

EFSA identifies risks to bees from neonicotinoids

Press Release
16 January 2013

EFSA scientists have identified a number of risks posed to bees by three neonicotinoid insecticides[1]. The Authority was asked by the European Commission to assess the risks associated with the use of clothianidin, imidacloprid and thiamethoxam as seed treatment or as granules, with particular regard to: their acute and chronic effects on bee colony survival and development; their effects on bee larvae and bee behaviour; and the risks posed by sub-lethal doses[2] of the three substances. In some cases EFSA was unable to finalise the assessments due to shortcomings in the available data.

The risk assessments focused on three main routes of exposure: exposure from residues in nectar and pollen in the flowers of treated plants; exposure from dust produced during the sowing of treated seeds or application of granules; and exposure from residues in guttation fluid[3] produced by treated plants.

Where the risk assessments could be completed, EFSA, in cooperation with scientific experts from EU Member States, concluded the following for all three substances:

- **Exposure from pollen and nectar.** Only uses on crops not attractive to honey bees were considered acceptable.
- **Exposure from dust.** A risk to honey bees was indicated or could not be excluded, with some exceptions, such as use on sugar beet and crops planted in glasshouses, and for the use of some granules.
- **Exposure from guttation.** The only risk assessment that could be completed was for maize treated with thiamethoxam. In this case, field studies show an acute effect on honey bees exposed to the substance through guttation fluid.

EFSA's conclusions contain tables listing all authorised uses for seed treatment and as granules of the three substances in the EU and indicating for each route of exposure: where a risk has been identified; where a low risk has been identified; or where an assessment could not be finalised because of a lack of data.

In reaching their conclusions, EFSA's scientists evaluated data previously submitted for the approval of the active substances at EU level and in support of product authorisations at Member State level, as well as relevant literature and monitoring data. They also considered new developments in the assessment of risks to pollinators from plant protection products, in particular recommendations contained in the EFSA Scientific Opinion on the science behind the development of a guidance document on the risk assessment of plant protection products on bees, which was published in May 2012.

This opinion, published by EFSA's Panel on Plant Protection Products and their Residues (PPR Panel), proposed a much more comprehensive risk assessment for bees and also introduced a higher level of scrutiny for interpretation of field studies. The proposed changes are aimed at improving the level of protection afforded to bees when assessing risks from pesticides.

Furthermore, as much of the data were generated before publication of the opinion, a number of shortcomings were identified. And, because the final guidance document for the risk assessment of plant protection products and bees[4] is still under development, there is a high level of uncertainty in the latest evaluations.

All of these factors mean that EFSA's scientists were unable to finalise risk assessments for some of the uses authorised in the EU, and identified a number of data gaps that would have to be filled to allow further evaluation of the potential risks to bees from clothianidin, imidacloprid and thiamethoxam. Finally, it is highlighted that limited information was available for pollinators other than honey bees; therefore the risk to these other pollinators should be further considered.

- [Conclusion on the peer review of the pesticide risk assessment for bees for the active substance clothianidin](#)
- [Conclusion on the peer review of the pesticide risk assessment for bees for the active substance imidacloprid](#)
- [Conclusion on the peer review of the pesticide risk assessment for bees for the active substance thiamethoxam](#)

Notes to editors:

EFSA was not involved in the evaluations that preceded the approval of clothianidin and thiamethoxam; the peer review of these active substances was organised by the European Commission before EFSA was involved in the process. In 2012 EFSA published a specific conclusion on thiamethoxam which considered data on bee exposure submitted by the applicant after approval had been granted. EFSA was involved in the peer review of imidacloprid prior to the substance being approved. In its conclusion (2008) EFSA identified a number of critical areas of concern – a high risk to bees, birds, mammals, aquatic organisms and soil-dwelling organisms was identified or could not be excluded on the basis of the available data.

Given the importance of bees in the ecosystem and the food chain and given the multiple services they provide to humans, their protection is essential. With its mandate to improve EU food safety and to ensure a high level of consumer protection, EFSA has an important role to play in ensuring their survival. The Authority's review of neonicotinoids is one element in a range of activities it is undertaking on bee health. EFSA has recently completed a review of all its activities related to bees and is now identifying data and research gaps. Other specific outputs include the PPR Panel's Guidance on the Risk Assessment of Plant Protection Products on Bees, which will be published in the spring of 2013; and a Scientific Opinion on the risk of introduction and spread in the EU of two bee parasites – the small hive beetle (*Aethina tumida*) and Asian bee mite (*Tropilaelaps*) – which is currently being finalised by the Panel on Animal Health and Welfare.

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[1] Neonicotinoids are a class of insecticides with a common mode of action that affects the central nervous system of insects, causing paralysis and death. A number of recent studies have suggested that exposure to neonicotinoids at sub-lethal doses can have significant negative effects on bee health and bee colonies.

[2] Doses that are not fatal but which may have damaging effects.

[3] Guttation is the process by which some plants exude sap in droplets that resemble dew.

[4] EFSA Guidance Document on the Risk Assessment of Plant Protection Products on Bees (draft version published for public consultation on 20 September 2012).



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REPORT

A Common Pesticide Decreases Foraging Success and Survival in Honey Bees

Mickaël Henry^{1, 2, *}, Maxime Béguin^{2, 3}, Fabrice Requier^{4, 5}, Oriane Rollin^{2, 6}, Jean-François Odoux⁵, Pierrick Aupinel⁵, Jean Aptel^{1, 2}, Sylvie Tchamitchian^{1, 2}, Axel Decourtye^{2, 6}

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ABSTRACT

Nonlethal exposure of honey bees to thiamethoxam (neonicotinoid systemic pesticide) causes high mortality due to homing failure at levels that could put a colony at risk of collapse. Simulated exposure events on free-ranging foragers labeled with a radio-frequency identification tag suggest that homing is impaired by thiamethoxam intoxication. These experiments offer new insights into the consequences of common neonicotinoid pesticides used

worldwide.

Received for publication 10 October 2011.

Accepted for publication 5 March 2012.

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Pesticides

Regulation (EC) No 1107/2009 on Plant Protection Products

Already in Directive 91/414/EEC, it was laid down that active substances contained in plant protection products could only be approved if they could be used safely regarding human health (operators, bystanders, consumers) and the environment (in particular groundwater and non target organisms, such as bees).

[Regulation \(EC\) No 1107/2009](#) concerning the placing of plant protection products on the market is applicable from 14 June 2011. This Regulation repealed Directive 91/414/EEC, and provides for clear criteria for the approval of active substances including criteria in relation to honey bees in Annex II point 3.8.3: "An active substance, safener or synergist shall be approved only if it is established following an appropriate risk assessment on the basis of Community or internationally agreed test guidelines, that the use under the proposed conditions of use of plant protection products containing this active substance, safener or synergist:

- will result in a negligible exposure of honeybees, or
- has no unacceptable acute or chronic effects on colony survival and development, taking into account effects on honeybee larvae and honeybee behaviour.

