



## Wild bees and pollination

*Recent studies have shown that wild bees and other insects have a crucial role to play in the pollination of both wild plants and crop plants. Over the past few decades there has been a dramatic decline in the abundance and diversity of pollinators, resulting from a loss of food sources and nest sites. This has also impacted on the farming sector. Sustainable cropping systems geared towards agroecology demonstrably contribute to maintaining wild bee populations. Nonetheless, the potential for encouraging wild bees is far from exhausted.*

Pollinators are key to maintaining biodiversity. Their activities enable reproduction of the majority of wild plants and crop plants. Pollinator decline not only results in decreasing biodiversity and the loss of a range of ecosystem services but also entails a significant decline in crop yields.

Insects such as bees, wasps, flies and beetles are the most significant pollinators of wild plants and crop plants and thus provide enormously valuable ecological and economic services for man and nature. In the temperate zone, 78% of all species of flowering plants are dependent on insect pollination<sup>[1]</sup>. Of the 109 most important crop plants, no fewer than 87 species (or 80%!) are entirely dependent on pollination by animals<sup>[2]</sup>. These crop species include economically important crops such as apples, strawberries, almonds, tomatoes and melons. The economic benefit of pollination to the farming sector is valued at an estimated EUR 153 billion annually<sup>[3]</sup>.

Bees, the most important pollinators in the insect world, are a diverse group with more than 20,000 species worldwide and 750 species in cen-

tral Europe<sup>[4]</sup><sup>[5]</sup>. Their key role is owed to their need to gather large quantities of pollen and nectar not only to feed themselves but also in order to feed their larvae. They therefore need to visit flowers very frequently compared to other flower-feeding taxa.

### **Wild bees' role as pollinators underestimated**

Natural pollinators such as wild bees (these include solitary bees and bumblebees) and hoverflies are responsible for the majority of pollination services. A British study has shown that the UK honeybee population only provides at most one third of pollination services, with the remainder being supplied by wild pollinators<sup>[6]</sup>. Another study showed that flower-visiting wild bees and hoverflies enhance fruit set of crops even where honeybees are frequent<sup>[7]</sup>. The fact that pollination by managed honeybees supplements, rather than substitutes for, pollination by wild insects was also demonstrated in a global study which compared the pollination services provided by honeybees and other wildflower visitors in 41 crop systems worldwide<sup>[8]</sup>.