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NEONICOTINOIDS & HONEY BEES

Issue:
Developments over the last two decades have drawn increased attention to the health of managed honey bees and how this may relate to pesticide use. Some activists have used reported honey bee declines to target pesticides (in particular a class of pesticides called neonicotinoids) as the principal cause of the decline in honey bees. They have called on the U.S. Environmental Protection Agency (EPA) to restrict neonicotinoids or ban them outright. Legislation (H.R. 1284), a bill pending in the U.S. House of Representatives, would require EPA to suspend the registration of certain neonicotinoid pesticides under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

In May, the President's Pollinator Health Task Force, co-chaired by the U.S. Department of Agriculture (USDA) and EPA, issued its final report that contained three principal recommendations:

1. Reduce overwintering losses of managed honey bees to no more than 15 percent in ten years;
2. Increase the population of the Eastern monarch butterfly to 225 million by the year 2020; and
3. Restore or enhance 7 million acres of pollinator habitat over the next five years. The report also included actions EPA may undertake on neonicotinoid pesticides.

Background:
Colony Collapse Disorder (CCD), a phenomenon in which otherwise healthy hives apparently suffer a precipitate and fatal loss of adult bees, leading to the death of the hive, first surfaced approximately a decade ago. While the causes of CCD have not been clearly identified, there are documented instances – some dating to over a century ago – in which honey bees hives have faced sudden, nearly inexplicable losses. For example, according to USDA: "The scientific literature has several mentions of honey bee disappearances – in the 1880s, the 1920s, and the 1960s. While the descriptions sound similar to CCD, there is no way to know for sure if those problems were caused by the same agents as CCD. There have also been unusual colony losses before. In 1903, in the Cache Valley in Utah, 2,000 colonies were lost to an unknown 'disappearing disease' after a 'hard winter and a cold spring.' More recently, in 1995-96, Pennsylvania beekeepers lost 53 percent of their colonies without a specific identifiable cause."

One factor that has been strongly linked to CCD has been the varroa mite (varroa destructor). This parasite, which occurs worldwide and was first discovered in the U.S. in the late 1980s, can devastate bee hives. Not long after varroa came to the U.S., in the 1990s, farmers began to use a class of pesticides called neonicotinoids. Although neonicotinoids have different treatment applications, they are predominantly used as a treatment for seeds and are widely regarded as a vast improvement over previous chemical formulations. Like any insecticide, however, they can be harmful to bees and EPA, as recently as 2013, took additional steps to assure that label directions governing their use take into account the potential impact on bees. Other factors contributing to stresses on honey bees include habitat loss, other pathogens and viruses, and beekeeping practices. For instance, it is estimated that roughly 1.6 million colonies of honey

bees are used each year to pollinate the California almond crop, an amount totaling almost 60 percent of all U.S. beehives. These hives can be trucked to California from as far away as Texas or even great distances, after which they may be used to pollinate other crops in other states. Overwintering losses of bee hives can fluctuate. For instance, the latest data from USDA, issued in May 2014, put wintering losses at about 23.2 percent nationwide for the 2013-2014 winter, compared to a 30.5 percent loss for the previous winter. While this represents an improvement, the eight-year average loss rate is 29.6 – a rate that is not sustainable for commercial beekeepers.

Insect pollination is a vital component of U.S. agriculture, with ninety or more crops dependent on insect pollination. Economically, honey bees contribute more than an estimated $15 billion to the agricultural economy. At the same time, farmers depend on pesticides to help produce their crops efficiently and economically. Treated seeds have helped reduce the use of older, less safe chemical formulations. Additionally, foliar applications of certain neonicotinoids in the state of Florida are indispensable for combating citrus greening, a devastating disease that is an ongoing threat to the citrus industry in that state; without neonicotinoids, it would be nearly impossible for citrus growers in Florida to protect their crops, which do not require pollination from honey bees. For other crops as well, neonicotinoids are important crop protection tools. In Europe, which two years ago imposed an ill-advised ban on neonicotinoids, farmers growing rapeseed (canola) have suffered devastating losses due to the loss of neonicotinoids while they have yet to see any positive impact on honey bees.

The causes of CCD and honey bee decline have not been identified, and it is clear that many factors beyond pesticides are involved. A wide range of stakeholders – beekeepers, federal and state regulators, farmers and ranchers, agricultural producers, academic researchers – are all engaged in the effort to identify the causes of honey bee decline and to find a solution.

AFBF Policy:
AFBF supports the responsible use of pesticides and opposes a ban on neonicotinoids. We support the development of state-based pollinator plans and adherence to EPA pesticide labels in the application of pesticides. Cooperative, constructive efforts among federal and state regulators, beekeepers and other agricultural producers, coupled with ongoing research by USDA, offers the most promising means of finding an answer to this problem.