Authorisation for Oxalic Acid Comes a Step Closer
by A. Imdorf and E. Rademacher
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The European Authorities have decided that there is no need for an MRL (Maximum Residue Level) for oxalic acid in honey.

Oxalic acid is an important substance in the treatment against Varroa. Officially this substance is not yet permitted. European apicultural scientists working in the “Integrated Varroa Control Group” have made the effort to lift oxalic acid out of this legal ‘grey area’. Anton Imdorf and Eva Rademacher describe here the long weary route through the European ‘red tape’ jungle, which has paved the way for future authorisation of oxalic acid in Germany.

The ongoing battle against Varroa is unavoidable. An integrated treatment regime using different treatment methods in the course of the year is a necessity, due to the biology of the parasite and its host. This is the more necessary due to the mite becoming resistant to a number of acaricides used against it in many countries in Europe. The pharmaceutical industry is not likely to produce any new treatments due to the prohibitive cost of developing new drugs and getting them approved.

Because of the threatening treatment crisis the Bee Research Institutes throughout the whole of Europe have taken on the task of developing anti Varroa treatments themselves. The EU-Working Party “Integrated Varroa Control Group” was formed for this purpose. One result of this group is the development of oxalic acid to the stage where it is a standardised treatment method. It is now recognised as an indispensable substance in the integrated treatment regime for late autumn/winter application. The legal use of oxalic acid founded on the lack of the so called ‘maximum permissible residue level’ (MRL).

What is the purpose of an MRL value?
In order that a veterinary curative substance may be used in any member country of the European Union an MRL must be established for the substance by the European Agency for the Evaluation of Medicinal Products (EMEA). This process protects the consumer against any questionable residues in food stuffs, which could be present due to the application of a veterinary curative substance.

An MRL value already exists for formic acid, lactic acid and thymol, however not for oxalic acid. In order that oxalic acid could be used as a key substance in future integrated treatment regimes the members of the Integrated Varroa Control Party decided to initiate the procedure for an MRL evaluation at EMEA.

This move requires a comprehensive dossier to be compiled. On the basis of this submission the specialists in the EMEA judge the risk potential of the substance and decide, where nec-essary the highest allowable residue amount in the target food stuff.

An Expensive Procedure
The establishment of an MRL is normally associated with external costs of approximately 100,000 Euros.

Around 50% of this cost is for the establishment of the MRL, the remaining 50% is for the administration costs within the EMEA. Our work, that of the management of the project was undertaken on a purely voluntary basis. The European Working Party for alternative Varroa Control has no
for the Beekeeping Associations of the various European countries to amalgamate, so that scientists engaged in such work as described and in the interests of beekeepers generally would be able to speak to a competent international beekeeper representative. Such a facility would have significantly eased the work in this current case.

The MRL Dossier

The dossier comprises two components: Part One relating to the toxicity of oxalic acid and a further relating to oxalic acid residues in honey. In the toxicology part of the report, information about the substance, its pharmacology and the general and human specific toxicity is summarised. This part, 120 pages all told was put together by Dr Jean-Michel Poul of the AFSSA, the French authority for Food Safety in co-operation with the authors of this article.

The residues report consists of a further 75 pages and contains detailed data regarding the chemistry of the substance as well as a compilation of all publications relating to residue problems in hive products and the necessary analysis protocols. This report was compiled by Dr. Alex Wibbermann from the Fraunhofer Institute for Toxicology and Experimental Medicine in cooperation with the authors. The two independent experts have suggested that oxalic acid as an anti Varroa treatment substance be placed in Annex II of the Council Regulation (EEC) 2377/99.

Substances listed in Annex II do not require an MRL to be established, this means that there is no fixed 'upper limit' for residues in hive products for oxalic acid. This recommendation from both experts was based on the following:

Firstly, the natural oxalic acid content in honey when bees are treated in the correct manner with this acid would at all be negligible.

Secondly, the daily uptake of oxalic acid in honey is toxicologically negligible and considerably smaller than the amount taken up daily in food in general.

Decision by the EMEA

The submitted dossier was assessed and judged by the competent EMEA Commission for Veterinary Medicine (CVMP). The dossier was initially evaluated and commented upon by a commentator and thereafter by a co-commentator of the Commission. The report compiled by them formed the basis for the decision of the Commission. At a meeting on 9th and 10th December, 2003 in London the decision was taken to include oxalic acid as a treatment for bees in the above named Annex II (as already agreed for lactic, formic acid and thymol). This means that there is no oxalic acid content upper limit for honey. This of course does not mean that the beekeeper will not be punished if high levels of oxalic acid are found in honey. According to the European Honey Standard honey may not contain more than 50 milli equivalents of free acid. If higher residue levels of oxalic or any other acid are produced, the allowable free acid value will quickly be exceeded and the beekeeper then risks problems from the Food Standards Agency. With the correct application of oxalic acid there is absolutely no risk of this occurring.

What happens next?

This decision opens the door for individual countries to promote a national authorisation of the use of oxalic acid or other products in the treatment against Varroa destructor. Thus shortly the legal application of oxalic acid as an ecological winter treatment will be available. This is an important milestone on the way to achieving the aim of an alternative anti Varroa treatment breakthrough.

The Royal Highland Show can be found at various venues in Croydon and the by-products of working hives. There are observation hives to capture the imagination and the exhibition this year, within the marquee, takes a historical look at the methods related to Beekeeping and its development.

If you wish to compete in the various classes and would like entry details, or, if you would like more details regarding visiting the show please contact The Royal Highland Show on 0131 335 6200.