



Pesticide Action Network UK

## Action on neonicotinoid and other bee-toxic pesticides

This factsheet brings readers up to date on the changing policy and lobbying context around pesticide links with pollinator declines. Consensus is growing that not only does the risk assessment for bees need to change radically but policy actions must be taken to reduce pollinator exposure to harmful pesticides. It looks at opportunities in the EU policy agenda, while recognising the obstacles posed by vested interests and their undue influence over decision makers. NGO campaigns and first steps by food supply chains are discussed. It concludes with twelve points for action called by PAN UK.



*Credit: Graham White*

### Consensus growing on the need for action

Over the last two years, voices at global and regional levels point to the need to address the issue of unintended pesticide harm, as one of the factors in the complex puzzle of pollinator declines<sup>1,2,3</sup>. With the publication of many of the scientific papers cited in these factsheets,

consensus has been growing that chronic, low dose exposure of pollinators to neonicotinoid pesticides is significant and that colony-level impacts are likely to involve interactions between bee parasites and diseases, pesticide exposure from different sources and impaired ability of colonies to maintain a healthy immune response.

“Continued use of pesticides on flowering crops clearly poses a threat to their [bumblebee] health and urgently needs to be re-evaluated.”

Dave Goulson, Stirling University, UK, 2012<sup>A</sup>

## What will happen next at European Union and Member State levels?

The first step towards tougher regulation on bee-toxic pesticides was taken three years ago with the publication of the ‘new’ EU pesticide authorisation Regulation 1107/2009<sup>4</sup>. Data requirements on the bee testing protocols have been improved but are unlikely to come into effect before 2015 (Hans Muilerman, personal communication). However, protocols for bee behaviour tests are still not ready.

The recent Opinion of the European Food Safety Authority<sup>5</sup> on how the pesticide risk assessment for bees should be conducted (see Factsheet 3) has unexpectedly thrown the cat among the regulatory pigeons by confirming what many commentators have been saying for years: neonicotinoid and other systemic insecticides were never properly evaluated before their introduction almost 20 years ago<sup>6</sup>. The EFSA Opinion will form the basis for new guidelines to be published in late 2012 for the ecotoxicological tests required of pesticide manufacturers and for how Member State officials should evaluate the dossiers submitted. These guidelines will then affect all future EU evaluations of new pesticides or existing ones coming up for their periodic review. This leaves the all-important question: what is going to happen in the meantime for the systemic insecticides already on the EU market, especially imidacloprid, thiamethoxam, clothianidin and fipronil, the main ‘culprits’ in the story? In France, the national press is asking how could the wrong tests have been used for so long to justify licensing these compounds

and why have beekeepers been let down so badly by the regulatory system?<sup>7</sup>. In theory, Member States could decide to suspend all product approvals for neonicotinoids, pending a fresh risk assessment under the forthcoming better protocols, but will they be bold enough to take such steps? France’s decision in June 2012 to suspend thiamethoxam seed treatment on oilseed rape is already challenged by the manufacturer Syngenta<sup>8</sup>, while French beekeepers are lobbying the government to follow Italy’s suit and suspend more neonicotinoid uses<sup>9</sup>. To date, the UK government has shown no sign of reconsidering its position on neonicotinoid approvals.

The European Parliament is calling for tougher regulations, a review of the risk assessment and current approvals, independent research and proper public scrutiny of the regulatory process (see Box 1).

## Conflicts of interest and industry influence over pesticide regulation

A hard-hitting report on the influence of the pesticide industry on European pesticide regulation and their too-close-for-comfort relation with public decision makers in the European Commission was published in 2010 by Corporate Europe Observatory, an investigative NGO on issues of corporate power, and the European Beekeeping Coordination<sup>10</sup>. The report details how the lack of bee toxicology expertise in the EU institutions has led to the revision of the guidelines for bee toxicity tests required of manufacturers being outsourced to external organisations, leaving these open to direct influence of the pesticide companies. Experts in one such organisation, the International Committee

of Plant-Bee Relationships (ICPBR), include employees from Bayer Crop Science, BASF, Dow Chemicals, Syngenta and others. These are the same companies that produce and profit from sales of neonicotinoids, constituting a clear case of 'the fox guarding the henhouse'. It is unsurprising that ICPBR recommendations on how the testing guidelines should be revised failed to include evaluation of the chronic effects of pesticides on bees. The COE/EBC report urged the EC to make sure that expert advice is sufficiently independent of commercial interests and that pesticide company test data are validated by independent experts.

