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TABLE RONDE « PESTICIDES ET IMPACTS SUR L'ABEILLE : QUELLE PRISE EN COMPTE POLITIQUE PAR LES POUVOIRS PUBLICS ? » – AMPHITHÉÂTRE

Dr JM Bonmatin, CNRS - Centre de biophysique moléculaire & TFSF

The Task Force on Systemic Pesticides
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Néonics: impacts sur les groupes taxonomiques non-ciblés (www.tfsp.info)

MICROBES INSECTES POLLINISATEURS INVERTÉBRÉS TERRESTRES INVERTÉBRÉS AQUATIQUES AMPHIBIENS REPTILES POISSONS OISEAUX MAMMIFÈRES

IMPACTS: 1. Mortalité, 2. Perturbation du cycle de vie, 3. Perturbation de la reproduction, 4. Perturbation de la navigation, 5. Perturbation de la communication.

EFFETS ÉCOTOXICOLOGIQUES: 1. Mortalité, 2. Perturbation du cycle de vie, 3. Perturbation de la reproduction, 4. Perturbation de la navigation, 5. Perturbation de la communication.

IMPACTS OF NEONICOTINOID USE ON LONG-TERM POPULATION CHANGES IN WILD BEES IN ENGLAND

Wild bee declines have been ascribed in part to neonicotinoid insecticides. While short-term laboratory studies on commercially bred species (principally honeybees and bumblebees) have identified sub-lethal effects, there is no strong evidence linking these insecticides to losses of wild bee species. We report the effect of 10 neonicotinoid insecticides on the distribution data for 62 species of wild bees in England. Using a multi-species dynamic Bayesian occupancy analysis, we show that neonicotinoid insecticides reduce the probability of observing wild bees in 10% of sites. Species trapping on selected sites located from the coast of the crop, but were on average three times more frequently affected by neonicotinoids than during longer. Our results suggest that sub-lethal effects of neonicotinoids could scale up to cause losses of bee biodiversity. Restrictions on neonicotinoid use may reduce population declines.

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Official Journal of the European Union 21.12.2015

COMMISSION IMPLEMENTING REGULATION (EU) No 40/2015 of 27 Nov 2015

amending Implementing Regulation (EU) No 149/2013 as regards the conditions of approval of the active substances imidacloprid, thiacloprid and acetamiprid, and the conditions of approval of the active substances thiamethoxam, clothianidin and dinotefuran

Co-exposition des abeilles aux facteurs de stress

Proposition de réglementation:

==> tests obligatoires (pré-homologation):

- e.g. insecticide + anti varroa
- e.g. insecticide + fongicide
- e.g. insecticide + insecticide

==> puis test en labo & surveillance épidémiologique (post homologation):

- e.g. insecticide + virus
- e.g. insecticide + nosema spp
- e.g. insecticide + varroa spp

Conclusions (extrait)

Devant le constat de la multiplicité et de l'ampleur de l'exposition aux substances chimiques utilisées en santé des plantes et des animaux d'élevage, il est impératif d'œuvrer de toutes les manières possibles pour une diminution globale des intrants.

France: Interdiction partielle (1999, 2004, 2010, 2013) & interdiction totale en 2018

Italie: Interdiction locale (2008) et moratoire UE (2013)

Allemagne: Moratoire UE (2013) & interdiction additionnelle (2015)

Philippines: Interdiction locale (2014)

Japon: Interdiction partielle (2015)

Canada: Interdiction à Montréal (2014), Toronto (2015), Vancouver (2016)... 80% de réduction en Ontario (2017), nouvelle décision en cours au Québec

USA: Interdiction locale (Maryland, 2016) Moratoire sur les nouvelles molécules & ré-évaluation complète (2018)

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ipbes UNEP

Press Release: Pollinators Vital to Our Food Supply Under Threat

<http://www.ipbes.net/article/press-release-pollinators-vital-our-food-supply-under-threat>

- 16.5% – Percentage of vertebrate pollinators threatened with extinction globally.
- +40% – Percentage of invertebrate pollinator species – particularly bees and butterflies – facing extinction.

Various factors affecting pollinators

"Wild pollinators in certain regions, especially bees and butterflies, are being threatened by a variety of factors," said IPBES Vice-Chair, Sir Robert Watson. "Their decline is primarily due to changes in land use, intensive agricultural practices and pesticide use, alien invasive species, diseases and pests, and climate change."

The assessment found that pesticides, including neonicotinoid insecticides, threaten pollinators worldwide, although the long-term effects are still unknown. A pioneering study conducted in farm fields showed that one neonicotinoid insecticide had a negative effect on wild bees, but the effect on managed honeybees was less clear.

Numerous options exist to safeguard pollinators

- Decreasing exposure of pollinators to pesticides by reducing their usage, seeking alternative forms of pest control, and adopting a range of specific application practices, including technologies to reduce pesticide drift; and

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anses
Centre de Recherche pour l'Évaluation et la Sécurité des Produits

Appel à candidatures d'experts scientifiques pour la création d'un groupe de travail (GT)

Intitulé du GT : "Identification des alternatives aux usages autorisés des néonicotinoïdes"

Sans insecticide

- rotation des cultures
- choix des variétés résistantes (non OGM)
- semis tardifs
- procédés physiques (barrières, labours)
- substances de base (saule, ortie, etc.)
- agriculture biologique
- assurance mutuelle
- lutte biologique
- agriculture biodynamique,
- stimulateurs de défense naturelles (SDN)
- pièges à phéromones
- etc.

Avec insecticides

- lutte intégrée (IPM)
- OGM (ex: Bt)
- autres insecticides à plus faible risque
- agriculture extensive
- agriculture « raisonnée »
- agriculture conventionnelle
- agriculture intensive

Mais en premier lieu, il faut vraiment se poser (et répondre) à la question :
« Au fait, ces insecticides, à quoi servent-ils? »

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EPA United States Environmental Protection Agency

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Pollinator Protection

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Benefits of Neonicotinoid Seed Treatments to Soybean Production

EPA analyzed the use of the neonicotinoid seed treatments for insect control in United States soybean production. This report provides the analysis and EPA's conclusions based on the analysis. It discusses how the treatments are used, available alternatives, and costs.

EPA concludes that these seed treatments provide little or no overall benefits to soybean production in most situations. Published data indicate that in most cases there is no difference in soybean yield when soybean seed was treated with neonicotinoids versus not receiving any insect control treatment.

Neonicotinoids (mill kg)

Maize
Soybean
Cotton
Vegetables + fruit
Orchards + grapes
Wheat
Rice
Pasture + hay
Other crops

Soja : 540 tonnes
Maïs : 910 tonnes

Douglas & Tooker, EST 2015

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Cultures biologiques en bandes étroites sur billons

Jean Quentin, Ingénieur, Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (MAPAQ), Canada (<https://www.youtube.com/watch?v=gg0VszZY8rM>)

- Alternance soja, blé & maïs
- Bandes sur 3 rangs (2,3 mètre)
- Intercalaire de trèfle rouge (post-blé)
- Engrais (granules de fientes de poules x2)
- **Aucun pesticide**
- Permutation annuelle des cultures

- ♦ Biologique
- Raisonnée
- ▲ Conventiennelle
- Intensive

Soja

Marge nette (\$/ha)

Rendements (t/ha)

Blé

Marge nette (\$/ha)

Rendements (t/ha)

Maïs

Marge nette (\$/ha)

Rendements (t/ha)

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pas néonic →
néonic →

Sulfoxalor
Flupyradifuron

Merci à tous mes collaborateurs au laboratoire, en France et dans le monde,
Merci de votre attention.

Triodos Foundation
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