



## PESTICIDES POISONING OUR BEES

Wednesday 9 September 2009

Environmental organisations are calling for a UK neonicotinoid pesticide suspension. A comprehensive report released today by Buglife - The Invertebrate Conservation Trust reveals that the neonicotinoid pesticide imidacloprid damages the health and life cycle of bees. While this is unlikely to explain Colony Collapse Disorder in the Honey bee, it could be a key contributory factor and may well be part of the cause for widespread declines in wild bee populations. The report also exposes that the current process for approving crop pesticides is inadequate for assessing risks to bees and other wildlife.

The report will be presented to Michael Jacobs the Prime Minister's Special Advisor on Environmental Issues at a bee summit at Number 10 Downing Street today.

The ongoing disappearance of wild bees and Honey bees is disastrous, eroding to pollination services worth £12.4 Billion in the EU and risking increased crop failures, but the causes of these declines are still a mystery. Pesticides, disease and starvation are on the suspect list, and recent work has indicated that Colony Collapse Disorder in Honey bees may be caused by an interaction between pathogens and stress factors.

Neonicotinoid pesticides are a comparatively new group of synthetic chemicals related to Nicotine that are highly toxic to insects. They are used as a coating for agricultural seeds and in pot plants. The chemicals spread throughout the plant and into the nectar and pollen that bees then eat. Scientific evidence presented in the new report shows that bees eating nectar and pollen contaminated with imidacloprid (the commonest neonicotinoid) then forage less and produce fewer offspring. **Other research has shown that imidacloprid levels in rivers can cause deformities in growing mayflies.**

The current approvals process for pesticides assess risks to non-target species and either attempts to reduce risk or prevents use of high risk chemicals. However, it is clear from this review that the process is inadequate regarding risks to bees as it fails to properly test for a range of sub-lethal affects and potential poisoning routes that are likely to affect bee populations in the UK countryside.

Buglife, the Soil Association, Pesticides Action Network and Bumblebee Conservation Trust are therefore calling for the suspension of all UK approvals for products containing neonicotinoids that are used outdoors and a review of all neonicotinoid approvals. In addition they are demanding that more comprehensive methodologies for assessing the effects pesticides on non-target invertebrates are incorporated into approval procedures.

“Other countries have already introduced bans to prevent neonicotinoids from harming bees.” Said Matt Shardlow CEO of Buglife. “This is the most comprehensive review of the scientific evidence yet and it has revealed the disturbing amount damage these poisons can cause to bees - it is now time for Hilary Benn to act”.

“The UK is notorious for taking the most relaxed approach to pesticide safety in the EU; Buglife's report shows that this puts at risk pollination services vital for UK agriculture”. Said Peter Melchett, Soil Association Policy Director.

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## Notes

Buglife -The Invertebrate Conservation Trust is the first organisation in Europe devoted to the conservation of all invertebrates, and is actively working to save Britain's rarest bugs, bees, butterflies, ants, spiders, beetles and many more fascinating invertebrates. Launched in April 2004, Buglife currently has eleven members of staff working on diverse projects including the conservation of urban wildlife sites, the protection of rare beetles, and the development of a national ladybird survey. For more information on invertebrates - and what you can do to help these amazing animals - visit [www.buglife.org.uk](http://www.buglife.org.uk)

The Soil Association is the UK's leading environmental charity campaigning for sustainable, organic farming and championing human health. For more information on our work to help ban neonicotinoids visit [www.soilassociation.org/bees.aspx](http://www.soilassociation.org/bees.aspx).

### Full title of report

Kindemba. V. 2009 The impact of neonicotinoid insecticides on bumblebees, Honey bees and other non-target invertebrates. Buglife - The Invertebrate Conservation Trust, Peterborough. ISBN 978-1-904878-95-7

### Background

Neonicotinoids are a set of nicotine-based insecticides that include the chemicals imidacloprid, clothianidin, fipronil, acetamiprid, thiacloprid, thiamethoxam, dinotefuran and nitenpyram. Neonicotinoids are a type of insecticide, differing from conventional spray products in that they can be used as either seed dressings or as soil treatments and as a result they are dispersed into plant tissues resulting in a slower (chronic) exposure to non-target organisms. Neonicotinoids are one of the most widely used groups of insecticides globally, they are neurotoxins that act on invertebrates' information processing by affecting a specific neural pathway that is more common in invertebrates than other animal groups, making them popular insecticides.

This set of insecticides has become an increasing concern to beekeepers and bee researchers, with many suspecting that neonicotinoids may be connected to current bee declines<sup>10</sup>, and this has led to either full or partial ban of some of these chemicals in a number of European countries, including France, Germany, Italy and Slovenia; and a large body of research investigating the issue.

In the UK six neonicotinoids are registered for use, these are: imidacloprid, clothianidin, fipronil, acetamiprid, thiacloprid and thiamethoxam. These chemicals are mainly used in plant protection products, and are applied to a variety of crops in both commercial and non-commercial use. The volume of commercial neonicotinoids used in Great Britain has increased over the last six years; see Tables 1 and 2 for the total area of land treated.

Recent research showing that disease and stress levels are associated with Colony Collapse Disorder - vanEngelsdorp D, Evans JD, Saegerman C, Mullin C, Haubruge E, et al. (2009) Colony Collapse Disorder: A Descriptive Study. PLoS ONE 4(8):

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0006481>