling any party with an interest in pollinator-sustainability to contribute to a new wave of beekeeping

revival.

Though the cause of CCD is uncertain, it is clear a variety of factors are likely contributing to the overall problem. Some of these factors are parasites such as the varroa destructor mites, smaller unicellular pathogens like American foulbrood and *Nosema apis*, malnutrition, pesticides and possibly climate change.

Because the list of threats to the domesticated honey bees is constantly evolving, it is only logical that the goal of the Penn State Queen Rearing Workshop is to bring an unnatural acceleration to the natural selection of our pollinating allies. With the power of digital communication, Grozinger will continue to spread her department's techniques.

"It won't be easy, and it will require a large enough group of [beekeepers](#) that are cooperating with each other. It is a really long-term process, but I think that it has a huge potential in rebuilding our bee population," Grozinger said.

Provided by Pennsylvania State University

Citation: Social media abuzz about how to breed super queen bees (2013, February 8) retrieved 16 July 2024 from <https://phys.org/news/2013-02-social-media-abuzz-super-queen.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--