The dossiers for active substances and plant protection products referred to in Article 8(1) of Regulation (EC) 1107/2009 have to comply with the minimum data requirements set under [Commission Regulation \(EU\) 544/2011](#) and [Commission Regulation \(EU\) 545/2011](#). Those requirements also include extensive testing on ecotoxicology, including bees.

New data requirements which are at the moment in the final stage of adoption will be applicable as from January 2014 and should be applied to all new dossiers and renewals of old ones to be submitted as from 2014 onwards.

Directive 21/2010/EU

Insecticides are, by their nature, toxic to bees. However, their use should still be possible if exposure does not occur or is minimised to levels which do not generate harmful effects. Nevertheless, in 2008 and 2009 several Member States reported accidental releases of clothianidin, thiamethoxam, fipronil and imidacloprid, resulting in substantial losses of honey bee colonies. The Commission therefore took measures by reinforcing in [Commission Directive 2010/21/EU](#) the conditions for the placing on the market and use of those active substances. Furthermore, this Directive requires Member States to initiate specific monitoring programmes to verify the real exposure of honeybees to those active substances.

Risk Assessment of Plant Protection Products on bees

In March 2011, [the Commission asked European Food Safety Authority \(EFSA\)](#) to revise the Risk Assessment scheme of Plant Protection Products on bees. The Commission asked EFSA to follow a two steps approach:

1. to deliver an opinion on the science behind the development of a risk assessment of Plant Protection Products on bees (*Apis mellifera*, *Bombus* spp and solitary bees). [The EFSA opinion was published on 18 April 2012](#);
2. to develop a guidance document on the risk assessment of plant protection products on bees (expected by December 2012).

Ongoing review of active substances

Neonicotinoids

In March 2012, following new scientific findings in the open literature as regards the sublethal effects of some insecticides belonging the chemical class of neonicotinoids, the [Commission asked EFSA](#) to assess the new studies. EFSA published a [statement on 30 May 2012](#).

In April 2012, according the provisions laid down in Article 21 of Regulation 1107/2009, the [Commission requested EFSA](#) to review the risk assessment of neonicotinoids as regards their impact on bee health. [Efsa conclusions on imidacloprid, clothianidin and thiametoxam have been published on 16 January 2013](#).

Fipronil

In August 2012, following the [EFSA](#) statement on the assessment of the scientific information from the Italian project "[APENET](#)", [the Commission](#), according the provisions laid down in Article 21 of Regulation 1107/2009, requested EFSA to review the risk assessment of fipronil as regards its impact on bee health. The EFSA conclusions are expected by March 2013.

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Combined pesticide exposure severely affects individual- and colony-level traits in bees

[Richard J. Gill](#), [Oscar Ramos-Rodriguez](#) & [Nigel E. Raine](#)

[Affiliations](#) [Contributions](#) [Corresponding authors](#)

Nature **491**, 105–108 (01 November 2012) doi:10.1038/nature11585

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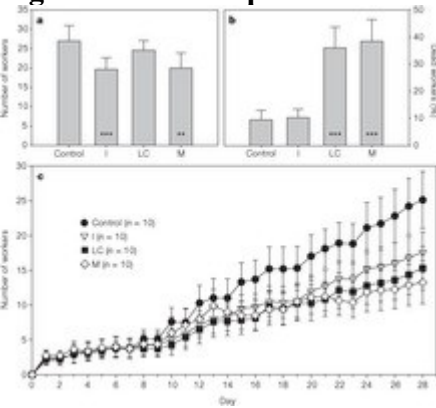
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Reported widespread declines of wild and managed insect pollinators have serious consequences for global ecosystem services and agricultural production^{1, 2, 3}. Bees contribute approximately 80% of insect pollination, so it is important to understand and mitigate the causes of current declines in bee populations^{4, 5, 6}. Recent studies have implicated the role of pesticides in these declines, as exposure to these chemicals has been associated with changes in bee behaviour^{7, 8, 9, 10, 11} and reductions in colony queen production¹². However, the key link between changes in individual behaviour and the consequent impact at the colony level has not been shown. Social bee colonies depend on the collective performance of many individual workers. Thus, although field-level pesticide concentrations can have subtle or sublethal effects at the individual level⁸, it is not known whether bee societies can buffer such effects or whether it results in a severe cumulative effect at the colony level. Furthermore, widespread agricultural intensification means that bees are exposed to numerous pesticides when foraging^{13, 14, 15}, yet the possible combinatorial effects of pesticide exposure have rarely been investigated^{16, 17}. Here we show that chronic exposure of bumblebees to two pesticides (neonicotinoid and pyrethroid) at concentrations that could approximate field-level exposure impairs natural foraging behaviour and increases worker mortality leading to significant reductions in brood development and colony success. We found that worker foraging performance, particularly pollen collecting efficiency, was significantly reduced with observed knock-on effects for forager recruitment, worker losses and overall worker productivity. Moreover, we provide evidence that combinatorial exposure to pesticides increases the propensity of colonies to fail.

Subject terms: [Ecology](#) [Environmental science](#) [Animal behaviour](#) [Zoology](#)

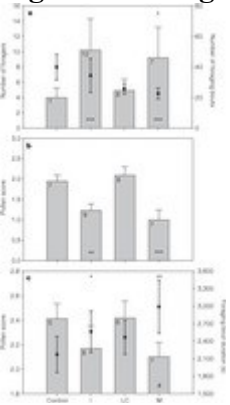
At a glance

Figure 1: Worker production and mortality.



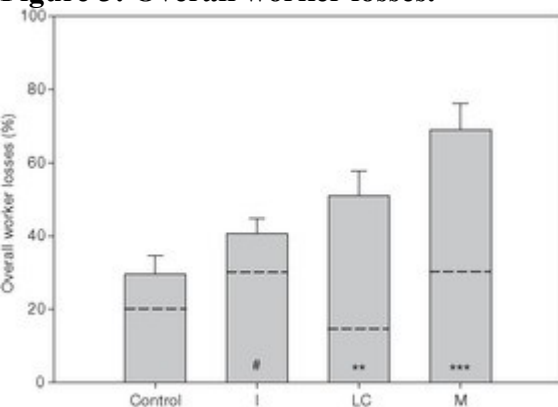
a, Mean (\pm s.e.m.) number of workers per colony that eclosed by the end of the experiment. **b**, Mean percentage of workers per colony found dead inside the nest box by the end of the experiment. **c**, Colony growth shown by daily counts of the...

Figure 2: Foraging performance.



a, Mean (\pm s.e.m.) number of foragers per colony (column), and foraging bouts per worker per colony (filled circles: $n = 259$ foragers). **b**, Mean pollen score per worker per colony for all observed foraging bouts ($n = 228$ foragers). **c**, Mean...

Figure 3: Overall worker losses.



Mean (\pm s.e.m.) overall percentage of workers lost per colony, including workers lost outside (below the dashed line) and worker mortality (dead workers found in nest box; above the dashed line), during the 4-week experiment. $n = 40$ coloni...

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Contributions

R.J.G., O.R.-R. and N.E.R. carried out the experiment; R.J.G. and N.E.R. designed the experiment and wrote the paper; N.E.R. conceived the project.

Competing financial interests

The authors declare no competing financial interests.

