



Original thinking... applied

## Be Ready for the New Maximum Residue Level Tests in Honey

**Plant Protection Products (PPP)** are vital for protecting crops. It is possible for residues of PPPs to occur in honey following bees foraging on crops treated during the flowering stage or if a product is systemic, from non-target plants, or follow on crops.

### Maximum Residue Levels (MRLs\*) are required to ensure safety

Recently the European Food Safety Authority (EFSA) released its new technical guidelines for determining MRLs in honey which come into force January 2020. Historically MRLs for honey have been set at the default 0.05 mg/kg, as defined in Regulation (EU) No 283/2013, Annex 16.1, part A and B.

\*An MRL is the highest level of a pesticide residue that is legally tolerated in or on food or feed.

The amount of residues that are allowed in food, must be both safe for human consumption and be as low as possible. There are a number of ways methods used to determine levels which may be found in honey and allow safe MRL's to be set which MRLs can be set.

### Semi-field / Field Studies

Tunnel trials aim to determine the likely residues in honey based on the tested GAP\*, via direct foraging of bees on bee attractive nectar producing treated crops. A compound must be tested four times - can be undertaken in one season, separated by minimum of 10 km apart from one another in the same geography.

### Direct Colony Feeding Studies

If there are existing crop residue data this can be used in feeding studies where sucrose solution is spiked and fed directly to honey bee colonies. Residue analysis of the honey produced from this can be used to set the MRL.

If no residue data are available feeding studies may be performed at the rate at which residues are expected to be found at in the aerial parts of the plants. At least 4 test tunnels and 1 control with a single colony placed into least 4 test tunnels and 1 control with a single colony placed into each tunnel is required as the minimum replication for such studies. MRL values can then be calculated using the median transfer factor generated from these feeding studies.

If ecotoxicological studies are performed on bees, data on pollen and nectar from these studies might be useful depending on comparison of the applied GAPs.

At least 4 test tunnels and 1 control with a single colony placed into each tunnel is required as the minimum replication for such studies. MRL values can then be calculated using the median transfer factor generated from these feeding studies. If ecotoxicological studies are performed on bees, data on pollen and nectar from these studies might be useful depending on comparison of the applied GAPs.

To find out more about Fera Science's bee ecotoxicology facilities and capabilities, visit [www.fera.co.uk/bee-ecotoxicology](http://www.fera.co.uk/bee-ecotoxicology) or call +44 (0)300 100 0321.