


Twelfth International Symposium on Pollination (ISPXII)

16 - 20 October 2023

Kirstenbosch Botanic Gardens, Cape Town, South Africa

BEE PROTECTION- WHO, WHY, WHEN, HOW?
BEE HEALTH, PESTICIDES, TESTING AND RISK ASSESSMENT- HAZARD AND RISK TO BEES, INTERNATIONAL DEVELOPMENTS AND THE ROLE, ACHIEVEMENTS AND CHALLENGES OF THE ICPPR BEE PROTECTION GROUP

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ABSTRACT

Protecting bees is an important task for society, due to the high importance of pollination services for food production. There are several threats and stressors that my damage or stress bees. The role of pesticides for bee health is intensively and discussed controversial in different parts of the world, unsurprisingly, as there are some communalities but also enormous differences in pesticide use. In many countries of the world, plant protection products and biocides are used to control insect and fungal pests, or to control weeds in agricultural fields. Pesticides are regarded in many parts of the world as major threats for bees, leading to risks for bee health, causing sublethal to lethal effects on individual bees, colonies or bee populations, or resulting in residues in bee matrices and bee products. While use patterns, applications and techniques, risk assessment and risk management as well as active substances used vary greatly between countries, some strategies to assess and investigate side effects have been developed in working groups like the ICPPR Bee Protection Group. Mostly, official institutions require and rely on internationally validated test guidelines, which ensure reproducible results and reliability of the test system. In the last decade, in Europe, but also other parts of the world major efforts were undertaken to improve risk assessment strategies. Honey bees often serve as a surrogate, but method development also aims at incorporating wild bee species, which brings some challenges.

Overall, bee protection requires a combination of testing strategies, an appropriate risk assessment and also management of risks, considering local and regional possibilities to implement mitigation measures and use of appropriate machinery. In the talk, current international developments, new test methodologies, risk assessment strategies and also strategies to evaluate the use under realistic conditions, and assessment of the risks – including possibilities and constraints of bee poisoning incident investigation will be presented as well as future foreseeable challenges be addressed.

The ICP-PR Bee Protection Group serves as a forum for addressing challenges and uncertainties associated with protecting and enhancing the health of honey bees (Apis mellifera) and non-Apis bees and to provide a means of coordinating international research efforts within academia, government, and industry to develop suitable testing and evaluation methods for assessing exposure and effects of factors impacting bee health.