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Supplementary information

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24-05-2012 | COAG reclama al Ministerio de Agricultura controles específicos para comprobar la exposición real de las abejas melíferas a los insecticidas neurotóxicos, fabricados por multinacionales como Bayer



Nuevos estudios científicos en Francia e Inglaterra avalan la relación entre el "despoblamiento de las colmenas" y la toxicidad de los "neonicotinoides" sobre los insectos polinizadores

Abejas muertas en colmenar cerca de Xátiva (Valencia)

- *Estos insecticidas dejan residuos en el néctar y en el polen de las flores de las semillas, provocando que las abejas pierdan el sentido de la orientación y no puedan regresar al colmenar.*

- *El conocido como "síndrome de despoblamiento de las colmenas" causa una media anual de bajas del 25/30% frente a una media del 5/10% de mortandad natural.*

- *Esta organización ha solicitado una reunión a la Defensora de Pueblo para aportar documentación sobre la alta toxicidad que las colonias de abejas sufren en España por el uso y falta de control de los insecticidas neurotóxicos.*

Madrid, 24 de mayo de 2012. La Coordinadora de Organizaciones de Agricultores y Ganaderos (COAG) ha pedido por carta una reunión a María Luisa Cava de Llano, Defensora del Pueblo, para aportar documentación sobre la alta toxicidad que sufren en España las colonias de abejas melíferas por el uso y la falta de control de los insecticidas neurotóxicos, los denominados "neonicotinoides" (clotianidina, tiametoxam, fipronil y imidacloprid), moléculas autorizadas por la UE que se utilizan en el tratamiento de semillas y en numerosos cultivos para combatir plagas de forma puntual. Estos insecticidas dejan residuos en el néctar y en el polen de las flores de las semillas provocando efectos adversos en el sistema nervioso de las abejas, que pierden el sentido de la orientación y no pueden regresar al colmenar.

Recientes estudios científicos publicados por la revista Science, realizados en Francia e Inglaterra¹, (que se suman a los resultados de otros anteriores), avalan que la exposición de las abejas melíferas y de los insectos polinizadores a dosis no letales de insecticidas neonicotinoides causan una "mortandad tan elevada que podrían poner a la colonia en riesgo de colapsarse por no retornar las abejas pecoreas a la colmena", así como que en el caso de colonias de abejorros (*Bombus terrestris*) tuvieron un "crecimiento muy reducido de sus individuos y en la producción de nuevas reinas".

COAG ha exigido de forma reiterada al Ministerio de Agricultura la urgente aplicación de la Directiva 2010/UE, de 12 de marzo de 2010, que modifica el anexo I de la Directiva 91/414/CEE sobre disposiciones específicas relativas a la clotianidina, el tiametoxam, el fipronil y el imidacloprid, que obliga a los Estados miembros a "poner en marcha programas

específicos de control para comprobar la exposición real de las abejas productoras de miel a estas sustancias activas en zonas comúnmente utilizadas por las abejas para libar o por apicultores”. Su aplicación es fundamental en nuestro país al ser de obligado cumplimiento para las Comunidades Autónomas que tienen competencias en esta materia.

En los últimos tres años, la Defensoría del Pueblo ha alertado al Congreso de los Diputados en su Informe Anual sobre los problemas causados a la apicultura por los insecticidas sistémicos. Las sugerencias enviadas al Ministerio de Agricultura, por el momento sin resolver, piden la revisión de las autorizaciones comerciales de estos insecticidas así como su prohibición para proteger a las abejas melíferas y los insectos polinizadores. “El Gobierno está obligado a tomar cartas en este asunto para una efectiva protección y conservación de los espacios naturales, flora y fauna. Sólo en la producción agraria, la polinización que garantizan las abejas melíferas superan los 3.000 millones de euros anuales. Además, realizan un servicio medioambiental y un bien público que no se puede poner en peligro por intereses privados o empresariales de multinacionales como Bayer, principal productora de estos insecticidas altamente tóxicos para los insectos polinizadores”, ha apuntado Jose Luís González, responsable del sector apícola de COAG.

Notas:

Henry, M.; Beguin, M.; Requier, F.; Rollin, O.; Odoux, J.F.; Aupinel, P.; Tchamitchian, S.; Decourtye, A. “A common pesticide decreases foraging success and survival in honey bees”. Science: 1-4, 29 de marzo de 2012. DOI: 10.1126/science.1215039

Whitehorn, P.R.; O’Connor, S.; Wackers, F.L.; Goulson, D. “Neonicotinoid pesticide reduces bumble bee colony growth and queen reproduction”. Science: 1-3, 29 de marzo de 2012. DOI: 10.1126/science.1215025

Más información:

Jose Luís González, responsable del sector apícola de COAG: 618.75.85.41

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La avispa asiática colonizará toda la península en 10 años

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La avispa asiática (*vespa velutina nigritorax*), una especie invasora procedente de Francia que se alimenta de abejas y diezma las colmenas, habrá colonizado toda la península Ibérica dentro de una decena de años, según los mapas de distribución elaborados por los expertos.

La "progresión exponencial" con la que se ha expandido desde que a finales de 2010 apicultores locales detectaran los primeros ejemplares en la zona fronteriza del Bidasoa, **podría llevar en unos pocos años a este "superdepredador" a convertirse en una plaga en toda España**, tras haber hecho ya casi inviable la explotación comercial de las abejas en algunos puntos de Gipuzkoa.

En declaraciones a EFE, Arturo Goldarazena, entomólogo del Instituto Vasco de Investigación y Desarrollo Agrario, Neiker-Tecnalia, tiene claro que **la única solución posible al problema pasa por potenciar una investigación científica dirigida a descubrir una "potente feromona sintética"** que, de forma "efectiva", permita atraer y capturar "masivamente" ejemplares de "vespa velutina" con el fin de reducir drásticamente sus poblaciones.

Los especialistas descartan ya la posibilidad de erradicar completamente la especie de nuestro país -donde ya está presente en amplias zonas de Euskadi y Navarra y amenaza a las comunidades vecinas-, pero creen que aún es factible mantenerla "controlada" si las distintas administraciones asumen la "gravedad" del problema.

Para ello, junto a la investigación, Goldarazena defiende la importancia de "favorecer" las inspecciones y las cuarentenas en los puertos sobre los cargamentos de materias y productos agrícolas, entre los que se pueden ocultar especies invasoras como esta.

Precisamente, se cree que la entrada en Europa de la avispa asiática, **cuyo hábitat natural se sitúa en China, el norte de la India e Indonesia**, se produjo a través de un cargamento de madera que fue desembarcado en 2004 en el puerto galo de Burdeos.

La "vespa velutina" es un insecto de color oscuro, tiene el tórax y el abdomen prácticamente negro, excepto el cuarto segmento que es amarillo. Las patas son de color marrón con esquinas amarillas. Las reinas llegan a medir 40 milímetros, aunque el resto de ejemplares son más pequeños y sólo alcanzan los 30 milímetros, una envergadura sensiblemente superior a la de sus presas.