These recommendations for more independent advice remain to be put into practice. At the ICPBR conference in late

2011, seven new working groups were set up to look at pesticide effects on bees. Yet these working groups are still dominated by researchers with a direct conflict of interest, with 50-75% of members directly employed by pesticide companies or private labs under contract to the companies<sup>11</sup>.

### NGO campaigning hot's up

Buglife, the invertebrate conservation charity, started lobbying the UK government to suspend neonicotinoids in 2009<sup>12</sup>. They have since been joined by a coalition of environmental NGOs, including PAN UK. In April 2012, Friends of the Earth launched their Bee Cause campaign, calling on David Cameron to adopt and implement a National Bee Action Plan

### Box 1. European Parliament calls for action on bee health issues and bee-toxic pesticides

In its Agriculture Committee report about honey bee health and the future of European beekeeping, Parliament calls on the European Commission for actions on: biodiversity conservation; support for beekeepers; regulatory change to speed up better treatments for bee diseases and parasites; honey quality issues, as well as farming practices, bee foraging and pesticides. On the latter, MEPs urge the EC to:

- strengthen regulatory controls with clearer and more concrete risk mitigation instructions on pesticide labels
- improve the inadequate risk assessment
- enable public access to the findings and methodology from the ecotoxicology dossiers submitted by the manufacturers (not currently subject to full public scrutiny)

In the longer term, MEPs want a timetable for definitive withdrawal of all neurotoxic pesticides. They are demanding a review of all neonicotinoids as soon as the new data requirements for the authorisation Regulation are applicable. Parliamentarians also urge for more objective and independent research on pesticide-disease interactions and possible negative effects of GM crops and monoculture cropping on honeybee health. They want special attention to bee-toxic pesticides under the 2014 mandatory IPM requirement for all EU farmers under the Sustainable Use (of Pesticides) Directive and more support under the revised Common Agricultural Policy for farmers to set up flower-rich field borders.

**“The widespread occurrence of multiple residues, some at toxic levels for single compounds, and the lack of any scientific literature on the biological consequences of combinations of pesticides, argues strongly for urgent changes in regulatory policies regarding pesticide registration and monitoring procedures as they relate to pollinator safety”**

Christopher Mullin, Penn State University & colleagues, USA, 2010<sup>B</sup>

addressing habitat loss, foraging aspects, land management and pesticide issues and mobilising FoE supporters to get involved in lobbying and practical measures in towns and gardens<sup>13</sup>. They commissioned a report by leading bee researchers at Reading University<sup>14</sup> on policy actions needed to better protect bees and other pollinators. The greatest shortcoming identified in the Reading report is the government’s failure to give proper attention to the conservation needs of bees across the country, hence the FoE strategy to call for a national action plan.

The report also contains several recommendations on pesticides, including for the government to commit to sustainable long-term reduction in use, with quantitative targets, and to encourage uptake of alternative pest control methods. PAN UK agrees fully with these recommendations, although we are calling for further measures too – see pages 6-7. PAN UK’s 2012 activities are to provide information resources on technical aspects of bee-toxic pesticides focussing on easy to digest, up to date and accurate presentation of the latest scientific findings, as described in this fact sheet series. Factual information, along with our interpretation of the science and understanding of the policy context in UK

and EU levels, aims to inform lay audiences, including NGOs campaigning on bees and other stakeholders concerned about neonicotinoid use and impacts, especially in the food retail sector. In April 2012, we initiated a joint lobby letter to the Environment Minister, calling again for a precautionary suspension of neonicotinoid approvals, in the light of the latest field study findings, and gained signatories from 13 other organisations (see factsheet 4). We are in dialogue with major UK retailers to convince them of the need to address neonicotinoid use in their supply chains and are now launching a call for specific stakeholder actions (see page 7).

