3.2 Current status of the Oomen feeding test – modifications of the method to current needs*

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Abstract

The Oomen feeding test (Oomen et al., 1992) has been used for a long time to investigate potential effects of plant protection products (PPPs) on honeybee brood (Apis mellifera L.) following oral uptake of a spiked sucrose solution after a single administration. The publication of Oomen was originally designed to assess side effects of plant protection products with insect growth-regulating properties and provides a rough description of the method, only. It has never been validated or ring-tested. With upcoming more recent procedures (i.e. OECD Guidance Document 75, 2007) and new recommendations (i.e. Guidance Document on the risk assessment of plant protection products on bees, EFSA 2013) the Oomen method has been modified according to current needs. Moreover, the significance of the test has increased as the EFSA Guidance Document recommends the Oomen bee brood feeding test, next to the OECD GD 75 as one possibility to refine the risk on honeybee brood if concern is raised on them.

The aim of the presentation was to summarize the methodological modifications of the original Oomen feeding test during the past decades in order to harmonize assessments and schedules to current needs (e.g. OECD GD 75). In detail, a description was given on the set-up of the test including timing of assessments of adult and pupae mortality, colony development, colony strength, detailed brood development and number of replicates.

Moreover, an update of Brood Termination Rates (BTRs) as the key endpoint of brood studies was given (Lückmann & Schmitzer 2013) and proposals of validity criteria were made.

Finally, based on the revision, modifications were shown to adapt the acute method to a chronic exposure over a period of nine days according to the EFSA recommendation (Lückmann & Schmitzer 2015) (see also poster at this symposium by J. Lückmann & S. Schmitzer).

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