



Press release

Underestimation of bees exposure to pesticides: challenging the concept of bee attractive crop

Louvain-la-Neuve, 22 June 2017 - Compared to other world regions, Europe is very rigorous in assessing the health and environmental risks of pesticides. Before a new product is authorised, an assessment is made regarding its overall risk to humans and beneficial organisms, taking into account *inter alia* the risk of exposure to the pesticide and its toxicity to the target organisms.

For insect pollinators, and bees in particular, it has been traditionally understood that the risk of exposure is high for pesticides used on attractive crops that provide nectar and pollen (rapeseed, fruit), while non-attractive crops such as beet and cereals are not taken into account. The experts therefore consider that the overall risk is very low or even negligible for pesticides applied to non-attractive crops irrespective of their potential toxicity to bees.

This reasoning seems logical but does it reflect reality? A study published this Monday 19 June 2017 by the Center Apicole de Recherche et d'Information (CARI) and the Walloon Agricultural Research Center (CRA-W) questions the relevance of this approach. Researchers collected and analysed pollen pellets harvested by domestic bees late in the season (July to October). They find that some pesticides contaminate these pollens relatively often. However, during this time of year, these pesticides are not applied on any crop attractive to bees.

Louis Hautier, researcher at CRA-W: *"These contaminations could be linked to environmental drifting, notably on flowering bands and wildflowers on the edges of fields, and the persistence and systemic properties of these products could favour these contaminations."*

Noa Simon Delso, researcher at CARI: *"Although the study does not directly address the toxicity of products to bees, it shows they are likely more often in contact with pesticides than could be commonly expected on the basis of the usual farming practices. Therefore, risk assessment for pollinators and risk management practices should take these pathways into account."*

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About:

- The Beekeeping Center for Research and Information (CARI): is a non-profit organization primarily funded by the Walloon Region and whose objective is to promote and develop apiculture. It is a platform in direct contact with the beekeeping and the scientific world which develops concrete answers to the problems encountered by bees and beekeepers. Besides its research centre, it organizes courses, publishes technical and informative reviews like Abeilles & Cie and ActuApi, offers a service of beekeeping product analyses, etc. It occupies 14 people including 6 scientists. It is part of the Agro-Louvain Service platform of the Université Catholique de Louvain.
- The Walloon Center for Agricultural Research (CRA-W): is a public interest organization dependent on the Walloon Government. It develops its applied research, but also of a more fundamental nature in the field of agronomy in general by covering both agricultural production and its valorization and its relations with the environment. It employs highly qualified personnel with more than a third of scientists out of a total of about 420 staff and its experimental fields cover more than 200 ha and consists of arable crops, orchards, greenhouses, stables and piggeries. The CRA-W develops its research program in the context of ecologically intensive agriculture, that is to say performing, while limiting and making better use of inputs and taking advantage of the natural functionalities of agrosystems. Three research themes emerge from this: integrated and dynamic management of production factors, risk management and adaptation to change, management and production valuation. In addition to its scientific activities, the CRA-W ensures that the results of its research are disseminated rapidly to the profession and society. It also carries out service activities, whether analytical or experimental in the field or in the laboratory.

Appendixes:

Appendix 1 - Study Summary

Appendix 2 - Scientific Article Scientific Reports

We provide the following visuals to illustrate your articles:

Visual 1: Honey bee in a rapeseed field, a particularly attractive crop for bees.

Photo: Gilles San Martin (CRA-W)

https://farm1.staticflickr.com/499/31712077530_91f1476a37_o_d.jpg

Visual 2: Honey bee foraging a phacelia flower. Phacelia are very attractive flowers for bees and are frequently sown in flowering strips on the margins of the field or between two crops as a nitrogen trap (catch crop).

Photo: Gilles San Martin (CRA-W)

https://farm1.staticflickr.com/343/31277028843_20dcc394d4_o_d.jpg

Visual 3: Portrait of domestic bee.

Photo: Gilles San Martin (CRA-W)

https://farm6.staticflickr.com/5058/5454333517_c6ae72a2b1_o_d.jpg

Visual 4: Beet crops are not attractive to bees. Can pesticides applied to this type of crop nevertheless contaminate pollen harvested by bees?

Photo: Gilles San Martin (CRA-W)

https://farm5.staticflickr.com/4140/4799481326_9fe21ff0d6_o_d.jpg