We liaise closely with PAN and other colleagues elsewhere campaigning on neonicotinoids, including groups of beekeepers active on the issues. The British beekeeping sector represents some widely diverging views, which have caused controversies and splits within the main British Beekeepers Association (BBKA) especially in relation to sponsorship by agrochemical companies<sup>15</sup>. Articles in the June 2012 issue of The Beekeepers Quarterly reflect some of the differing views held by beekeepers on the role of pesticides in bee declines<sup>16,17,18</sup>.

Elsewhere in Europe, NGOs and beekeeping organisations continue to work together on advocacy. In Germany, the federal association of beekeeping organisations, DBIB, is lobbying against BAYER, for a ban on neonicotinoids. Together with PAN Germany, Greenpeace, and other environmental organisations, the beekeepers quit the government’s pesticide National Action Plan stakeholder process last year, frustrated by the lack of action on better protection for bees. PAN Europe have a lobby initiative on bee-toxic

pesticides with partners in France, Italy and Austria, as well as participating as a recognised stakeholder in the EC-convened consultations on pesticide toxicity to bees under the EU authorisation Regulation 1107/2009. Following the EFSA Opinion published in May 2012, PAN Europe in collaboration with the European Beekeeping Coordination demanded the EC to immediately ban neonicotinoid and other systemic insecticides<sup>19</sup>.

Across the pond, PAN North America (PANNA) helps coordinate NGOs pushing for regulatory change by the US Environmental Protection Agency (EPA) in charge of pesticide approvals. In March 2012 PANNA, as part of a coalition of beekeepers and environmental organizations, filed a legal petition urging the EPA to take action on the neonicotinoid clothianidin, linked with bee kill incidents in the US and Canada, particularly at maize sowing. PANNA's report *Pesticides & Honey Bees: State of the Science*<sup>20</sup> was submitted formally as part of this petition. The EPA already announced a standard review of the approval of neonicotinoids but the NGO coalition criticised the timeline as far too slow. The EPA expects to complete its evaluation as late as 2018 and any implementation plans would take further years to be set in motion<sup>21</sup>. By July 2012, the coalition had submitted over 250,000 signatures to the EPA, urging immediate suspension of clothianidin, as beekeepers reported significant bee kills across the US.

### Action required in food supply chains

Many farming organisations, retailers and others are promoting activities to enhance floral resources for pollinators (see fact

sheet 7), all of which are welcome, but to date only one or two of the major British retailers, which have so much influence over farming practices, have publicly recognised exposure to neonicotinoids as a serious problem. The Co-op took the pioneering, and at the time controversial, first step to address the issue within its own supplier base and Co-op farms by making some restrictions on foliar applications of neonicotinoids in flowering crops (see factsheet 6). Under its Plan Bee, the Co-op funds independent research into neonicotinoid exposure and impacts on honeybee and bumblebee mortality, brood and behaviour<sup>22</sup>. PAN UK would like to see other concerned retailers put pressure on the UK government to rethink its position on neonicotinoids and take a long, hard look at the implications of the recent EFSA Opinion for the products currently approved in the UK.

PAN UK is asking retailers to shift neonicotinoids onto their 'restricted pesticide' lists, for reduced use and later phase out. Such a stepwise reduction strategy would fit with the global FAO and WHO initiative for a progressive ban on Highly Hazardous Pesticides<sup>23</sup> (HHPs), meaning those recognised as of human acute and chronic health concern or associated with adverse environmental effects. More specifically, PAN International's HHP List<sup>24</sup>, published in 2009 as a contribution to the UN agencies' initiative, includes all

**“Our results clearly demonstrate that exposure of foragers to non-lethal but commonly encountered concentrations of thiamethoxam can impact forager survival, with potential contributions to collapse risk...”**

Mickaël Henry & colleagues, National Agricultural Research Institute, France, 2012<sup>c</sup>

neonicotinoid insecticides due to their high toxicity to bees (according to US EPA classification).

The PAN International HHP approach highlights the need to phase in safer, effective and more sustainable IPM methods as an essential part of reducing use and reliance on specific HHPs. PAN UK believes that retailers and other supply chain actors have a responsibility to support farmers to shift to IPM, through technical advice and investment in research and on-farm trials. What would an IPM strategy for British oilseed rape without the use of neonicotinoids look like? Could it make use of experience gained in organic arables and in ecologically-informed Integrated Production systems elsewhere? We are seeking partners in academia, agronomic advice, farmer associations, oilseed rape processing and food manufacturing and retail to explore options through a pilot project.

