Pollinator Stewardship Council

Pollinator News

May 26, 2017

Mites Down But Bee Losses Remain Unsustainable

The Bee Informed Partnership released its survey of annual honey bee losses for the 2016-2017 winter season this week. (https://beeinformed.org/2017/05/25/2016-2017-loss-results-thank-you-to-all-survey-participants/) Beekeepers voluntarily reported on the health of 13% of the total bee colonies in the U.S. Of the reported hives "beekeepers lost 33.2% of their colonies between April 2016 and March 2017." [1] The acceptable and "sustainable" loss rate of bee colonies is 10-15%. While there was a decrease in losses from the previous year, even Dr. Dennis vanEngelsdorp of the University of Maryland and Project Director for the Bee Informed Partnership (BIP) stated he "would stop short of calling this 'good' news." [2]

Pic from www.desert.com

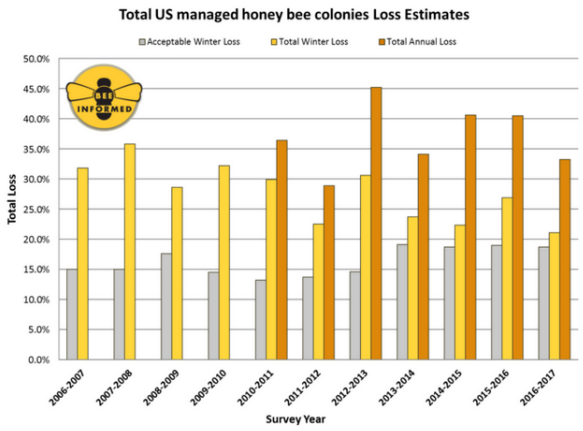
Commercial beekeeper, Jeff Anderson says his colony losses are "changing when they occur." Last year his end of summer losses were 50%, and his over winter losses were only 8%. "I started the year with 3050 colonies, and went into winter with 1240 colonies. At the end of summer I lost 1566 colonies, and I only lost 244 colonies over winter." The impact of pesticides upon honey bees as they pollinate crops, and as they interact in the ecosystem with pesticides on bee forage is changing the dynamic of colony losses. Bret Adee reports he lost less honey bees last year because first, he delayed returning his bees to South Dakota until after the pesticide coated corn seeds were planted. However, he had to invest in supplemental feed to support his bees. Second, Mr. Adee's honey bees experienced *reduced* levels of pesticides sprayed on soybeans as his bees worked that crop helping to increase soybean yields. Lastly, when he moved his bees to California to prepare for almond pollination in December and January his bees benefitted from the diverse blooming floral resources of the California desert. Many wildflowers returned due to wildfires that cleared brush and grasses, and then the rains supported blossoms for the bees. Beekeeper, Bill Rhodes discussed his decrease in annual losses from 2015 (5,140 hives lost) to 2,630 hives lost last year. "But keep in mind the number of hives lost each year is still a huge percentage compared to what it was prior to 2005 when for 30 years my yearly loss of colonies was less than 10% of my inventory."

Honey bees experience four stressors which increase the impact of each other and create the health crisis of honey bees: pesticides, pests, pathogens, and poor forage. Pesticides come in four forms though—1-direct spray of pesticides to bees while they are foraging; 2- pesticides tainting the pollen and

nectar of flowers, 3-pesticides killing the forage of bees (wildflowers / weeds); and 4-pesticides residing in the wax of bee hives which further taints the collected pollen and nectar –the food for bees.

With the introduction of newly registered oxalic acid to help control varroa mites, this main pest to honey bees did decrease last year. Continued education of beekeepers by local and state beekeeping groups, and the educational contribution of the Honey Bee Health Coalition Varroa Guide and instructional videos (http://honeybeehealthcoalition.org/Varroa/) helped beekeepers attack the varroa mites with new and diverse tools: chemical and non-chemical.

The BIP survey needs to be reviewed, as with all survey data, when the full report is released, and examined for the total number of beekeepers who voluntarily completed the report, where most of the reporting beekeepers are located, the number of hives they own, and the additional data the full report will provide. In a conference call May 26, BIP stated 96% of the beekeepers contributing to this survey are backyard beekeepers along the east coast; 2.6% were sideliner beekeepers, and 1.4% were commercial beekeepers. The 1.4% of commercial beekeepers also comprised the majority of the total hives reported. The beekeepers who responded to this survey only represent 13% of the total honey bee colonies in the U.S. Beekeepers from Pennsylvania, Virginia and North Carolina were heavily represented in the BIP survey. The National Agricultural Statistics Service (NASS) will publish its annual survey of honey bees, typically before the next quarter. The NASS survey data and the BIP survey data are best reviewed together for a broader examination of honey bee health in the U.S. Beekeepers are pleased varroa mite levels have decreased per these survey results, but this also points out that this one pest is not the sole issue with honey bee health. The ecosystem which honey bees sample daily includes exposure to pesticides, acutely toxic pesticides as well as sublethal effects of pesticides, pesticides drifting onto pollinator forage and water, and an overall lack of diverse pollinator forage due to weed eradication programs, climate change, development, and land use changes.



The BIP survey and the NASS honey bee health surveys are samples of the bees' environment. Pollinators contribute more than $29B of pollination value to U.S. agricultural production.[3] Honey bees and native pollinators are a very important ecosystem service provided to our environment, and are responsible for pollinating human food crops, food for wildlife, and sustaining native plants. Healthy honey bees, and native pollinators benefit humans; and we are responsible for ensuring a healthy ecosystem for honey bees and the crops and native plants they pollinate.

[1] Honey Bee Colony Losses 2016-2017: Preliminary Results, Bee Informed Partnership May 25, 2017

[2] Nation's Beekeepers Lost 33 percent of Bees in 2016-17, University of Maryland, College of Computer, Mathematical, and Natural Sciences, May 25, 2017

3 Insect pollinators contribute $29 billion to U.S. farm income, Krishna Ramanujan, May 22, 2012, http://news.cornell.edu/stories/2012/05/insect-pollinators-contribute-29b-us-farm-income