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**Subject:** EPA Buzz Kill: Is the Agency Hiding Colony Collapse Disorder Information?

**FOR IMMEDIATE RELEASE**

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**EPA Buzz Kill: Is the Agency Hiding Colony Collapse Disorder Information?**

***NRDC Forced to Sue to Get Public Records on Bee Mystery***

WASHINGTON, DC (August 18, 2008) – The Natural Resources Defense Council filed a lawsuit today to uncover critical information that the US government is withholding about the risks posed by pesticides to honey bees. NRDC legal experts and a leading bee researcher are convinced that the US Environmental Protection Agency (EPA) has evidence of connections between pesticides and the mysterious honey bee die-offs reported across the country. The phenomenon has come to be called “colony collapse disorder,” or CCD, and it is already proving to have disastrous consequences for American agriculture and the \$15 billion worth of crops pollinated by bees every year.

EPA has failed to respond to NRDC’s Freedom of Information Act request for agency records concerning the toxicity of pesticides to bees, forcing the legal action.

“Recently approved pesticides have been implicated in massive bee die-offs and are the focus of increasing scientific scrutiny,” said NRDC Senior Attorney Aaron Colangelo. “EPA should be evaluating the risks to bees before approving new pesticides, but now refuses to tell the public what it knows. Pesticide restrictions might be at the heart of the solution to this growing crisis, so why hide the information they should be using to make those decisions?”

In 2003, EPA granted a registration to a new pesticide manufactured by Bayer CropScience under the condition that Bayer submit studies about its product’s impact on bees. EPA has refused to disclose the results of these studies, or if the studies have even been submitted. The pesticide in question, clothianidin, recently was banned in Germany due to concerns about its impact on bees. A similar insecticide was banned in France for the same reason a couple of years before. In the United States, these chemicals still are in use despite a growing consensus among bee specialists that pesticides, including clothianidin and its chemical cousins, may contribute to CCD.

In the past two years, some American beekeepers have reported unexplained losses of 30-90% of the bees in their hives. According to the U.S. Department of Agriculture (USDA), bees pollinate \$15 billion worth of crops grown in America. USDA also claims that one out of every three mouthfuls of food in the typical American diet has a connection to bee pollination. As the die-offs worsen,

Americans will see their food costs increase.

Despite bees' critical role for farmers, consumers, and the environment, the federal government has been slow to address the die-off since the alarm bells started in 2006. In recent Congressional hearings, USDA was unable to account for the \$20 million that Congress has allocated to the department for fighting CCD in the last two years.

"This is a real mystery right now," said Dr. Gabriela Chavarria, director of NRDC's Science Center. "EPA needs to help shed some light so that researchers can get to work on this problem. This isn't just an issue for farmers---this is an issue that concerns us all. Just try to imagine a pizza without the contribution of bees! No tomatoes. No cheese. No peppers. If you eat apples, cucumbers, broccoli, onions, squash, carrots, avocados, or cherries, you need to be concerned."

Chavarria has spent more than 20 years studying bees, and has published a number of academic papers on the taxonomy, behavior and distribution of native bees.

NRDC filed the lawsuit today in federal court in Washington DC. In documents to be filed next month, NRDC will ask for a court order directing EPA to disclose its information about pesticides and bee toxicity.

More information on CCD can be found at NRDC's [www.BeeSafe.org](http://www.BeeSafe.org)  
<<http://www.beesafe.org/>> web site.

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The Natural Resources Defense Council is a national, nonprofit organization of scientists, lawyers and environmental specialists dedicated to protecting public health and the environment. Founded in 1970, NRDC has 1.2 million members and online activists, served from offices in New York, Washington, Chicago, Los Angeles, San Francisco and Beijing.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

August 21, 2008

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Ms. Frances Beinecke, President  
Natural Resources Defense Council  
40 West 20th Street, #11  
New York, NY 10011

Dear Ms. Beinecke:

I write to express my great disappointment with the words and actions of NRDC regarding EPA's pesticide program and protection of bees. EPA's Office of Pesticide Programs (OPP) recognizes that Colony Collapse Disorder (CCD) and general pollinator decline have become a matter of serious concern. Pesticide use has been suggested as a possible contributor to the problem, along with other potential factors, such as new and re-emerging pathogens, pests, and environmental and nutritional stressors. Given OPP's active involvement in addressing this critical issue, I was very disappointed to read the misleading statements in the press and on the Natural Resources Defense Council (NRDC) website regarding its recently filed complaint against EPA under the Freedom of Information Act (FOIA) relating to information about the pesticide clothianidin. In particular, I take issue with NRDC's assertion, as represented on its website, that EPA "refuses to tell the public what it knows" and that EPA is somehow hiding information regarding CCD.