### **PAN UK launches 12 point call for action on bee-toxic pesticides**

PAN UK's contribution to the momentum building for change is to call for twelve specific points for action, aimed not only at the UK government, the pesticide regulators (Chemicals Regulation Directorate) and the Department for Food, Environment & Rural Affairs (Defra) but also at the food and farming sectors, agricultural research and advisory services,

plus decision makers in the amenity, ornamentals and gardening sectors, as follows:

#### **UK government:**

1. Immediate and urgent independent review of the latest science and the May 2012 conclusions of the European Food Safety Authority on the flawed risk assessment of neonicotinoids currently on the market.
2. Moratorium on UK approvals and use of neonicotinoids in agricultural, ornamental and amateur garden sectors until proven not to be causing harm to pollinators.
3. Commit to and support Friends of the Earth's call for a National Bee Action Plan.
4. Build more options into entry-level agri-environment schemes to encourage farmers to adopt more Integrated Pest Management (IPM) methods, especially biological control, which will reduce the tendency for 'insurance' pesticide treatments.

#### **Food and farming sector:**

5. Food retailers to put neonicotinoids onto pesticide restricted lists within their own company standards and plan how to phase in safer, IPM and organic strategies while phasing out neonicotinoids across their global supply chains.
6. Practical research with farmers on IPM and organic strategies for replacing neonicotinoids, with a focus on oilseed rape, fruit and vegetable uses.
7. Training and advice for farmers and crop consultants on effective IPM strategies based on agroecology and smarter cropping system design.
8. Collaboration between farming, retail, research and advisory, government agencies, beekeeping and civil society organisations to reduce reliance on pesticides and phase in ecologically-based approaches.

**“All registrations of neonicotinoids should be re-examined and/or suspended until we understand how to manage the risk to bees”**

Xerces Society for Invertebrate Conservation, USA, 2012<sup>D</sup>

### Ornamentals and amenity sector:

9. Ornamentals and garden supply sector to end the use of neonicotinoid treatments on pot plants.
10. Parks, local authorities and other amenity users of neonicotinoids to phase out use and replace with IPM and organic strategies.

### Amateur gardening sector

11. Immediate suspension of sales to the public of garden products that contain neonicotinoids.
12. Offer gardeners alternative organic products and advice for managing insect pests.

**What you can do:** see our bee webpages <http://bees.pan-uk.org> for letter-writing and other lobby and consumer actions to protect pollinators from harmful pesticides. Find out which actions gardeners can take, with links to resources on bee-friendly gardening.

### Key points

- EU experts now admit that the risk assessment to date has been totally inadequate – but will this prompt regulators to take neonicotinoids off the market any time soon?
- Growing calls for addressing the issues of bee-toxic pesticides are coming from parliamentarians and academia
- NGO and beekeeper campaigns and legal challenges in Europe and the US call for precautionary suspensions of neonicotinoid approvals, while the first signs of concern in the food retail sector have emerged.
- PAN UK calls for 12 action points to phase out neonicotinoids in farming,

ornamental, amenity and amateur garden uses, spearheading the UK NGO coalition demands for an immediate, independent review of the science and the EFSA conclusions and a moratorium on UK neonicotinoid approvals and use.

### In this series

If you would like to find out more about the relationship between pesticides and pollinator declines, all of these leaflets and other info are available via PAN UK's bee webpages at: <http://bees.pan-uk.org>

Bee Declines and the Link with Pesticides. Summary leaflet.

