

## **SUMMARY**

### ***Antibiotics in beekeeping: state of the art, use and potential risks***

Key words: veterinary medicine, beekeeping, risk analysis

In the European Union no residual maximum limits (MRLs) are set for antibiotics in honey, nor there are antibiotics specifically registered for bees on the market. Even though there are rumours that antibiotics are largely in use especially by professional beekeepers.

France in 2016 asked European Medicine Agency (EMA) for an opinion on the registration of fumagillin for the treatment of nosemosis and this reveals the need of beekeepers to control infectious bee diseases. Oxytetracycline (OTC) and other antibiotics are registered different Countries, USA and Canada for the treatment of fowlbroods disease of bees.

Several aspects of the use of antibiotics in beekeeping are still unclear: the use in association with new beekeeping techniques to ensure consumer safety by reducing the risk of residues in honey bee products; food safety aspects for consumers related to the presence of residues; the level of contamination of bees and environment; the development of bacterial strains resistant to antibiotics. The project carried out a broad study on the possible application of antibiotics in beekeeping and its consequences for consumers, environment and the development of antibiotic resistance characteristics in bacteria associated with them. The project permitted to obtain a current picture on the use of antibiotics in Italy and the Latium Region; to set up guidelines to improve the therapeutic protocols and to assess the presence of antibiotic resistance genes in honeybee pathogens and associated microorganisms.