



## Washington Report

# Honeybees and Agriculture: A Buzzing Controversy?

Approximately one-third of all crops in the United States require insect pollination, and honeybees are an essential part of the pollination process. Almonds alone are entirely dependent on honeybee pollination, and many other specialty crops, like apples and cherries, are highly dependent as well. The United States Department of Agriculture (USDA) estimates pollination is responsible for \$15 billion in added crop value annually. It is no surprise then that the rapid decline of honeybees over the last several years is generating quite the buzz among beekeepers and agriculturalists alike. The controversy involving bees results from trying to explain just why the losses have occurred and how best to ensure the viability of honeybees in the future.

According to the Environmental Protection Agency (EPA), some beekeepers across the country began reporting colony losses as high as 30–90% in 2006. Since the inception of this higher-than-average loss of honeybees, termed colony collapse disorder (CCD), the hunt has been on to determine the cause. While many believe CCD is a new phenomenon, this may not be the case. Jamie Ellis, an assistant professor with the University of Florida, states it may not be a new disorder, but in fact one that has been around for the last 50–60 years and termed such things as spring dwindle disease, autumn collapse and disappearing disease. While there is no concrete evidence these occurrences are all one in the same, they do share common symptoms with today's CCD. In general, collapsed colonies have a loss or absence of adult worker bees with few or no dead bees

Pollinator protection can indeed pose a sticky situation for beekeepers and agriculturalists to navigate, but it is a necessity for the overall health and well-being of agriculture as whole.

in or around the colony, a “capped” brood where only the queen and young remain, and sufficient honey and pollen reserves.

Not surprisingly, many are pointing the finger at pesticides when it comes to assigning blame for CCD. As aerial applicators can attest, pesticides are an easy target and while the facts should always dictate the truth, a few subtle omissions or misrepresentations certainly make for a juicy news story. In May *NBC Nightly News* aired a story on bee deaths linked to pesticides with the basis for its reporting centering on a Purdue University study indicating neonicotinoid insecticides, typically on corn and soybean seeds, as a common factor in CCD. The seeds of many annual crops are coated with neonicotinoid insecticides, known as seed treatments, to reduce potential risks to workers, minimize potential runoff and overall reduce the amount of insecticide applied in the environment. Because the coatings used are sticky, the seeds are mixed with talc to ensure even seed dispersement during planting, and it is the neonicotinoid and talc dust combination released into the environment that is causing the uproar.

While the peer-reviewed Purdue study and EPA alike have concluded pesticides may be one of a number of factors affecting bee health, EPA, unlike *NBC Nightly News*, has yet to determine to what extent pesticides' role exactly is in the phenomenon. Bayer CropScience, the largest manufacturer of neonicotinoids, weighed in on the NBC story and stated the evidence was not sufficient to link neonicotinoids to CCD. Additionally, the EPA has declared that “based on the available research there has been no correlation between pollinator declines in general and the use of any pesticides or class of pesticides.” And as for the appearance of dead bees, the EPA has specifically stated that dead bees do not predicate CCD. Among the many potential factors the Agency attributes CCD to besides pesticides are: the varroa mite (a pest

By Danna Kelemen,  
Manager of Government & Public Relations

of honeybees); new or emerging diseases such as Israeli Acute Paralysis virus and the gut parasite Nosema; bee management stress; foraging habitat modification; inadequate forage/poor nutrition; and potential immune-suppressing stress on bees caused by one or a combination of factors aforementioned.

Early on the USDA took the lead in the effort to determine the causes contributing to CCD and threatening honeybee pollination for crops. In June 2007 a CCD Action Plan was developed by a CCD Steering Committee comprised of federal program leaders and Land Grant University scientists and administrators. As part of this strategy, the Office of Pesticide Programs (OPP) at EPA became involved in 2011 with the formation of a pollinator protection workgroup with the goals of protecting pollinators through improved product label language, training and promotion of best management practices (BMPs). NAAA is fortunate to have Scott Schertz, owner of Schertz Aerial Service Inc. in Hudson, Ill., as a member of this workgroup.