Fact sheets:

1. Different routes of pesticide exposure
2. Sub-lethal and chronic effects of neonicotinoids on bees and other pollinators
3. Serious shortcomings in assessing risks to pollinators
4. Different regulatory positions on neonicotinoids across Europe
5. Can restrictions on systemic insecticides help restore bee health?
6. What could farmers do to rely less on neonicotinoids?
7. Opportunities for improving and expanding pollinator habitats
8. **Action on neonicotinoid and other bee-toxic pesticides**

## References

- A. Daily Telegraph (2012) Pesticides harming bee populations, researchers suggest. The Daily Telegraph, 30 March 2012, UK. Via: <http://www.telegraph.co.uk/earth/wildlife/9173586/Pesticides-harming-bee-populations-researchers-suggest.html>
- B. Mullin CA, Frazier M, Frazier JL, Ashcraft S, Simonds R, et al. (2010) High levels of miticides and agrochemicals in North American apiaries: implications for honey bee health. *PLoS One* 5: e9754
- C. Henry, M, Beguin, M, Requier, F, Rollin, O, Odoux, J-F, Aupinel, P, Aptel, J, Tchamitchian, S and Decourtye, A. (2012) A common pesticide decreases foraging success and survival in honey bees. *Science Express* 10.1126/science.1215039
- D. Hopwood, J, Vaughan, M, Shepherd, M, Biddinger, D, Mader, E, Hoffman Black, S and Mazzacano, C. (2012) Are neonicotinoids killing bees? A review of research into the effects of neonicotinoid insecticides on bees, with recommendations for action. Xerces Society for Invertebrate Conservation, USA. [www.xerces.org](http://www.xerces.org)
1. UNEP (2010) Global Honey Bee Colony Disorder and Other Threats to Insect Pollinators. UNEP Emerging Issues. United Nations Environment Programme. Via: [http://www.unep.org/dewa/Portals/67/pdf/Global\\_Bee\\_Colony\\_Disorder\\_and\\_Threats\\_insect\\_pollinators.pdf](http://www.unep.org/dewa/Portals/67/pdf/Global_Bee_Colony_Disorder_and_Threats_insect_pollinators.pdf)
2. EP (2011) Report on honeybee health and the challenges of the beekeeping sector (2011/2108 (INI)). Committee on Agriculture and Rural Development, European Parliament report A7-0359/2011. Via: <http://www.europarl.europa.eu/sides/getDoc.do?type=REPORT&reference=A7-2011-0359&language=EN>
3. EFSA (2012) Scientific Opinion on the science behind the development of a risk assessment of Plant Protection Products on bees (*Apis mellifera*, *Bombus* spp. and solitary bees). European Food Safety Authority. *EFSA Journal* 10(5) 2668. Via: <http://www.efsa.europa.eu/en/efsajournal/pub/2668.htm>
4. EC (2009) Regulation (EC) no 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC. European Commission. Via: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:309:0001:0050:EN:PDF>
5. EFSA, op.cit.3
6. EBC (2012a) EFSA Report: the impact of pesticides on bees. Press release, 25th May 2012, European Beekeeping Coordination, Brussels. Via: <http://bee-life.eu/en/article/24/>
7. Le Monde (2012) Pesticide tests fail the bees. Stéphane Foucart, Le Monde, 9th July 2012. Via: [http://www.lemonde.fr/planete/article/2012/07/09/abeilles-la-faillite-de-l-evaluation-des-pesticides\\_1731092\\_3244.html](http://www.lemonde.fr/planete/article/2012/07/09/abeilles-la-faillite-de-l-evaluation-des-pesticides_1731092_3244.html)
8. ibid.
9. EBC (2012b) French prohibition of Cruiser OSR: Stéphane Le Foll takes a first step in the right direction. When will we see the prohibition of all insecticides from the same family? Press release 3rd July 2012, European Beekeeping Coordination, Brussels. Via: <http://bee-life.eu/en/article/28/>
10. COE/EBC (2010) Is the future of bees in the hands of the pesticide lobby? European Commission allows corporations to shape the pesticide rules. Corporate Europe Observatory and the European Beekeeping Coordination. Via: [http://www.beekeeping.com/articles/us/future\\_bees.pdf](http://www.beekeeping.com/articles/us/future_bees.pdf)
11. Le Monde, op.cit. 7
12. Buglife (2009) The impact of neonicotinoid insecticides on bumblebees, Honey bees and other non-target invertebrates. Revised version, Vicky Kindemba, 2009. Buglife, UK. Via: <http://www.buglife.org.uk/Resources/Buglife/Documents/PDF/REVISED%20Buglife%20Neonicotinoid%20Report.pdf>
13. FoE (2012) 20 things you need to know about bees. Factsheet, Friends of the Earth UK. Via: <http://www.foe.co.uk/resource/factsheets/bees.pdf>
14. Breeze, TD, Roberts, SPM and Potts, SG. (2012) The decline of England's bees. Policy review and recommendations. University of Reading, UK, and Friends of the Earth. Via: <http://www.foe.co.uk/beesreport>
15. Craig, A. (2005) Beekeepers stung by pesticide sponsorship. *Pesticides News* 68 6-7. Via: <http://www.pan-uk.org/pestnews/Issue/pn68/pn68p6.htm>
16. Couvillon, M. (2012) New studies investigating the effect of systemic pesticides in bees generate more questions. *Foraging Lines. The Beekeepers Quarterly* 108 41-42
17. Hopkinson, G. (2012) Environment. Pesticides: the debate continues.... *The Beekeepers Quarterly* 108 p.47.
18. White, G. (2012) Neonicotinoids - our toxic countryside. *The Beekeepers Quarterly* 108 42-46
19. PAN Europe (2012) Honeybee disappearance: will the Authorities finally act? Press release, 6th June 2012, PAN Europe, Brussels. Via: <http://www.pan-europe.info/News/PR/120606.html>
20. PANNA (2012a) Pesticides & Honey Bees: State of the Science report. PAN North America, San Francisco. Via: [http://www.panna.org/sites/default/files/Bees&Pesticides\\_SOS\\_FINAL\\_May2012.pdf](http://www.panna.org/sites/default/files/Bees&Pesticides_SOS_FINAL_May2012.pdf)
21. PANNA (2012b) 250,000+ to EPA: Time for Emergency Action on Pesticide to Protect Bees. Press release 28th June 2012, PAN North America, San Francisco. Via: <http://www.panna.org/bees/press-release/250000-epa-time-emergency-action-pesticide-protect-bees>
22. Co-op (2011) Sustainability report 2010. The Co-operative Group, Manchester, UK. Via: [http://www.co-operative.coop/Corporate/sustainability/2011/downloads/sr2011\\_Chemicals.pdf](http://www.co-operative.coop/Corporate/sustainability/2011/downloads/sr2011_Chemicals.pdf)
23. FAO (undated) Highly Hazardous Pesticides. Introduction. Food & Agriculture Organisation, Rome. Via: <http://www.fao.org/agriculture/crops/core-themes/theme/pests/pm/code/hhp/en/>
24. PAN International (2011) PAN International List of Highly Hazardous Pesticides. Version January 2011. Via: [http://www.pan-germany.org/download/PAN\\_HHP-List\\_1101.pdf](http://www.pan-germany.org/download/PAN_HHP-List_1101.pdf)



