



Pollinators and Colony Health

Background

Pollinators such as bees and other insects are vital to crop production and general ecosystem health. In recent years there have been concerns about the decline in the overall health of honey bee colonies. Experts agree that bee health is affected by numerous factors including hive management; loss of habitat (food and water sources); environmental exposures (including pesticides); weather conditions (such as drought and harsh winters); hive pests (including *Varroa* mites, which are becoming resistant to available control products); and diseases. These factors represent serious challenges to beekeepers, and all need to be considered in determining what is needed to improve bee health.

Some beekeepers and some research have focused on a relatively recent class of insect control pesticides known as “neonicotinoids,” which were developed to replace earlier insecticide products that have been restricted by the U.S. Environmental Protection Agency (EPA) as a result of the standards set in the 1996 Food Quality Protection Act (FQPA). Neonicotinoids have very low toxicity to humans and other non-target animals. Not all of these products are sprayed directly on the crop; some are used to coat the seeds before they are planted. A small amount of dust from coated seeds may escape during the planting process and could harm bees if they are directly exposed to the insecticide in this way. Through better seed coatings and other methods that help keep dust confined to the planting area, the pesticide industry is working on ways to further reduce such dust exposure when crops are being planted. In fact, new coating technology that is expected to greatly reduce dust is being used on seeds for this planting season.

The Issue

Honey bee colony health is a result of many management, weather and exposure factors. However, to single out pesticides as the main cause of colony health decline is misguided. Some have suggested that product bans or prescriptive label prohibitions should be imposed on all insecticides to prevent any exposure to bees. In many use situations, that is impractical since prescriptive label language might make use of a needed insecticide simply impossible. For example, label language that says a pesticide can only be used at night when bees are not active may conflict with local noise ordinances or simply be too dangerous for the pesticide applicator. Agricultural growing conditions and the need for site-specific and timely pesticide application will vary greatly across the country and depend on the crop and locality. Some crops, such as cotton, continue flowering during most of the growing season, so there is always some possibility of bees being present. Crops may be vulnerable to pest damage at other times when bees may be present. “One size fits all” label requirements are not going to work for all situations.

What is Being Done

Millions of acres of cropland are treated with pesticides, including seed treatments. Growers will continue to need pest control products that may present some risks to pollinators. Nevertheless, crop production and pollinator health can be compatible goals. Pesticide companies and CropLife America (CLA) support a variety of steps to maintain and improve

pollinator health. These include developing appropriate pesticide label instructions; identifying and promoting best management practices (BMP) for crop protection and bee hive management; integrated management of bee diseases and pests (especially the *Varroa* mite); practical and focused research on



pesticides and pollinators; science-based risk-management strategies to reduce impacts on pollinators; stewardship of those strategies; and monitoring and diagnosis of colony health. Pesticide companies also supported agricultural policies to ensure increased pollinator habitat as part of the Farm Bill.

As required by EPA, pesticide companies continue to generate voluminous data on possible ecological effects of their products, including potential impacts on pollinators, and ways to minimize exposure to insecticide products such as improved seed coatings, changes to planter equipment to minimize dust and better seed lubricants. Crop protection companies also agreed with EPA to improve label directions for many insecticides to reduce potential exposure to bees. These labels will be on products used this 2014 growing season.

Pesticide companies and CLA are also active in a variety of collaborative efforts with regulatory bodies, beekeeper organizations and other interested parties to further colony health. These efforts include active participation on the Pollinator Protection Work Group (established in 2011 under EPA's Pesticide Program Dialogue Committee) which works to improve BMPs, pesticide label instructions and education about pesticide application methods to reduce pollinator risk.

The industry is also actively engaged with federal agencies such as the U.S. Department of Agriculture (USDA) and EPA as part of their research and regulatory efforts. EPA convened a Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) Scientific Advisory Panel in September 2012 to improve risk assessment processes for assessing the potential risk to pollinators from pesticides. In October 2012, USDA held a National Stakeholder Conference to garner broad stakeholder input on research activities and actions needed to improve pollinator health.

Crop protection companies were active participants in the Bee Health Summit hosted by EPA on March 5, 2013, which discussed ways to improve seed treatment techniques, reduce the generation of dust that occurs during planting and raise awareness of BMPs to reduce potential exposure to pollinators.

In 2014, EPA and USDA collaborated on a summit to focus on another challenge to bee health: the *Varroa* mite. The Varroa Mite Summit is a continuation of the effort to better understand factors contributing to bee health decline.

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