It is unclear to me what actions or statements on EPA's part could possibly have led NRDC to the conclusion that it was EPA's intention, as your website suggests, to withhold information on this issue from the public. Indeed, EPA's correspondence with NRDC should have led it to the opposite conclusion. EPA sent two responses to this FOIA prior to NRDC's suit. EPA acknowledged receipt of NRDC's request in a letter dated July 22, 2008. In a follow-up letter, on August 14, 2008, we explain that the FOIA request itself was very broad and extensive and would require additional time beyond the 20-day deadline for the Agency to fully respond to all of the material requested. No mention of those letters is made on your website or in your statements to the press.

As for the issue of whether EPA's efforts to protect pollinators from pesticide risk are sufficient, we would have been happy to discuss this issue with NRDC. After reading recent misleading press articles about our actions, we checked to determine if anyone from NRDC had tried to contact anyone within the pesticide program, as was claimed. To the best of our knowledge, there is no record of any calls that were not responded to by any of the program's senior managers who are well known to NRDC staff and readily available to discuss

issues and concerns. Moreover, NRDC sits on OPP's public advisory group – the Pesticide Program Dialogue Committee (PPDC) – which meets two to three times a year. OPP also has regular meetings with the environment/public interest community, and the agenda is set by them. At no time has there been a request by NRDC for a meeting to discuss clothianidin. We continue to be willing to discuss this issue with NRDC.

We also would like to set the record straight about what the Agency is doing to protect pollinators. Even before the phenomenon of Colony Collapse Disorder (CCD) was discovered, the Agency was actively working on several fronts to address the protection of pollinators through regulatory and voluntary programs as well as through research programs.

**Regulatory Programs:** If non-target insects such as honey bees are likely to be exposed to a pesticide, EPA requires the manufacturer of a pesticide to conduct bee toxicity tests before the pesticide can be registered and sold on the market. Depending on the outcome of these toxicity tests, EPA classifies the pesticide as non-toxic, toxic, very toxic, or highly toxic to bees. If the pesticide has a toxicity level that is less than an LD<sub>50</sub> (lethal dose that kills 50% of the exposed organisms) of 11 micrograms/bee, EPA requires additional data in the form of a foliar residue study to determine the length of time over which field-weathered foliar residues remain toxic to honey bees. The data from these studies may lead to requirements for one of several versions of precautionary labeling statements that prohibit application of the product under conditions that may kill bees. On a case-by-case basis, the Agency may also require other studies such as field pollinator studies if data from toxicity studies indicate potential chronic effects or adverse effects on colonies. Several field pollinator studies have been conducted in the U.S. and in other countries for pesticides that have a potential to affect bees, and EPA has been working with researchers and regulators to ensure that these studies are being conducted according to the highest scientific standards.

Due to concerns about unusual honey bee losses in this country, we are now examining more advanced methodologies for assessing behavioral effects, such as mobility, navigation/orientation, feeding patterns, learning performance, and community ecology. In order to appropriately evaluate these types of sub-lethal effects, however, standardized methods and protocols need to be developed for assessing these types of behavioral effects in beneficial insects. To this end, we are actively working with academia and with the USDA to develop methodologies for characterizing sub-lethal effects to beneficial insects. Once these tests are developed, EPA will be able to use the information from these tests to link the toxicity of a particular pesticide with effects associated with exposure in the field. These advanced methodologies should improve our understanding of what impacts, if any, the legal use of registered pesticides is having on bees.