Las abejas europeas se encuentran indefensas ante este depredador que, según aclara el técnico de la Diputación de Gipuzkoa Juan Luis Korkostegi, llega a atemorizar con su sola presencia a toda una colmena hasta el punto de que las obreras no se atreven a salir y, al faltarles el alimento, enferman y mueren de debilidad.

La técnica de caza de los ejemplares invasores, que pueden constituir colonias de hasta 1.500 individuos, consiste en esperar ante las colmenas el regreso de las abejas cargadas de polen, para capturarlas, cortarles la cabeza, las patas y el aguijón, y trasladarlas a sus propios nidos, unas grandes estructuras de celulosa con forma de balón, que hacen en las copas de los árboles.

Su ciclo vital comienza en primavera, cuando las reinas salen de los escondrijos en los que hibernan para construir una pequeña estructura en la que ponen cinco huevos de los que nace un grupo de obreras que le ayudará a construir un gran nido, de un metro de diámetro, en el que se desarrollará el resto de la colonia.

Algunos huevos darán lugar a zánganos que fecundarán a las nuevas reinas, quienes abandonarán el nido para pasar el invierno resguardadas y crear nuevas colonias la primavera siguiente.

Arturo Goldarazena considera que la expansión de este insecto supone un problema "serio" para el medio ambiente porque diezma a las abejas y a otros animales como los abejorros, aunque el experto de Neiker aboga por no caer en el "alarmismo", dado que no se va a acabar la polinización y además la "vespa velutina" no es peligrosa para el ser humano, salvo para los alérgicos a su veneno.

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El 75% de las colmenas españolas están enfermas

El último estudio del estado de las abejas muestra que el porcentaje de panales infectados por el parásito 'Nosema' se ha disparado. Cada año muere un 30% de ejemplares

JAVIER SALAS Madrid 02/04/2011 08:00 Actualizado: 06/05/2011 14:18

La **desaparición de las abejas es ya un problema global**, como ha reconocido Naciones Unidas en un informe reciente, y en España, lejos de resolverse, está desbocado. La mortalidad dentro de las colmenas españolas es un mal estructural que afecta cada año al 25% o 30% de las abejas, que sucumben ante numerosas amenazas que las ponen contra las cuerdas, como enfermedades, pesticidas o problemas medioambientales. En este contexto, uno de sus mayores enemigos, el parásito *Nosema*, se ha hecho fuerte en los panales españoles y empieza a consumirlos. En la actualidad, el 75% de las colmenas españolas están enfermas por la acción de este microorganismo parásito, según el último estudio de vigilancia epidemiológica del Centro Apícola de Marchamalo (Guadalajara), referencia mundial en el estudio de esta enfermedad.

El dato abrumba todavía más si se lo compara con el registrado durante el estudio previo, realizado entre 2006 y 2007, que mostró que el 45% de las colmenas españolas estaban contaminadas. **La enfermedad se extiende tan rápidamente por una razón: no hay armas para combatirla.**

El único medicamento que combate al hongo está prohibido

"El estudio muestra la prevalencia esperada para otros patógenos tradicionales, como el ácaro *Varroa*. Pero en el caso de *Nosema* casi se ha duplicado desde 2007, lo que muestra la gravedad de la situación: todavía es un problema emergente", afirma el investigador Mariano Higes, del Centro Apícola de Marchamalo. Higes, responsable del estudio, fue el descubridor de este parásito, relacionado ya en todo el mundo con el imparable despoblamiento de las colmenas.

Este hongo afecta al aparato digestivo de todas las abejas, desde la reina a los zánganos, provocando su rápido deterioro. Sobre todo cuando actúa la especie más dañina, llamada *Nosema ceranae*. Débiles y temblorosas, las abejas no son capaces de cumplir con sus funciones dentro de la colmena, por lo que generan un gran estrés a la comunidad. **"Las abejas se ven obligadas a trabajar más para compensar las pérdidas y evitar que el equilibrio de la colmena se rompa. Aun así, un panal infectado puede llegar a reducir un 50% la producción de miel"**, asegura Higes.

Muchas veces, el trabajo intensivo de las demás abejas provoca que ni el propio apicultor note que la colmena está enferma, ya que además el parásito puede estar muchos meses incubándose en silencio. Pero debilita de tal manera a la comunidad que la colmena colapsa en cuanto entra en juego otro de los muchos problemas que afectan a las abejas. Como dice el propio Higes, *Nosema* no es la única causa de la muerte de las abejas, pero su proliferación es el cuchillo que abre el melón.

Los agricultores denuncian que a las farmacéuticas no les interesa investigar

El primer caso documentado de la presencia de este parásito se dio en España en 2004, pero ya se ha detectado en todo el mundo. El Programa de Naciones Unidas para el Medio Ambiente hizo público el 10 de marzo un informe sobre la desaparición de las abejas, en el que reconocía que ya es un problema a escala global, y señalaba la nosemosis la dolencia que provoca este parásito como uno de sus principales causantes. En España, fue a partir de 2005 cuando los apicultores comenzaron a dar noticia del síndrome del despoblamiento de las colmenas, que es como se ha denominado al fenómeno de la muerte de abejas sin una causa directa aparente y que tanta alarma ha generado.

El trabajo de polinización de las abejas es fundamental tanto en los campos de cultivo como para mantener el equilibrio de los ecosistemas. En España, esa fecunda labor genera 3.000 millones de euros anuales en favor de la agricultura, frente a los 61,5 millones que se obtienen de la explotación de la miel, según cálculos de la Coordinadora de Organizaciones de Agricultores y Ganaderos (COAG).

Una dolencia sin remedio

La UE reconoce que no sabe cómo combatir la mortalidad apícola

El único remedio conocido frente a la nosemosis era un antibiótico llamado fumagilina, que se administra en forma de jarabe. La Agencia Europea del Medicamento, tras un paréntesis entre 2000 y 2005, decidió prohibir su uso por el residuo que este jarabe pudiera dejar en la miel y la cera producida en los panales. El organismo europeo reconoce que no hay alternativa.

"Las compañías farmacéuticas no tienen interés económico en desarrollar los medicamentos necesarios para combatir a los parásitos que afectan a las abejas", lamenta el responsable apícola de COAG, José Luis González, quien asegura que en España ya no hay colmenas salvajes. "Las enfermedades y los parásitos están tan implantados en las abejas que si no hay un apicultores que cuiden del enjambre este termina por morirse", relata.

Los 23.000 apicultores españoles 5.400 profesionales no son partidarios de usar antibióticos como la fumagilina, porque si se hallaran residuos en la miel perdería su prestigio de producto natural. Y sólo aceptarían usar un medicamento realmente eficaz si la Unión Europea decidiera eliminar la actual política de "tolerancia cero" para los residuos médicos en la cera y miel de los panales. Además, González demanda que las autoridades realicen estudios concretos sobre la incidencia de los pesticidas en las colmenas. Los apicultores creen que incluso un nivel bajo de toxicidad de los insecticidas podría estar debilitando las defensas de las colmenas y favoreciendo el desarrollo de *Nosema*.

