



Pollinator Stewardship Council

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Federal Survey of Honey Bee Losses

Another USDA funded honey bee loss survey has been published. Three thousand three hundred beekeeping operations with five or more colonies are surveyed *quarterly*, and 20,000 beekeepers with less than five colonies are surveyed *annually*. Beekeepers are mailed a questionnaire, “those that did not respond by mail or EDR (electronic data reporting) are telephoned or possibly enumerated in person.”

In collecting quarterly data the seasonal fluctuations that are normal (hives building up in the spring), and those that are abnormal (end of summer losses) are evident. This survey, as well though, is relying on anecdotal hive health evaluation. Varroa is a problem pest for beekeepers, in this survey 19.8% experienced hive health stress due to Varroa, however 15.5% and 20.8% of hives experienced hive health stressors from “other” and “unknown” respectively. Those two categories are described as including “weather, starvation, insufficient forage, queen failure, hive damage/destroyed, etc.”

Hive health stressor for pesticides was ranked at 4.9%. This number is low compared to other health factors. But is that 4.9% from a verified lab test proving the bees were harmed by pesticides? Since, lab testing is most often done, and must be paid for, by the beekeeper (\$844 for a pesticide analysis test), it is no wonder the number is low. This number is low due to beekeepers not reporting pesticide related bee kills, and instead absorbing the losses and costs

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since few states actually investigate bee kills, or they have no funding to perform the lab analysis. As these are self-reporting questionnaires, how many of those surveyed, since they did not have lab tests to analyze bee losses, placed pesticide related bee kills into the “other” or “unknown” category? How many of those that stated they lost bees to a pesticide related bee kill, actually reported their bee kill to their state and EPA? Also, if they thought their bees were harmed by pesticides, but chose to assign the loss into the “other” or “unknown” category did they not want to report the pesticide related bee loss? And, why? Did they not have the funds for the lab testing to prove the pesticide related bee loss?

To include queen failure with weather, and damage from fire, tornado, and bears does not provide any insight into the reduced reproductive capability of queen bees. A hive of bees knows if a queen is healthy and well-mated: pheromones are the key to a happy hive. Many beekeepers talk of having to re-queen their hives every 6 months, some within a week of introducing a new queen to a hive. Seeking information about re-queening hives, the frequency, what happened to the queen, what time of the season did you re-queen, etc. would be helpful in learning why the lifespan of queens has been reduced over the past ten years.

“Insufficient forage” is another category that should stand alone with additional information being sought. Why is there a lack of forage? Land-use changes, pesticide exposure creating toxic forage, lack of diverse forage?

A *total* of 36.3% of losses due to “other,” “unknown,” and “etc.” is a high number for a broad category. It would be important to provide greater detail in these categories, very possibly determining a category or two that needs to stand on its own, or needs clarification/verification (lab test analysis) for validation.

Over-all when you examine the numbers of colonies lost at the end of summer (July-September) when they should normally still be maintaining and increasing their population: 88,390 colonies lost for beekeepers with five or more colonies, 6,500 colonies lost for beekeepers with less than five colonies simply exacerbates the winter loss statistics.

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Hives that are weak before they can start to prepare for winter, are hives that do not survive to winter, and certainly not through winter.

The loss of healthy honey bee colonies correlates with reduced honey production and “insufficient forage.” “. . .producers with five or more colonies totaled 157 million pounds, down 12 percent from 2014,” and honey prices were reduced 4% from 2014.

While the Agricultural Research Service is launching a “research project aimed at determining the effects of seasonal pollen on brood rearing on bees’ immune response to pathogen stress,” research is also needed on the pesticides contaminating the pollen. Systemic pesticides that are drawn into the plant and exuded through its pollen and nectar are problematic for honey bees. Fungicides also that are applied to blooming plants are causing health issues for honey bee brood, and therefore the over-all life-cycle of a colony. A pesticide meant to kill a fungus, but is applied to a blooming plant will affect pollinators, and we need more research to examine the effects of fungicides upon honey bees.

The NASS survey reaches out to more beekeepers across the U.S., but greater detail is needed. Categories like “other” and “unknown” need to be examined, and data drawn out to individual categories. Even NASS needs to cease using the moniker of “CCD.” There is no single cause of these symptoms causing hives to fail during a typical season of growth. NASS needs to work to educate as well, that pests, pesticides, pathogens, and poor forage are the cumulative effect causing the unseasonal losses of honey bee colonies.

Honey Bee Colony Loss, NASS, May 12, 2016, <http://www.usda.gov/nass/PUBS/TODAYRPT/hcny0516.pdf>

USDA Releases Results of New Survey on Honey Bee Colony Health, *Survey Developed as Part of National Pollinator Research Action Plan Gives New Insight into Losses of Managed Bee Colonies*, Release No. 0114.16, <http://www.usda.gov/wps/portal/usda/usdahome?contentid=2016/05/0114.xml&contentidonly=true>

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