Then in a next step in our risk assessment study on side effects we evaluated the impact of sublethal concentrations of Xentari® (0.01% via the sugar water and the pollen) on the foraging behavior of bumblebees with a new experimental setup in the laboratory. Here no change in the behavior of the workers was seen.

Overall the results showed that the tested Bt insecticides cause an effect on the biology of *B. terrestris*. However, more information about relevant environmental concentrations is necessary before making final conclusions about the compatibility of these compounds with *B. terrestris*.

Can pesticide acute toxicity for bumblebees be derived from honeybee LD50 values?

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Abstract

Pesticide acute toxicity towards animals is commonly assessed using lethal doses (LD_{50}). The LD_{50} can be generated with two routes of exposure: when animals ingest the pesticide (oral LD_{50}) or when it is in contact with it (contact LD_{50}). Toxicity values for honeybees are usually used in ecotoxicological risk assessment infering that honeybees represent the pollinating insects. LD_{50} values are also measured for bumble bees but to a lesser extend.

The first step of this exercise was to collect known LD_{50} (contact and oral) values measured for both honey bees and bumble bees.

Based on the LD_{50} values of 20 pesticides, the relationship between oral LD_{50} values of honey bees and bumble bees was calculated with the regression formula. The same calculation was done with contact LD_{50}. Results showed that there was an approximate relationship; toxic active ingredients for honey bees were also toxic for bumble bees. However, when honey bee LD_{50} values in the toxic range (LD_{50} < 1 µg/bee) and less toxic range (LD_{50} > 1 µg/bee), were compared to bumble bee LD_{50}, the relationship was very much less statistically significant. This both counted for the oral and contact LD_{50} values. It is concluded that the known LD_{50} values of honey bees could indicate broadly a range of LD_{50} values for bumble bees. However, for toxic and less toxic substances, the LD_{50} for bumble bees cannot be derived from known honey bee LD_{50} values. It must be noticed furthermore that the LD_{50} values for honey bees, presented in literature and databases of universities and legislation offices vary significantly.

IV. Test methodology (laboratory, cage, field, sub-lethal, etc.)

Influence of the brood rearing temperature on honey bee development and susceptibility to intoxication by pesticides

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Abstract

The brood rearing temperature is one of the most precisely controlled physiological parameters in a honey bee colony. Adult bees keep the brood area centre at 35 ± 1°C. In order to maintain the temperature within this narrow range, the high or low external temperature is contrasted by thermoregulation behaviours. Thus, normally only slight deviations from the optimal level may occur. Nevertheless, in particular situations the brood may be subject to conditions of suboptimal temperature. For example, a slight bee poisoning, causing