Ya no hay colmenas naturales que logren sobrevivir sin cuidados humanos

La Comisión Europea, preocupada por la muerte de las abejas, publicó en enero un informe que anuncia que lanzará a finales de este año una estrategia para defenderse de un problema que ahora no es capaz de resolver. En el documento, la Comisión señala que "no está claro qué debería hacerse para combatir esa mortalidad de manera eficaz". Además, culpa a los gobiernos por sus "flojos" sistemas de vigilancia apícola que provocan que "resulta imposible entender cuál es la situación real".



[3:22](#)

[Why are bees under threat?](#)

de [EFSAchannel](#)

Publicado el 17/07/2012

Bees are of critical importance in the environment, sustaining biodiversity and ecosystems by providing essential pollination services to a wide range of crops and wild plants. But over the past few years beekeepers have been reporting unusual weakening of colonies and a decline in bee numbers. So what is threatening our friends the pollinators, and how can we protect them? A bee health specialist at EFSA explains.

Bee health

Beekeeping is an ancient tradition, and honey bees have been kept in Europe for several millennia. Bees are critically important in the environment, sustaining biodiversity by providing essential pollination for a wide range of crops and wild plants. They contribute to human wealth and wellbeing directly through the production of honey and other food and feed supplies such as: pollen, wax for food processing, propolis in food technology, and royal jelly as a dietary supplement and ingredient in food.

The Food and Agriculture Organization of the United Nations (FAO) estimates that of the 100 crop species that provide 90% of food worldwide, 71 are pollinated by bees[1]. The majority of crops grown in the European Union depend on insect pollination. Beyond the essential value of pollination to maintaining biodiversity, the global annual monetary value of pollination has been estimated at hundreds of billions of euros.

In view of the important ecological and economic value of bees, there is a need to monitor and maintain healthy bee stocks, not just locally or nationally, but globally.

Bees in decline

Over the past 10 to 15 years, beekeepers have been reporting unusual weakening of bee numbers and colony losses, particularly in Western European countries including France, Belgium, Switzerland, Germany, the UK, the Netherlands, Italy and Spain. In North America, colony losses observed since 2005 have left the region with fewer kept bees than at any time in the past 50 years. American scientists have coined the term Colony Collapse Disorder (CCD) to describe this phenomenon. CCD is often characterised by the rapid loss from a colony of its adult worker bee population.

No single cause of declining bee numbers has been identified. However, several contributing factors have been suggested, acting in combination or separately. These include the effects of intensive agriculture and pesticide use, starvation and poor bee nutrition, viruses, attacks by pathogens and invasive species – such as the Varroa mite (*Varroa destructor*), the Asian hornet (*Vespa velutina*), the small hive beetle *Aethina tumida* and the bee mite *Tropilaelaps* – genetically modified plants,

and environmental changes (e.g. habitat fragmentation and loss).

In May 2012, as part of its strategy for tackling declining bee numbers, the European Commission allocated €3.3 million to support 17 Member States carrying out surveillance studies aimed at gathering further information on losses of honey bee colonies. The commitment follows a report, *Bee Surveillance and Bee Mortality in Europe*, commissioned by EFSA which concluded that surveillance systems in the EU are weak and that there is a shortage of data at Member State level and a lack of comparable data at EU level (see EFSA's activities).

EFSA's role

EFSA has an important role to play in ensuring that healthy bee stocks are maintained in Europe, given its mandate to improve EU food safety and animal health and to ensure a high level of consumer protection. A number of the Authority's Scientific Panels and Units contribute to this work, principally in the areas of **pesticides, animal health and welfare and plant health, genetically modified organisms (GMOs), data collection and scientific assessment**.

Central to this work are the assessments EFSA carries out of the environmental safety of pesticides and GMOs that manufacturers would like to place on the EU market. EFSA's **Pesticides Unit** is responsible for the peer review of risk assessments of active substances used in plant protection products. The dossiers submitted by applicants must contain comprehensive information on the potential risk to the environment posed by their products.

The Unit also carries out risk assessments of Maximum Residue Levels (MRLs) of active substances in pesticides. These assessments take account of the potential effects of the substances on the environment in general and on non-target organisms such as bees in particular. The Unit compiles the annual European Union Report on Pesticide Residues in Food, which gives an overview of the control activities performed in the 27 EU Member States and two EFTA countries (Iceland and Norway) in order to ensure compliance of food with the standards defined in European legislation on pesticide residues. The most recent report, for 2009, shows that only 0.1% of honey samples contained pesticides which exceeded MRLs.

EFSA's **Panel on Plant Protection Products and their Residues** (PPR Panel) provides independent scientific advice on the risk assessment of plant protection products and their residues. This includes in particular looking at risks to operators, workers, residents and consumers as well as the environment, including wildlife. One of the main activities of the PPR Panel is to develop new or review existing guidance documents on the risk assessment of pesticides, including the development of risk assessment approaches, methodologies and models. The Panel may provide opinions on the effects of specific active substances used in plant protection products or on any generic issue related to the safe use of pesticides.

GMOs and derived food and feed products are subject to a risk analysis before they can be placed on the EU market. In this process, the role of the **GMO Panel** is to independently evaluate the risk assessments provided by companies and manufacturers and to give scientific advice to risk managers on any risks that GMOs may pose to human and animal health and the environment. The assessment covers several specific aspects of risk, one of which is the possible risk to "non-target organisms" such as bees. The Panel has developed guidelines for the safety assessment of GM plants and derived food and feed that assist companies and manufacturers to prepare applications for the authorisation of GM plants. In 2010, the GMO Panel updated its guidance with respect to environmental risk assessment of GM plants, and specific guidance has been developed on the evaluation of possible effects of GM plants on non-target organisms.

In addition, each application for authorisation of a GM plant has to be accompanied by a Post-Market Environmental Monitoring (PMEM) plan demonstrating how the applicant will monitor the GM plant for possible adverse environmental effects after it has been placed lawfully on the EU market. The aim of PMEM is to identify possible unanticipated adverse effects on the environment which could arise directly or indirectly from cultivation of GM plants. In 2006, EFSA's GMO Panel provided applicants with guidance for developing PMEM plans, which was updated in 2011. Since 2010, the GMO Panel has been responsible for assessing the annual PMEM reports which are submitted to the European Commission for each GM crop authorised for cultivation in the EU (currently maize MON810 and the Amflora potato).

The **Panel on Plant Health** provides independent scientific advice on the risks posed by organisms which can cause harm

to plants, plant products or plant biodiversity in the European Community. Every pest risk assessment includes the assessment of environmental risk, but to clarify and harmonise approaches in this area the Panel has published specific guidance on the environmental risk assessment of plant pests. EFSA's work in the area of plant health is specifically relevant to bee health as some pests that are a threat to bees can be transported by, and live on, plants. The small hive beetle, for example, can live without bees, surviving on fruit and vegetables. It could therefore be introduced into the EU in consignments of such products.

The **Panel on Animal Health and Welfare** provides independent scientific advice on all aspects of animal diseases and animal welfare. Its work chiefly concerns food-producing animals.

The **Dietary and Chemical Monitoring Unit** publishes an annual report summarising data on the presence of residues of veterinary medicinal products and other substances in live animals and animal products – such as honey – in the European Union. The latest report, for 2010, shows that only 0.33 % of the 418,081 targeted samples were non-compliant, a similar figure to that recorded in 2009 (0.32%).

