

Making Apiculture the EU's New Buzz Word of Animal Health

The importance of animal health and veterinary involvement in the apiculture industry is a much neglected topic within the EU. Recent increases in the incidence of disease and the emergence of colony collapse disorder (CCD) has led to a more reflective look on the contribution of the humble honeybee to the national and worldwide economy. *Apis mellifera*, or the European honeybee has been estimated by DEFRA to contribute £120-200 million pounds per annum. The contributions are not only through the direct production of honey, wax, propolis and royal jelly, but the added action of pollination of crops. "If the bees disappeared off the surface of the globe, then man would only have four years of life left" Albert Einstein.

Two aspects of concern that could be improved by the implementation of the European Union animal health strategy (2007-2013)

1. The current health status of the 'national hive' and the introduction of exotic diseases and pests.
2. The uncontrolled use of chemicals and pharmaceuticals within the hive that may enter the food chain.

During the past two decades there has been a marked deterioration in the health of the 'national hive', which can, in part be related to the increase in hive borne diseases, such as *Varroa destructor* and *Nosema ceranae*. This increase in disease has led to the administration of drugs and chemicals to the hive to try and maintain colony strength, and has had the knock-on implication of possible contamination of the honey with traces of antibiotics, such as polymixin B, used in the treatment of *Nosema* and synthetic pyrethroids, used to treat *V. destructor* across Europe. In the apicultural sector there is a fragmented national approach to disease control that does not echo the significant advances made in Community animal health made in recent years within the EU.

The unregulated use of chemicals and pharmaceuticals within the hive to treat disease can pose a potential risk to public health and food safety. The use of these chemicals is mainly due to a lack of research into alternative, and novel, control methods for disease within the hive. *Varroa destructor* already has a significant degree of resistance to treatments containing synthetic pyrethroids, which up until now had been the most efficacious control. Although non chemical methods are being implemented by beekeepers as part of a multimodal approach, there is currently no assured control against this devastating mite and the viruses it carries. Through further global research innovative solutions could be found.

To maintain the contribution of bees and apiculture to the farming and rural economy, improved bio-security is needed from the hive side to national and international levels. In order to implement this, beekeepers would need to be centrally registered and have individual identification for their hives. An

improvement in drug treatment records, run in parallel with registration, would further improve traceability and reduce the risk of chemical contaminants. Historically an important part of improving hive productivity has been through the use of foreign queens and the traits of their progeny. Importation of queens is still important to the industry, but there is little in the way of strict import laws and quarantine, or pre testing, to control the introduction of foreign pests and diseases. This could pose a future threat to the 'national hive' especially if notifiable pests such as *Aethina tumida*, the small hive beetle, or the *Tropilaelaps Spp.* are introduced to the UK. These could be seriously detrimental to the UK bee population, once introduced, and combined with the current lack of hive trace-ability, an outbreak could soon become an epidemic.

Bio-security at time of hive inspections is another important issue as the concept of hive side bio-security has not been explored. Inspectors and even beekeepers need to be made more aware of the risks involved in moving between colonies without a suitable emphasis on cleanliness and decontamination of clothing. Infections can be passed even through the movement of inspectors between different colonies.

The national hive already makes a significant contribution to the agricultural sector, but there is significant scope for economic growth. This could be achieved by encouraging new bee keepers by realising the potential of urban beekeeping, while promoting the importance of *Apis mellifera* to the rural community. There is also the need for further development of products in the medical and cosmetic fields.

There is an underestimated positive impact of the 'national hive' on the environment, which needs to be recognised. To promote best practice in beekeeping and improve the 'national hive' health, in order to support the EU animal health strategy (2007-2013), good husbandry practices need to be implemented. This could be achieved by a co-ordinated approach across the apicultural sector, involving: DEFRA, The National Beekeepers Association, beekeepers, vets and veterinary paraprofessionals. This more structured approach, with improved record keeping, could lead to the initiation of a recognised EU wide assured scheme. Performance indicators of the progress being made could be monitored against targets for the numbers of registered beekeepers gaining assured status.

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