

bees

BEE AWARE

Concerns over negative effects of imported bumblebees on native species

Tomás Murray, Eamonn Kehoe & Finbarr Horgan Teagasc, Oak Park and Kinsealy Research Centres

Every year, Irish fruit producers import commercial bumblebee hives from Holland and Belgium for the pollination of strawberries, tomatoes, apples and other crops.

These imported bees help growers achieve higher yields, better quality fruit and are vital for the continued growth of the Irish protected crop and horticulture industries.

Recently, however, alarm bells have begun to ring because of concerns over the potential negative effects of imported bumblebees on native species.

What's the problem?

Ireland has 20 bumblebee species (<http://www.tcd.ie/Zoology/research/Bees/>), but the bees imported by fruit growers are not native to Ireland. The imported species, called *Bombus terrestris*, is found across Europe and north Africa. Ireland and Britain share a unique form of this bumblebee called *audax* that is not commercially reared for the European market. Irish and imported queens can be easily distinguished from each other based on colour.



Tomás Murray and grower Garry McCarthy of Sallins, Co Kildare, demonstrate how to properly dispose of a beehive.



Bombus terrestris, audax (left) and *Bombus terrestris dalmatinus* (right).

Imported bumblebees could potentially:

- Introduce parasites and disease to Irish bees.
- Compete with Irish bees.
- Hybridize with native Irish bees.

What's the solution?

To minimise potential negative effects, hive manufacturers should check for parasites and diseases among their stock. Furthermore, they should fit queen excluders to prevent any new queens from escaping and mixing with native populations.

However, males can still escape to breed with Irish queens, and even the workers of this species are known to go to other hives and lay eggs. Therefore, growers are asked to properly dispose of their hives.

How do I dispose of my hives?

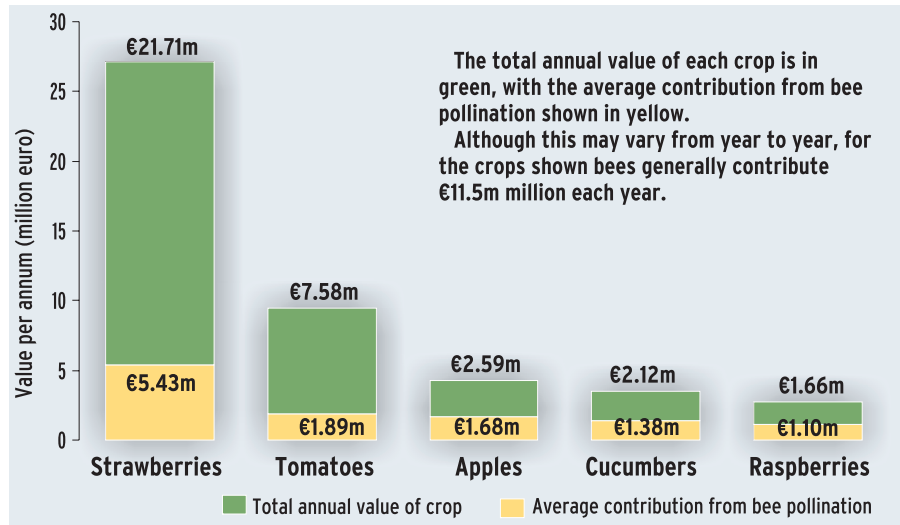
Imported hives should be properly destroyed at the end of their useful lives, when the number of workers has declined. This decline can vary with climate and food availability, but, as a rule of thumb, hives should be disposed of approximately eight weeks after they are installed.

Growers should be particularly vigilant between July and October because this is the time that Irish bumblebees are mating.

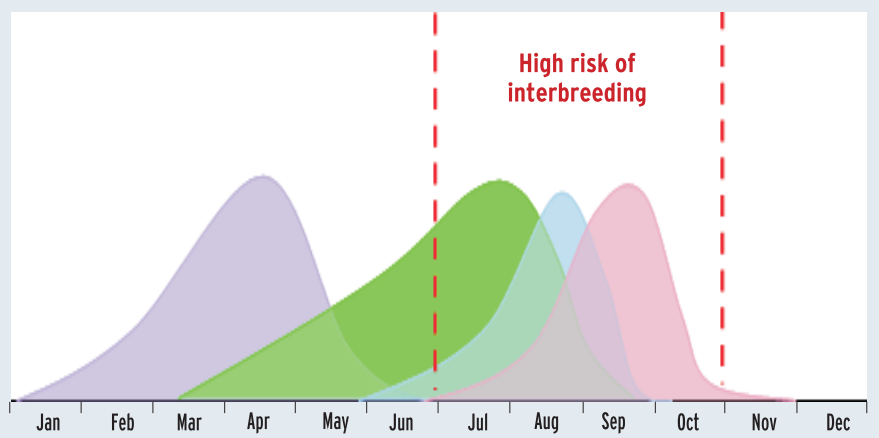
The International Biocontrol Manufacturers' Association (IBMA) recommends that growers properly dispose of hives as follows:

- Lock the hive using the plastic shutter at the front.
- Carefully remove the food stores underneath the hive.
- Place the hive in a securely fastened bag and leave for at least one week.
- Hives can then be disposed of in the same way as other agricultural refuse.

Proper hive disposal is the first step towards effective isolation of Irish and imported bees and allows growers to play a part in protecting our Irish fauna.



Emergence times of native *Bombus terrestris* in Ireland



“ Proper hive disposal is the first step towards effective isolation of Irish and imported bees and allows growers to play a part in protecting our Irish fauna.”



What's in your bumblebee hive?