EU framework

In 2010 the European Commission issued a Communication on Honeybee Health, which clarified the key issues related to bee health and the key actions that the Commission is taking to address them.

[Communication from the European Commission on honeybee health](#) 

Animal health and welfare

Bees are covered by the Animal Health Strategy for the European Union 2007-2013, and legislation on animal health certification and requirements for the movement of bees between Member States (Directive 92/65/EEC). These requirements are intended to prevent and control a number of bee diseases and pests such as the the small hive beetle (*Aethina tumida*) and the *Tropilaelaps* mite, which can spread via the movement of bees and trade in hive products, plants and fruit. There are also animal health requirements for imports from third countries of live bees and bumble bees to avoid introduction into the EU of exotic bee diseases. These have been applied since 2000 (Regulation 206/2010).

[Continue reading](#)

EFSA's activities

In 2009 EFSA launched a project to assess bee surveillance systems in the EU, and to collate and analyse data and publications related to honey bee colony mortality across Europe. The Agence Française de Sécurité Sanitaire des Aliments (AFSSA, forerunner of Anses) set up a consortium of seven European bee disease research institutes to answer the call for data and a literature review. The subsequent report *Bee Mortality and Bee Surveillance in Europe* made a number of recommendations to improve surveillance as well as identifying consensus across the EU on the multifactorial origins of the decline in bee numbers. It also helped to shape the Commission's strategy for tackling the decline in bee numbers across Europe, which was clarified in a key communication on honey bee health published in 2010.

[Communication from the European Commission on honeybee health](#) 

In February 2012 the Pesticides Unit reviewed the risk of thiamethoxam to honeybees, as requested by the European Commission, on the basis of new information submitted. Thiamethoxam is a member of the neonicotinoid group of insecticides, which some studies suggest could be a contributing factor to bee colony losses. The use of neonicotinoids is restricted in Germany, Italy, France and Slovenia.

In April 2012, EFSA's **Emerging Risks Unit** participated in a working group set up by Anses to review a scientific paper on the combined impact of bee pathogens (*Nosema ceranae*) and low doses of pesticides on honey bee mortality and to ensure closer scientific collaboration between EFSA and Anses on the risk assessment of bees. The working group concluded that more research is required on the toxicokinetic characteristics of the chemicals with which bees come into contact in the environment and that the new schemes for assessing the potential risk to bees from plant protection products (see Main work in progress) need to include bee exposure to low and repeated doses of pesticides. Anses is to set up a new working group to follow up on this issue.

Main work in progress

In line with the strategy of EFSA to consider risk assessments in a wider, more integrated manner so as to provide risk managers with comprehensive advice on which to base their decisions, the Authority established in May 2012 an internal task force drawn from the relevant Units to compile a state-of-the-art review of the work carried out at EFSA, as well as the current activities conducted outside EFSA, in the area of bees.

The task force, coordinated by the Emerging Risks Unit, will identify gaps in knowledge and research needs and prepare a report giving an overview of EFSA's current activities and making recommendations on how this work should be continued.

[Internal task force mandate](#)

The main focus of the Authority's work on bees is a major guidance document on the risk assessment of pesticides in relation to honey bees, bumble bees and solitary bees, which is being developed by the PPR Panel. As a precursor, in April 2012 the Panel adopted an opinion outlining the scientific basis for the development of the guidance document.

[Opinion on science behind guidance on risk assessment of plant protection products and bees](#)

In addition to the above, the PPR Panel has commissioned literature reviews on topics of relevance to its revision of the guidance documents for assessing risks from pesticides related to aquatic and terrestrial ecotoxicology. One of these topics concerns the effects on bees of the interaction between pesticides and other factors.

[Mandate to revise guidance on Aquatic Ecotoxicology](#)

[Mandate to revise guidance on Terrestrial Ecotoxicology](#)

The Pesticides Unit has also delivered a statement on two articles published recently in the journal *Science* which suggested links between neonicotinoids and bee colony survival. The first article highlighted research showing that honey bees exposed to sub-lethal doses of thiamethoxam suffer from impaired orientation skills, and concluded that commonly encountered concentrations of thiamethoxam can contribute to the collapse of colonies. The second article concluded that imidacloprid, another neonicotinoid, can inhibit the reproductive health of bumble bees. The European Commission asked EFSA to examine whether the doses used in the studies are comparable to the actual doses to which bees are exposed.

[Statement on the findings in recent studies investigating sub-lethal effects in bees of some neonicotinoids](#)

EFSA will continue its work in this area by carrying out an in-depth review of the effects of thiamethoxam, imidacloprid and three other neonicotinoids: clothianidin, acetamiprid and thiacloprid. The review, due to be published in December 2012, will pay particular attention to acute and chronic effects on bee colony survival and development, taking into account the effects on bee larvae as well as bee behaviour. In this context, an assessment of effects of sub-lethal doses on bee survival and behaviour will be further considered.

Experts from EFSA's Animal Health and Welfare and Plant Health Panels and Units, and the Emerging Risk Unit are currently drafting a scientific opinion on the risk of introduction and spread in the EU of the small hive beetle (*Aethina tumida*) and the *Tropilaelaps* bee mite through the importation from third countries of live bees and bee products, and of products such as fruit and vegetables.

In addition, EFSA is assessing the scientific basis for Italy's precautionary suspension of the placing on the market of treated maize seeds. The Authority has been requested to deliver a statement on the results of an Italian research project (APENET).

Past activities / Completed work

[Latest updates](#) [News \(7\)](#) [Publications \(14\)](#) [Calls \(1\)](#)

[EFSA identifies risks to bees from neonicotinoids](#)

Press release - 16 January 2013

[EFSA reviews work on bees](#)

News story - 20 November 2012

[Inventory of EFSA's activities on bees](#)

Technical report - Published: 20 November 2012

[Public consultation on the Risk Assessment of Plant Protection Products on bees \(*Apis mellifera*, *Bombus* spp. and solitary bees\) - Extended deadline: 12 November 2012](#)

Call - Deadline: 12 November 2012

[Pesticides and bees: EFSA consults on draft risk assessment guidance](#)

News in brief - 20 September 2012

[Bee health: the interaction between pesticides and other factors](#)

News in brief - 14 September 2012

[Interaction between pesticides and other factors in effects on bees](#)

External Scientific Report - Published: 14 September 2012

[EFSA reviews studies on some pesticides and bee health](#)

Press release - 1 June 2012

[Statement on the findings in recent studies investigating sub-lethal effects in bees of some neonicotinoids in consideration of the uses currently authorised in Europe](#)

Statement of EFSA - Published: 1 June 2012

[Pesticides and bee health: EFSA reviews the science](#)

News story - 23 May 2012

Last updated: 16 January 2013

[1] <http://www.fao.org/ag/magazine/0512sp1.htm>

See also

[Panel on Animal Health and Welfare \(AHAW\)](#)

[Panel on Plant Health \(PLH\)](#)

[Panel on Plant Protection Products and their Residues \(PPR\)](#)

[Panel on Genetically Modified Organisms \(GMO\)](#)

[Dietary and Chemical Monitoring Unit](#)

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Wednesday - January 16, 2013

EFSA reports do not change the validity of existing safety data:

Bayer CropScience remains convinced that neonicotinoids can be used safely and effectively in sustainable agriculture

The company is ready to engage further in dialogue

Monheim, January 16, 2013 – Bayer CropScience is currently evaluating the reports published by the European Food Safety Authority (EFSA) on neonicotinoids and bees today. The company is ready to work with the European Commission and Member States in order to take the necessary steps to develop pragmatic solutions to address the perceived data gaps which EFSA consider to be present. We proactively work on closing data gaps which arise and continue to be open to constructive dialogue with the competent regulatory authorities, in order to discuss all relevant points relating to the safety of our products.

