

Protecting bees to safeguard our future

Beekeeping is an integral part of farming in every region of the world, as either a core or side-line business. Often it is small-scale and, in many countries, bees are farmed traditionally. The size of beekeeping operations depends on socio-economic factors: in some countries, 20 bee colonies are enough to support an entire family, while in others a single operation might comprise as many as 2,000 hives.

Honey and royal jelly are just two of the valuable foods derived from honey bees. As bees are the main pollinators of wild and cultivated plants, they render a vital service to ecosystems by contributing to their sustainability and to maintaining biodiversity. Humans therefore have bees to thank for our bountiful harvests of fruit and vegetables, which bolster world food security.

The loss of these key pollinators, either bred or wild, would be a biological, agricultural, environmental and economic disaster. Maintaining healthy populations of these pollinating insects (of which more than 17,000 known species exist) is a critical health challenge deserving the full attention of the global community.

It is very difficult to diagnose and control diseases of honey bees as they live only in highly socialised colonies. More than for any other species in the animal kingdom, the sound clinical observation and diagnosis of bee diseases requires a great deal of expertise.

Even though bees play such a vital role, beekeeping is given less attention than other livestock sectors, despite the major problems it currently faces.

Changes in agricultural practices are impacting on populations of bees and wild insect pollinators. In almost all cases, bee diseases merely serve to exacerbate existing factors contributing to colony collapse, such as irresponsible use of pesticides. Growth in the acreage requiring pollination leads to more intensive use of migratory beekeeping, rendering disease control even more difficult and encouraging disease transmission among colonies. Increased use of monoculture impoverishes cultivated plant species, reducing the nutrients available to colonies. Environmental pollution from all sources is also poisonous to bees and weakens colonies.

All this is compounded by the indifference of pharmaceutical companies, resulting in limited treatment options, and by widespread lack of training among beekeepers whose enthusiasm and empiricism does not always make up for insufficient knowledge. Not only does this severely inhibit the ability to detect early signs of disease and implement appropriate biosecurity measures within apiaries, it also encourages misuse of therapeutics.

To counter this alarming situation and in line with its mandate to improve animal health and welfare worldwide – and so help to fight poverty and hunger – the OIE recently reaffirmed its commitment to the sector by making bee mortality and

diseases one of the priorities of its Strategic Plan 2011-2015. However, bee health is no new concern for the OIE: the Delegates of its Member Countries adopted their first resolution on bees back in 1947.

Apart from addressing the high-profile collapse of honey bee colonies in North America, Europe and Japan in recent years, the OIE has been doing substantive work to provide Veterinary Services around the world with consistent, science-based recommendations on bee diseases and precautions for avoiding transboundary spread.

Indeed, bee diseases have become globalised mainly because of the failure by public administrations to control cross-border trade in breeding stock, genetic material and agricultural products. Yet most bee mortality is due to common diseases, including the six main infestations listed by the OIE, caused by *Acarapis woodi*, *Paenibacillus larvae*, *Melissococcus plutonius*, *Aethina tumida*, *Tropilaelaps spp* and *Varroa spp*. The *Varroa* mite, a small arthropod causing varroosis, has already invaded virtually the entire planet and, alone or in combination with other viral or chemical factors, inflicts serious damage on bees worldwide.

In response, the OIE develops international animal health standards on these bee diseases, which are considered and adopted democratically by the 178 Member Countries. This culminates in official certification that provides reliable guarantees for trade in breeding stock, genetic material and hive products.

By holding annual training seminars and making its network of expertise available to Member Countries on request, the OIE works to build national Veterinary Services' capacity to improve apiary surveillance and observations in the field.

OIE Member Countries have a statutory obligation to report animal disease events. Transparent animal health information is an important prerequisite for disease management because of the high risk of disease spread posed by migratory beekeeping and by regional and international trade in live bees, genetic material, beekeeping equipment and hive products. Online and mail-order sales of breeding stock, eggs and other items have been instrumental in the globalisation of bee diseases.

The OIE also contributes to the global dissemination of technical and scientific information by making online publications available free of charge.

Preserving the health of bees, both bred and wild, is an integral part of good environmental management, food security and enhanced global agriculture. Neglecting bee health and allowing our planet's bee populations to collapse would have a far-reaching impact on the environment, agriculture and the economy.

The international community should pay utmost attention to harmonising bee health management because, by protecting bees, we are also safeguarding our future.