The pollinator protection workgroup reported on its recommendations in May and emphasized the need for simplified and consistent labeling, standardized definitions, the need to communicate success stories to pesticide users, as well as better recordkeeping and improved bee kill incident reporting. Currently, the workgroup suggests the next logical steps to be taken consist of the following: (1) document and disseminate case studies of success stories and associated BMPs; (2) consider how to incorporate a pollinator segment into every current appropriate training course; (3) develop specialized training for inspectors for reported incidents; and (4) draft standardized pollinator protection language and include eventually in the Label Review Manual.

While these suggestions are practical and necessary to ensure honeybee vitality, they necessitate everyone involved in the application of pesticides, from the manufacturer to the farmer to the applicator, to heed caution. For as the PAASS credo so aptly states, "Upon

the performance of each rests the fate of all," and if honeybees are not aptly protected from pesticide applications and there is evidence that aerial applications are a cause label restrictions in the form of large buffers around hives and pollination activity may be a result.

### **Impact on Aerial Application**

So what does all this mean for aerial applicators? The status of honeybee health must be monitored closely in each state as well as nationwide. Beekeepers have reported frustration with the extreme variability in how seriously state lead agencies (SLAs) take beekeeper requests for investigations of possible pesticide-related bee kills, so the aerial application industry certainly does not need to give beekeepers a reason for investigation.

Additionally, ag aviation must continue to highlight its excellent drift reduction technologies and commitment to mitigating drift, especially when it comes to fields surrounding or bordering areas where bees are pollinating.

Another useful tool for applicators to utilize is Driftwatch™ ([www.driftwatch.org](http://www.driftwatch.org)) whereby managers of ecologically sensitive areas and owners of commercial fields and apiaries are able to register so that pesticide applicators can easily locate registered sites before they spray using a Google Maps interface. The Driftwatch program began in Indiana in 2008 and eight states (Colorado, Illinois, Indiana, Michigan, Minnesota, Montana, Nebraska and Wisconsin) are participating for the 2012 crop season.

These available tools and technologies become extremely significant in light of the OPP, in collaboration with Canada's Pest Management Regulatory Agency and the California Department of Pesticide Regulation, scheduled to propose a new process of "quantified risk assessment for honeybees" to EPA's FIFRA Scientific Advisory Panel this fall. Furthermore, on a national level the USDA and EPA are jointly planning a national stakeholder meeting in October to focus on threats to honeybees as well as issues related to pollinator health. The outcome of such

will undoubtedly influence pollinator protection across the board and have repercussions for the future of aerial application that could likely include strict labeling requirements.

Pollinator protection can indeed pose a sticky situation for beekeepers and agriculturalists to navigate, but it is a necessity for the overall health and well-being of agriculture as whole. While the USDA-Agricultural Research Service (ARS) states that indeed CCD has created a serious problem and could threaten the pollination industry if it becomes more widespread, there were no problems with the number of honeybees needed to pollinate crops this past spring.

Aerial applicators must continue to do their part to help protect pollinators and ensure colony collapse disorder and the decline of honeybees do not become a full-blown crisis for agriculture. The ag aviation industry plays an important role in helping our nation's growers feed the world, and we must work to protect beneficial species like honeybees who are a vital contributor to this process. ■



### Communicating Agriculture's Message to EPA

NAAA joined a number of representatives from national agricultural groups to dialogue with top EPA officials about crop protection product issues facing American agriculture. From right to left: Andrew Moore, NAAA; Nathan Bowen, National Association of State Departments of Agriculture; Jim Jones, EPA Acting Assistant Administrator for the Office of Chemical Safety and Pollution Prevention; Stephen Bradbury, EPA Office of Pesticide Programs Director; Beau Greenwood, CropLife America; Rod Snyder, National Corn Growers Association.

## MAXIMUM PERFORMANCE






**FOR MAXIMUM PERFORMANCE OF SPRAY SOLUTION**

IN-PLACE is a deposition aid and drift management agent which increases coverage and adherence on the target area while reducing evaporation and drift of chemicals. For more information, contact your Wilbur-Ellis specialist, or visit [ag.wilburellis.com](http://ag.wilburellis.com).



**WILBUR-ELLIS**



AGRIBUSINESS

Ideas to Grow With

Important: Always read and follow the instructions before using any agricultural product. WILBUR-ELLIS logo, Ideas to Grow With and IN-PLACE are registered trademarks of Wilbur-Ellis Company, K0711509.