Bayer CropScience has generated extensive safety data for its neonicotinoid-containing crop protection products. These have been reviewed by the competent EU and Member State authorities who have confirmed the absence of any unacceptable risk by these products. We do not believe that the new EFSA reports alter the quality and validity of these risk assessments and the underlying studies.

In reality, the main consensus reached when evaluating the scientific research in this area is that poor bee health and colony losses are caused by multiple factors, the parasitic *Varroa* mite being the key issue. We believe it is very important that any political decision relating to registrations of neonicotinoid-containing products, following the publication of the EFSA reports, should be based on clear scientific evidence of adverse effects of the affected products under “realistic conditions of use”, including the extensive stewardship measures that are in place in the field, and should not be made *ad-hoc* or on the basis of an over-interpretation of the precautionary principle.

Ultimately, it is important to ensure that European farmers continue to have access to crop protection products, such as those containing neonicotinoids, as key components in integrated pest management (IPM). Neonicotinoids are an important class of insecticides which underpin a farmer’s ability to grow safe, high-quality, affordable food in Europe.

Bayer CropScience is strongly committed to supporting the responsible use of neonicotinoids and invests heavily in product stewardship and research activities to minimize any impact of these products on bees.

About Bayer CropScience

Bayer is a global enterprise with core competencies in the fields of health care, agriculture and high-tech materials. Bayer CropScience, the subgroup of Bayer AG responsible for the agricultural business, has annual sales of EUR 7.255 billion (2011) and is one of the world’s leading innovative crop science companies in the areas of seeds, crop protection and non-agricultural pest control. The company offers an outstanding range of products including high value seeds, innovative crop protection solutions based on chemical and biological modes of action as well as an extensive service backup for modern, sustainable agriculture. In the area of non-agricultural applications, Bayer CropScience has a broad portfolio of products and services to control pests from home and garden to forestry applications. The company has a global workforce of 21,000 and is represented in

more than 120 countries. This and further news is available at: www.press.bayercropscience.com.

Find more information at www.bayercropscience.com.

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Syngenta se reafirma en la seguridad del uso de productos neonicotinoides tras informe de EFSA

[Directorio Syngenta Iberia](#) [Pilar Giménez](#) [Unión Europea](#)

MADRID, 16 Ene. (EUROPA PRESS) -

La compañía biotecnológica Syngenta se reafirma en la seguridad de uso de sus productos neonicotinoides tras conocerse el informe de la Agencia Europea de Seguridad Alimentaria (EFSA), según señala la compañía en un comunicado.

En este informe no se recomienda la prohibición de los neonicotinoides, entre los que se incluye el tiametoxam (TMX), evaluados en cuanto a su impacto sobre las abejas.

La directora de asuntos corporativos de **Syngenta Iberia**, **Pilar Giménez**, afirmó: "La EFSA ha reconocido un alto nivel de incertidumbre en su última revisión debido a que el proceso de evaluación de riesgos para las abejas está aún en desarrollo. Los resultados de años de estudios independientes en campo demuestran que los riesgos identificados están siendo gestionados eficazmente mediante buenas prácticas agrícolas".

Cabe recordar que el tiametoxam se ha utilizado en el tratamiento de las semillas en millones de hectáreas de cultivos europeos desde hace más de diez años.

Desde Syngenta recuerdan que utilizando la tecnología de forma adecuada, no existe daño alguno sobre las poblaciones de abejas y ésta es la razón por la que muchos países de la **Unión Europea** han seguido apoyando su uso.



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REPORT CONFIRMS ESSENTIAL VALUE OF NEONICOTINOID PESTICIDES FOR EUROPE

Filed under: [Pests](#) [Agriculture today](#) [Responsible use](#)

Published on 15-01-2013



The study underlines the importance of maintaining a range of innovative crop protection solutions for managing the pressures of pests and disease, and enabling efficient use of natural resources.

Innovative seed treatment benefits crop yields, economy, efficient use of natural resources

A Humboldt Forum for Food and Agriculture report highlights that if neonicotinoid seed treatments were no longer available, impact on the EU economy could be as great as €4.5 billion with a loss of at least 50,000 farm jobs across the EU. Over a 5-year period, the EU could lose up to €17 billion and face a significant increase in pest pressure.

“These figures demonstrate the value this technology brings to EU farming”, Friedhelm Schmider, Director General of European Crop Protection Association (ECPA) commented. *“They contribute more than €2 billion annually to commodity crop revenues, and reduce production costs by €1 billion across the EU”,* he added.

The independent study confirms the economic and environmental value of seed treatment neonicotinoids for Europe. The

report includes the example of Germany where oilseed rape growers rely highly on neonicotinoid technology to remain competitive in the global market; and Spain, where sunflower growers can achieve better yields through earlier planting.

The study underlines the importance of maintaining a range of innovative crop protection solutions for managing the pressures of pests and disease, and enabling efficient use of natural resources (land and water).

“The report has revealed substantial consequences for the economy and the environment if there would be constraints on the availability of neonicotinoid seed treatments”, Friedhelm Schmider concluded.

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Notes for editors:

- The report was conducted by Steffen Noleppa (agripol), Thomas Hahn et al. (a-connect)
- Based on an analysis of 10 EU countries (Germany, Poland, Hungary, Romania, Slovenia, Italy, Spain, France, the UK and the Netherlands) and 6 focus crops (corn, sugar beet, oilseed rape, wheat, barley and sunflower) the project team assessed the potential value of neonicotinoid seed treatment to EU societies, economies and selected stakeholders
- The report is supported by Copa-Cogeca, ESA and ECPA and financed by Bayer CropScience and Syngenta.
- Neonicotinoid based pesticides have received recent press attention in discussions about its potential risks to European honey bee populations; however, European scientific authority EFSA (European Food Safety Authority) will release a report later this week which will scientifically review the risk of neonicotinoids to bees.
- More information can be found at <http://www.neonicreport.com>

Attachment:  [Download this press release \(.pdf 175Kb\)](#)

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Defra: No evidence yet that neonicotinoids harm bees

15 January 2013 | By [Alistair Driver](#)

DEFRA has insisted there is no evidence, at this stage, that neonicotinoids are linked to a decline in bee populations.

But Defra Secretary Owen Paterson has asked for research by the Food and Environment Research Agency on the impact of the chemicals in the field to be speeded up to fill current gaps in knowledge.

