Bee gloom deepens

As the loss of bee colonies continues with no remedy in sight, British beekeepers have asked their government for a five-fold increase in spending on bee research,

Michael Gross reports.

Men and women in white protective suits with veiled hoods swarmed around the quarters of the British government on November 5, accompanied by the odd over-sized insect. "Give bees a chance" and "save our honeybees - increase research funding," their placards read, summarising a more elaborate petition that officials of the British Bee Keepers Association (BBKA) delivered to the government, asking for £8 million in research funding for the next five years. There have been heavy losses in the UK over the last two years, as in several other European countries and in the US. Around one in three bee colonies in the UK were lost last year alone.

According to BBKA calculations, the pollination by honeybees in the UK creates additional crop value of £165 million every year, at no cost to farmers. Compared with that benefit, the government spending of £1.5 million appears minuscule. Worse still, most of that money goes into routine inspections and the bureaucracy attached to that, leaving only £200,000 per year for research into what actually causes the current disappearance of colonies.

The association has drawn up a preliminary research plan outlining what research needs to be done urgently. Detailed molecular biology studies aimed at breeding more resistant colonies, and making use of the genome data of the honeybee represent the most expensive item on the wish list, at £3 million. It is followed by a programme to control varroa mites using fungi, at £2 million. This is a field where promising research had to be shut down for lack of funding. An extra £500,000 would be needed for the development of chemical ways of fighting varroa. Together with a number of smaller projects, the bottom line comes out as just under £8 million to be spent in five years.

Meanwhile, Britain's only professor of apiculture, Francis Ratnieks at the

University of Sussex, has secured a smaller grant to investigate what he considers a possible partial solution. The company Rowse Honey has committed £100,000 to his research into the use of bee strains that are very meticulous at cleaning up their hives and clearing out any debris that might harbour pests. The key question is whether the 'hygienic' trait, which is only present in around a tenth of the hives and, in those, only displayed by a minority of worker bees, could be spread more widely without affecting other aspects of the bees' performance.

In continental Europe, there have been some regional die-offs of bee colonies as well, including one in Germany that has been attributed to a specific pesticide from the group of neonicotinoids (see Curr. Biol. 18, R684). Researchers and other interested parties across Europe have set up a network called Coloss (colony loss; www.coloss.org) with

the aim of coordinating research internationally and obtaining funding from the European COST framework.

The country most severely affected by colony loss is the US, where the more industrialised practice of moving bee colonies around to service large monocultural areas adds to the environmental stress the insects are exposed to. The Agricultural Research Service (ARS) of the US Department of Agriculture has made funds available via the nationwide Crop Production research programme.

But, as agricultural and beekeeping practices are different in Europe, separate research is needed. BBKA president Tim Lovett concludes: "Bees are [...] pollinating a third of what we eat. We must identify what is killing them and that means research."

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Protest: British beekeepers demand more research funds as colony numbers continue to plummet. (Picture: Oli Scarff/Getty Images.)