

Press Release

Bee health: review of knowledge and outlook

For several years, a phenomenon resulting in the weakening and mortality of bee colonies has been observed in many countries. Various factors can affect bee health, alone or synergistically – infectious diseases and parasites, stress due to changes in food resources, exposure to plant protection products or changing climatic conditions – and these are now recognised by the scientific community. Faced with this worldwide phenomenon, ANSES is taking steps and on 9 December organised a one-day event for discussions on the topic bringing together French and European professionals, stakeholders and scientists. The most recent results of research into and monitoring of the health of bees and pollinating insects were presented. All those involved confirmed the need to unite their efforts to protect the health of pollinators, which are indispensable for the maintenance of biodiversity and as indicators of the health of the environment.

Surveillance of bee mortality in Europe

This day-long series of *Scientific Conferences* provided an opportunity to present the results of the first part of the EPILOBEE project, co-funded by the European Commission and coordinated by the Sophia-Antipolis Laboratory (the EU reference laboratory), which monitors bee mortality in 17 Member States. A considerable volume of data has been collected during this first part of the project. This now needs to be analysed in order to investigate the statistical links between colony mortality and other parameters (diseases, environment of the apiaries, veterinary products, etc.). The conclusions of the monitoring work conducted over two consecutive years should help suggest increasingly exhaustive avenues for research and surveillance, taking into account all the stress factors affecting bee health.

Monitoring pesticide residues

The subject of the monitoring of pesticide residues and their consequences on the health of wild or domestic pollinating insects was widely discussed during the day. The Sophia-Antipolis Laboratory presented its work on the development and validation of methods for the detection and identification of pesticides that are toxic for bees in every matrix related to beekeeping (bees, larvae, pollen, honey, bee bread or nectar). The Laboratory is also a participant in the Working Group set up by ANSES on the co-exposure of bees and bee colonies to various stress factors.

In addition, the Directorate General for Food (DGAL) presented the arrangements put in place for the monitoring of acute bee mortality, whose goal is to identify alerts at national level, and, if necessary, to launch investigations. A particular feature of the new scheme is that it will make it easier to detect the causes of acute bee mortality.

Finally, an Observatory for Pesticide Residues has also been set up by the ITSAP (Bee Institute) at the request of the DGAL. Its main objective is to collect, organise and exploit the results of analyses on the contamination of beekeeping matrices in order to provide clear information, taking multiple disciplines into account, on the exposure of colonies to pesticides. The Observatory for Pesticide Residues in bees' food resources will also provide support for "phytopharmacovigilance" activities, to be set up under the French Bill on the future of farming.

All the work presented by the French and European scientific teams during this one-day event contribute to a better understanding of the interactions between the various stress factors involved in the weakening of pollinating insects, which are essential to maintaining biodiversity.

Expectations of beekeepers and other stakeholders regarding the monitoring of bee health

The day ended with a round-table discussion on the expectations of beekeepers and other stakeholders regarding the monitoring of bee health. The stakeholders who spoke all stressed the progress made in terms of knowledge of the subject and the convergence of approaches and research at European level for better control over bee health.

However, difficulties remain and research must continue in order to better understand the effects of all the stress factors on the health of pollinators, whether domestic or wild. All stakeholders must therefore continue to unite their efforts. In addition, the new techniques and methods for collecting monitoring data, the ever-more-sensitive high-throughput instruments used in molecular biology and spectrography for the detection of chemical contaminants, should provide precise information on the factors causing the weakening of bee colonies, so that measures to counter them can be prioritised.

In its position at the interface between beekeepers and farmers (the users of pesticides), ANSES will continue to contribute to the implementation of the French Ministry of Agriculture's Plan for the Sustainable Development of French Beekeeping.