**Research Programs:** Another way that EPA is addressing CCD is by actively participating in the Colony Collapse Disorder Steering Committee and Working Group, which is led by the U.S. Department of Agriculture and includes representatives from academia, the bee industry, and grower stakeholders. This group has developed an Action Plan or strategy for addressing CCD and for determining the extent of CCD in the U.S. and current status of honey bee colony production and health ([http://www.ars.usda.gov/is/ccd/ccd\\_action\\_plan.pdf](http://www.ars.usda.gov/is/ccd/ccd_action_plan.pdf)). The largest component of the Plan is research concerning the impacts of new or re-emerging

pathogens, bee pests, environmental and nutritional stresses, and pesticides. As an active member of the CCD Steering Committee and Working Group, EPA has reviewed several research proposals and protocols for determining the potential role of pesticides in CCD. EPA is also providing input to state agencies such as the California Department of Pesticide Regulation and to academic institutions such as Penn State, which is conducting several research projects associated with CCD.

**Voluntary Programs:** A third way in which EPA is protecting pollinators is through a voluntary program called the Pesticide Environmental Stewardship Program (PESP). Through this program, EPA is working with the North American Pollinator Protection Campaign (NAPPC), a supporter of PESP since August 2003, to promote NAPPC goals of promoting healthy pollinator populations through reducing pesticide risks. A PESP-related NAPPC product is the “Reducing Risks to Pollinators from Pesticides” Web resource, which includes information about integrated pest management and how pesticide misuse may affect pollinators (<http://www.napcc.org/PesticidesMain.html>). PESP also supports NAPPC educational activities, including conferences, lectures, and exhibitions to increase awareness of the effects that pesticides may pose to pollinators.

Our website and docket also provide an extensive amount of information about the topics raised in the FOIA on clothianidin. We continue to update these sites:

Clothianidin risk assessments in 2006 & 2007 Registration Division dockets:

<http://www.regulations.gov/fdmspublic/component/main?main=DocketDetail&d=EPA-HQ-OPP-2007-0280>

<http://www.regulations.gov/fdmspublic/component/main?main=DocketDetail&d=EPA-HQ-OPP-2006-0902>

In our OPP Electronic Reading Room, also available to the public, we posted 38 clothianidin Data Evaluation Reports at: <http://www.epa.gov/pesticides/foia/reviews/044309/index.htm>.

EPA’s Office of Pesticide Programs “sets the bar” for its exceptional public participation processes and transparency throughout the programs it administers. Thus, we are especially concerned about the misleading press assertion that EPA is trying to conceal information about pesticides’ effects on bees. NRDC’s request was for all records related to all of our “FIFRA section 3 registrations and FIFRA section 18 emergency exemptions” for clothianidin. Given the extensive amount of data and information that EPA evaluates in making these kinds of decisions, your request is for a very large number of documents. Not providing these documents in 20 days hardly constitutes a cover-up. We operate in the public eye and strive to ensure that our actions are protective of public health and the environment. We highly respect and value stakeholder participation, including NRDC’s and all environmental/public interest groups. They have an important role to play and their input is critical to our mission. Neither OPP’s record of public transparency nor the facts of this case warrant the kinds of overheated rhetoric used by NRDC to describe our program.

In closing, we hope in the future that you will not hesitate to contact me directly when you have concerns about what we are doing so that we can work together to promote the protection of pollinators and our environment.

Sincerely yours,

A handwritten signature in black ink that reads "Debra Edwards". The signature is written in a cursive style with a large, prominent "D" and "E".

Debra F. Edwards, Ph.D., Director  
Office of Pesticide Programs

cc: Aaron Colangelo, NRDC  
Jennifer Sass, NRDC  
Michael Fry, ABC  
Jack Peterson, Chair of SFIREG

**Public release date: 18-Aug-2008**

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## **Pesticide build-up could lead to poor honey bee health**

Honey bees industriously bring pollen and nectar to the hive, but along with the bounty comes a wide variety of pesticides, according to Penn State researchers. Add the outside assault to the pesticides already in the waxy structure of the hive, and bee researchers see a problem difficult to evaluate and correct. However, an innovative approach may mitigate at least some beeswax contamination.

The researchers present their analysis of pollen, brood, adult bees and wax samples today (Aug 18) at the 236th national American Chemical Society meeting in Philadelphia. Those results show unprecedented levels of fluvalinate and coumaphos -- pesticides used in the hives to combat varroa mites -- in all comb and foundation wax samples. They also found lower levels of 70 other pesticides and metabolites of those pesticides in pollen and bees.