## PAN UK's vital work in the UK and in developing countries

Pesticide Action Network UK is a registered charity dedicated to:-

- Eliminating the most hazardous pesticides,
- Reducing dependence on chemical pesticides,
- Promoting sustainable and equitable food systems and increasing the use of alternatives to chemical pest control in agriculture, urban areas, public health and homes and gardens

In the UK, we campaign for tighter regulatory controls on pesticides and encourage retailers to tackle pesticide problems in their supply chains. We provide advice on alternative ways to control pests and work with local communities to reduce public exposure to pesticides. In the developing world, we raise awareness about pesticide hazards and train farmers in organic and low input agricultural techniques to help them to

make a decent living without putting their own health, their families or their environment at risk.

Populations of bees and other insect pollinators have fallen dramatically in recent years. The reasons for these declines are complex and wide ranging, but there is little doubt that pesticides are playing a key part. PAN UK has prepared these fact sheets to cut through the confusion and provide an up-to date and balanced explanation of the role of pesticides in pollinator declines. To find out more and what you can do, please visit <http://bees.pan-uk.org>

Published by Pesticide Action Network UK. September 2012

PAN UK, Development House, 56-64 Leonard Street, London, EC2A 4LT

Tel: 44 (0)20 7065 0905, [admin@pan-uk.org](mailto:admin@pan-uk.org), [www.pan-uk.org](http://www.pan-uk.org)