4.5 Are flowering weeds in agricultural treated fields a sigificant exposure route for risk assessment?

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Abstract

As part of an industry-led initiative, the European Crop Protection Association (ECPA) have used available industry efficacy trial data to check the hypothesis of significant exposure via 'weeds in the treated field' exposure scenario, referred to in the EFSA bee Guidance Document, which suggests that if <10% of the area of use contains attractive flowering weeds then the exposure route is not relevant.

Weed recordings from over 8500 industry herbicide efficacy trials from a range of arable (sunflower, maize, oilseed rape, cereals, sugar beet, potatoes, peas and beans) and permanent crops (orchards, citrus and grapes) were anlaysed to check the hypothesis of significant exposure route via weeds in the treated field. Information was extracted from efficacy trial control data to determine if the occurrence of attractive flowering weeds constitutes less than 10% of the area of use, thereby highlighting that attractive flowering weeds in treated agricultural fields are not applicable for many commercially grown crops.

Here we present the analysis on the presence of weed species, growth stage of the weed species, attractiveness to bees of the weed species, the ground coverage of the weed species, the trial location and dates and the crop growth stage in the trials. The most pertinent questions being asked were 'are attractive flowering weeds likely to be present in arable and permanent crop fields?' and 'what percentage of the area of the treated field might be occupied by attractive flowering weeds?. The project builds on the initial work from Maynard et al, 2014.

4.6 Guttation as an exposure route in the risk assessment for plant protection products – Review of available data

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Abstract

Based on increased concern and awareness of the risks to pollinators from exposure to plant protection products (ppp), focus has been drawn to additional potential routes of exposure other than *via* pollen/nectar and direct contact. One potential source being considered for risk assessment is exposure following collection of contaminated guttation droplets by honey bees, which are known to exploit different water sources to satisfy colony needs. A risk could occur from this source when residues of water-soluble/systemic substances applied to a crop are present in the guttation liquid at levels which could result in toxicity to exposed honey bee colonies. Whereas toxicity can be measured in standardised laboratory tests, potential exposure via guttation droplets is more complex and three elements need to be considered as follows:

1: The concentrations of residues occurring in guttation water following ppp application;

2: The occurrence of guttation on a certain crop species; and,

3: The extent to which honey bees are actively collecting water via guttation droplets

These three points were used as the basis of a review of available data, which included 25 extensive regulatory studies conducted by industry specifically to evaluate the risk to honey bees from the occurrence of guttation in different crops. Assessments included the collection of guttation droplets by honey bees and almost always the potential effects at the colony level and measurement of residues in guttation liquid. Additionally, a review