"Everyone figured that the acaricides (anti-varroa mite chemicals) would be present in the wax because the wax is reprocessed to form the structure of the hives," says Maryann Frazier, senior extension associate. "It was a bit of a shock to see the levels and the widespread presence of these pesticides."

While the researchers expected the presence of the chemicals available to treat varroa mites in the hives, the other pesticides' levels were also surprising. All of the bees tested showed at least one pesticide and pollen averaged six pesticides with as many as 31 in a sample.

"We already had in place ways to test for viruses, bacteria and fungi, but it was difficult to find an analytical laboratory that could analyze for unknown pesticides," says Christopher A. Mullin, professor of entomology. "We needed them to take a comprehensive look at all pesticides, not just those associated with beekeeping."

They eventually turned to the National Science Laboratory of the U.S. Department of Agricultural Marketing Service that already tests commodities such as milk and fruits and vegetables to allow them to meet national and international standards.

"When we began doing this work, honey was not regularly analyzed, and bee pollen was not a commodity and so was not analyzed," says Mullin. "We decided to go with the types of screening the lab does for milk and apples which look at over 170 pesticides. Now, honey is included in the commodities to be analyzed."

The researchers, including Roger Simonds, a chemist at the National Science Laboratory decided on a modified QuEChERS (Quick, Easy, Cheap, Effective, Rugged, and Safe) method because it uses smaller samples. They coupled this with gas and liquid chromatography to develop methods of analyzing pollen, bees and wax.

"Simplicity was important because there were many people across the country sampling for us," says Maryann Frazier. "Now rather than having them collect 15 grams of pollen they need only collect 3 grams."

The researchers note that this method also uses less solvent and generates data in the parts per billion range.

While beekeepers will have a difficult time controlling pesticide exposure outside the hive, the researchers tested a method for reducing the acaricide load in beeswax. Using gamma radiation from a cobalt 60 source housed at Penn State's Breazeale Reactor, they irradiated the sheets of beeswax that beekeepers use as the structural foundation for the bees to build

their combs. They used radiation levels at the high end of that used to irradiate foods. Irradiation broke down about 50 percent of the acaricides in the wax.

"Gamma radiation is often used to kill viruses and other disease causing agents," says James L. Frazier, professor of entomology, Penn State. "Commercial irradiation firms usually decontaminate medical instruments or foods."

The researchers tried irradiation at a commercial plant and though some modifications were necessary to irradiate the wax sheets, it is possible. Some beekeepers already irradiate their equipment to get rid of any disease causing agents. However, it might be more efficient if the wax sheet supplier irradiated their product before sale to the beekeepers.

Beekeepers cannot manage the environmental pesticide contamination as easily as the wax contamination. The U. S. Environmental Protection Agency does regulate and monitor pesticides, but they do not have the ability to monitor the interaction of these chemicals. With the large number of pesticides found in bees and pollen, interactions are likely.

"We are finding fungicides that function by inhibiting the steroid metabolism in the fungal diseases they target, but these chemicals also affect similar enzymes in other organisms," says James Frazier. "These fungicides, in combination with pyrethroids and/or neonicotinoids can sometimes have a synergistic effect 100s of times more toxic than any of the pesticides individually."

For CCD, bees are not dying in their hives, but are not returning to their hives. James Frazier notes it is difficult to observe bees outside the hive. The U.S. EPA only looks at acute exposure to individual pesticides, but chronic exposure may cause behavioral changes that are unmonitored.

"We do not know that these chemicals have anything to do with Colony Collapse Disorder, but they are definitely stressors in the home and in the food sources," says Dr. Frazier. "Pesticides alone have not shown they are the cause of CCD. We believe that it is a combination of a variety of factors, possibly including mites, viruses and pesticides."

The researchers, who also include Sara Ashcraft, research assistant, have a team uniquely suited to looking at the honey bee pesticide problem because they combine a toxicologist in Mullin, a physiologist in James Frazier and someone with connections to beekeepers across the country in Maryann Frazier.

"We now want to look at small versus large operations and organic versus nonorganic operations to see if there are differences," says Maryann Frazier.

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The U.S. Department of Agriculture, the National Honey Board, beekeeper organizations and concerned individuals supported this work.

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