

# Nesting boxes: Improve tree pollination with wild bees

## Problem

Wild bee pollination is essential to produce fruits of good quality and quantity. However, few habitats and resources are available in orchards to accommodate these wild bees.

## Solution

To support wild bees in orchards, it is necessary to: set up melliferous plant cover (i.e., producing nectar and pollen), install artificial nesting boxes and not apply insecticide treatments during the flowering period of fruit trees.

## Benefits

Wild bees visit more flowers than honeybees; some can be active at lower temperatures (Picture 1). Thanks to these two advantages, they increase fruit yields.

## Practical recommendation

- To make wild bee nesting logs, drill horizontal holes 2 to 10 mm in diameter and 9 cm deep in a piece of wood without bark of about 30 x 15 x 10 cm. Place the logs high up in the orchard or its immediate vicinity.
- To make a bundle of hollow sticks (Picture 2), cut hollow stems 20 cm long with an internal diameter of 2 to 10 cm (bamboo, reeds, elderberry). Assemble the stems into a bundle and place them in a tube made of waterproof material. Place the bundles in the plots with the stems horizontal.
- Many types of bee boxes are also available from specialist manufacturers (Picture 3).

Best combine these structures with the following measures:

- Sow flower strips in the orchard alleys and see that they start flowering when the apple blossom ends. This allows the wild bees active on apple blossoms to have pollen sources after apple blossoming has finished (see Further reading).
- Mow weeds not simultaneously in all the alleys (e.g., only half or third of the alleys) to always keep some areas with flowers.
- During the flowering period of trees, weeds, or plant cover, **avoid** applying products that are toxic to bees and favour night spraying when bees are less active.
- Plant mixed hedgerows around orchards with early flowering species such as hazel, dogwood, alder, and wild cherries.

## Applicability box

### Theme

Agroecology, Biodiversity and nature conservation, Food quality, Temperate fruits

### Keywords

Pollinators, Ecosystem services

### Context

Continental Europe

### Application time

All year long

### Required time

A few hours per hectare for the installation of the nesting boxes. Two working days to plant 100 m of hedgerows. Two working days/ha to sow flower strips, three moving/year to maintain them during five years.

### Period of impact

Flowering period of the fruit trees

### Equipment

Nesting boxes

### Best in

Orchards with bee-forage plants as cover crops in row or alley



**Picture 1: Bumblebee foraging on cherry blossoms.**  
(Photo: GRAB)



**Picture 2: Hollow stem bundle for nesting of wild bees.** (Photo: GRAB)



**Picture 3: Commercial bee box mixing hollow stems and cavities in clay.** (Photo: GRAB)

## Further information

### Video

- Encourage wild bees (EN)

### Further reading

- Wild bees and pollination (DE, EN, FR)
- Perennial flower strips: a tool for improving pest control in fruit orchards (DE, EN, FR, and more)
- Building and managing Bee Hotels for Wild Bees

### Weblinks

- Check the [Organic Farm Knowledge](#) platform for more practical recommendations.

## About this practice abstract

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**Permalink:** [organic-farmknowledge.org/tool/44721](https://organic-farmknowledge.org/tool/44721)

**Project name:** BIOFRUITNET- Boosting Innovation in ORGANIC FRUIT production through stronger networks

**Project website:** <https://biofruitnet.eu>

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