

Summary of results from:

The determination of amitraz residues in honey and bees wax samples from bee hives treated with Apivar®.
T.M.Trower, D.R. Lauren – October 2002 (The Horticulture & Food Research Institute of New Zealand)

The objective of this study was to determine the total residue levels of amitraz and its major metabolites (expressed in terms of the active ingredient, amitraz) that may be present in honey and bees wax samples from bee hives that have been treated with Apivar® (3,3% amitraz) when used according to the label recommendations: four strips per colony (two strips per body hive) inserted in early spring with removal prior to honey supers addition onto the hives.

> METHOD

Eleven colonies housed in two super Langstroth hive bodies were established and re-queened with sister queens. The colonies were given four Apivar strips in October 2001. Upon the removal of the strips after a 6-week treatment, a full depth super with 10 frames of foundation was added to each hive.

TIMELINE

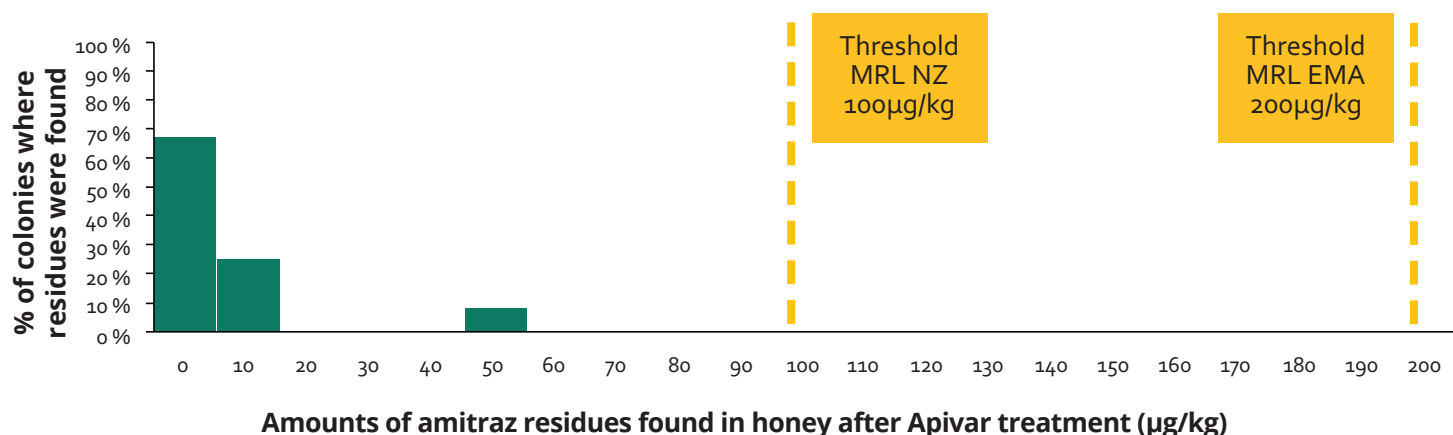


The method of analysis (gas chromatography with mass spectrometry) quantifies the amount of 2,4-dimethylalinine (DMA) as the sum of degradation product of amitraz and any of its metabolites (dimethylformanilide, N-methyl-N'-2,4-dimethylphenylformanidine). The limit of detection is 10µg/kg in honey and wax.

> RESULTS

At the correct dosage, amitraz residues are far below the regulatory threshold.

Residues in honey following Apivar treatment



MRL EMA: Maximum limit of residues that are tolerated in the European Union for amitraz and residues in honey for human consumption.
MRL NZ: Maximum limit of residues that are tolerated in New Zealand for amitraz and residues in honey for human consumption.