A Defra spokesman said: "Independent experts have advised us that while there is a lot of research into their effect in laboratories, the current evidence on the impact of pesticides on bees in the field does not suggest that harmful effects will occur. That is why Environment Secretary Owen Paterson has asked for the results of field research by Fera to be sped up to give us this missing evidence."

Following the publication of [a major report detailing the huge economic and social implications of banning the seed treatment](#) she said Defra was seeking a better understanding of the 'wider environmental, economic and human health consequences of possible restrictions', so any action it takes limits any negative knock-on effects.

The UK farming and agricultural supply industries have welcomed the report by the Humboldt Forum for Food and Agriculture, which estimated that banning neonicotinoids could cut yields of some crops by up to 20 per cent and could cost the UK economy £630 million a year.

NFU lead on bee health Dr Chris Hartfield said the work was 'important', particularly in light of the expected publication later this week of the European Food Safety Authority's (EFSA) review of neonicotinoid seed treatments, including their impact on bee populations.

"Any decision to change the way pesticides are used to control crop pests will have an impact on both the protection of insect pollinators and the protection of crops.

"It is essential that we fully understand all these impacts before taking any action. Otherwise there is a significant risk we could make changes that do nothing to improve bee health, or even worsen the bee health situation, while also compromising the effectiveness of what this socio-economic report clearly shows is very important way of protecting our crops from pests."

Paul Rooke of the Agricultural Industries Confederation, said: "At a time of increasing world commodity market volatility, any additional upward price pressures will impact on overall food inflation whilst at the same time negatively impacting on the UK farmers' ability to produce crops to the highest economic and environmental standards."

Chris Baldwin, managing director of United Oilseeds, said a ban would result in lower yields and revenue losses for the oilseed rape sector meaning UK crushers and processors, who currently source from UK providers exclusively, may be forced to import crops from abroad.

“Using neonicotinoids as a seed coating is the most effective way to apply insecticide to crops and target specific threats. The alternative means having to spray post-emergent crops with insecticide in the field. As well as being less effective, this method is less targeted and means higher input costs for farmers,” he said.

Crop Protection Association director of policy Anne Buckenham said: “This report serves as an important reminder that any knee-jerk action to ban certain insecticidal treatments would have disastrous consequences for crop production in the UK and across Europe, with serious implications for food prices and availability at a time of mounting concern over global food security and market volatility.”

While the crop protection industry ‘recognises the critical importance of bees as a pollinator’, she said a ban on the use of neonicotinoid seed treatments would be ‘unlikely to improve bee health’.

Extensive scientific and field-based evidence points to the Varroa mite and parasitic diseases, combined with the problems associated with habitat loss, colony stress and climate change, as the key factors implicated in declining bee populations, she added.

But Soil Association policy director Peter Melchett said the report indicated that banning the chemicals was a price worth paying in the UK.

He compared the estimated £630m additional costs to farmers of removing the chemicals to the estimated £1.8bn cost to farmers of replacing natural pollination of UK crops through bees and other insects with the alternative of hand pollination.

He pointed out that the report was funded by agri-chemical companies Bayer Crop Sciences and Syngenta and was therefore ‘unlikely to conclude that neonicotinoids should be banned’.

The Soil Association’s Keep Britain Buzzing campaign is calling for neonicotinoids to be banned in the UK.

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Pesticide issues in the works: Honeybee colony collapse disorder

Current as of May 15, 2012

Discovering a problem

During the winter of 2006-2007, some beekeepers began to report unusually high losses of 30-90 percent of their hives. As many as 50 percent of all affected colonies demonstrated symptoms inconsistent with any known causes of honeybee death: sudden loss of a colony's worker bee population with very few dead bees found near the colony. The queen and brood (young) remained, and the colonies had relatively abundant honey and pollen reserves. But hives cannot sustain themselves without worker bees and would eventually die. This combination of events resulting in the loss of a bee colony has been called Colony Collapse Disorder (CCD).

Though agricultural records from more than a century ago note occasional bee "disappearances" and "dwindling" colonies in some years, it is uncertain whether the colonies had the same combination of factors associated with CCD. What we do know from the [data from beekeepers for 2010/2011](#) is that CCD is still a concern.

Dead bees don't necessarily mean CCD

Certain pesticides are harmful to bees. That's why we require instructions for protecting bees on the labels of pesticides that are known to be particularly harmful to bees. This is one of many reasons why everyone must read and follow pesticide label instructions. When most or all of the bees in a hive are killed by overexposure to a pesticide, we call that a beekill incident resulting from acute pesticide poisoning. But acute pesticide poisoning of a hive is very different from CCD and is almost always avoidable.

There have been several incidents of acute poisoning of honeybees covered in the popular media in recent years, but sometimes these incidents are mistakenly associated with CCD. A common element of acute pesticide poisoning of bees is, literally, a pile of dead bees outside the hive entrance. With CCD, there are very few if any dead bees near the hive. Piles of dead bees are an indication that the incident is not colony collapse disorder. Indeed, heavily diseased colonies can also exhibit large numbers of dead bees near the hive.

Why it's happening

There have been many theories about the cause of CCD, but the researchers who are leading the effort to find out why are now focused on these factors:

- increased losses due to the invasive varroa mite (a pest of honeybees);
- new or emerging diseases such as Israeli Acute Paralysis virus and the gut parasite Nosema;
- pesticide poisoning through exposure to pesticides applied to crops or for in-hive insect or mite control;
- 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 identified above.

Additional factors may include poor nutrition, drought, and migratory stress brought about by the increased need to move bee colonies long distances to provide pollination services.

What is being done

The U.S. Department of Agriculture (USDA) is leading the federal government response to CCD. In 2007, USDA established a CCD Steering Committee with representatives from other government agencies, and academia. EPA is an active participant in the CCD Steering Committee. The [Steering Committee has developed the Colony Collapse Disorder Action Plan \(PDF\)](#) (28 pp, 2 MB, [about PDF](#)) . The plan has four main components:

1. Survey/Data Collection to determine the extent of CCD and the current status of honeybee colony production and health;
2. Analysis of Bee Samples to determine the prevalence of various pests and pathogens, bee immunity and stress, and exposure to pesticides;
3. Hypothesis-Driven Research on four candidate factors including new and reemerging pathogens, bee pests, environmental and nutritional stresses, and pesticides; and
4. Mitigative/Preventive Measures to improve bee health and habitat and to counter mortality factors.

What EPA is doing

Our role in the federal response to CCD is to keep abreast of and help advance research investigating pesticide effects on pollinators. To date, we're aware of no data demonstrating that an EPA-registered pesticide used according to the label instructions has caused CCD. While our longstanding regulatory requirements for pesticides are designed to protect beneficial insects such as bees, since 2007 we have been looking at many different ways of possibly [improving pollinator protection](#).

For more information

[Bee Die-Off in Germany Unrelated to CCD](#)

[Find out more about colony collapse disorder](#) from the USDA Agricultural Research Service

[Learn about EPA's Pollinator Protection efforts](#)

[EPA Responds to NRDC's 2008 Freedom of Information Act complaint](#)

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