

Sustainability statement

Kings Orchard has always implemented methodology and has endeavoured to keep bees and produce honey and hive products in a sustainable way with a holistic view to our impact on the environment.

Bees

Traditionally beekeepers requeened their colonies with imported exotic varieties* of bees every two or so years, culling the existing queen.

At Kings Orchard we have set up a sustainable program of rearing our own queens with the view to expanding our colony numbers. The bees will naturally replace an existing queen if she fails, and some queens will maintain a viable honey producing colony for up to five years.

Our initial queen rearing was with locally sourced and bred New Zealand Italian (*Apis mellifera ligustica*) bees, however in recent years we have moved towards rearing **Native Cornish Dark bees** (*Apis mellifera mellifera*) as we have found them to have adapted to the local Northern Maritime climate, produce honey in all conditions, are quiet on the comb, easy to handle, overwinter well and are frugal with winter stores.

We continue to keep and breed our own local stock of New Zealand Italian bees as they produce brood early in the season and can be used as surrogates in our breeding program for our Native Cornish Dark bees.

**Over 20,000 Non Native (Exotic) Italian, Carniolian, and hybridised (so called BUCKFAST) bees were imported from Greece, Italy ,Malta, Cyprus and Denmark in 2019, plus 1000's of "packages of bees", this is not sustainable.*

Imported bees are sold mainly into the hobbyist market to beekeepers with two to three colonies of bees, which have lost their unadapted bees over winter.

There are some Honeyfarmers with 1000+ colonies who requeen, on an annual basis to maximise their honey production, this is on a par with "factory farming"

The largest importers have made arrangements to breed bees on a commercial scale to import into the UK to meet the demands of the hobbyists and bee equipment supply houses.

This is despite the British Beekeeping Association advising its membership not to import bees, stating that importing bees is not sustainable and may present a disease risk.

Feed

We have in previous years imported circa 1 tonne of inverted sugar syrup to feed the bees for winter and for our summer bee breeding program, this to supplement white granulated cane sugar bought in bulk, which was used to make up a syrup solution.

We have now invested in a cold water sugar syrup system and have sourced a supply of white granulated beet sugar that would have otherwise gone to landfill, we do have to top this up with

bought in sugar but will only purchase “Silver spoon” or similar white granulated beet sugar, and sugar fondant, sustainably grown and processed in the UK, dramatically cutting down “food miles”

Beehives

The majority of our colonies are housed in BS National hives made from English grown Western Red Cedar (WRC), many sourced as seconds from one of the major beehive manufacturers and made in the UK.

English grown WRC does not have such a fine grain as WRC grown overseas, however is perfectly fit for purpose for beehives, and saves air miles.

We add insulation (50mm Kingspan or similar) in the roofs of all of our colonies and utilise under entrance open mesh floors, to provide the best housing for our bees.

We do use some polystyrene hives, nucleus boxes and mating nucs, the life expectancy of these, as with the polyurethane insulation used in the hive roofs, is as much if not more than our WRC hives, and the polystyrene and polyurethane is widely recyclable.

Apiary sites

We try to keep our bees within a 25 mile radius of Kings Orchard and arrange out weekly apiary visits in the most sustainable routes to reduce travel time and fuel usage.

Keeping the Native Cornish Dark bees in mating apiary sites that are isolated to some degree from introgression from imported exotics has been difficult, as we have no control over the activities of other beekeepers that it seems are often ignorant of our aims in breeding a sustainable population of Native Cornish Dark bees.

Within the 25 mile radius we can satisfactorily isolate our New Zealand bees by utilising the topography of the land.

We have also been working with other beekeepers to develop methods of sustainable beekeeping and queen rearing (B4 project, Mt Edgcombe Native Bee Reserve, Blackdown Hills Native Black bee breeding project)

Disease prevention and Bee treatments

Kings Orchard is registered with APHA on Beebase and our bees are inspected annually for notifiable disease (European foul brood and American foul brood) we also monitor for Small Hive Beetle and *Tropilaelaps* mite and have Asian Hornet traps in our apiaries.

We do not use harsh chemicals (Amitraz, Maqs/Formic acid) for *Varroa destructor* mite control, but implement a system of oxalic acid sublimation to keep mite numbers low, and select for bees showing hygienic behaviour, we add natural thymol to winter feed to prevent fungal growth in the sugar syrup and Nosema within the colony.

Used hives and nuc boxed are cleaned with Washing soda and or torched and then soaked in a 5% solution of bleach for 20 minutes as described as best practice by NBU/FERA

Honey extraction, Processing Bottling and Labelling.

We have our own " in-house" Honey extraction, Processing Bottling and labelling facility housed in a recently renovated and now highly insulated, 500 year old skibber within the curtilage of Kings Orchard.

Honey supers are uncapped with a warm air system, spun out in radial honey centrifuges and then returned to the same colony of bees for refilling or at the end of the season for clearing. This method of uncapping is more sustainable than the traditional use of a knife to remove cappings as the bees rework the beeswax comb. New foundation is sourced from a company that only supplies English beeswax. Old, damaged or otherwise used beeswax and frames are recycled.

Glass Bottles are purchase new in bulk, glass is widely recyclable, we do not reuse bottles or use plastic bottles (Squeezie Bears) Bottles are washed and sterilised in a commercial washer before use.

Bottle lids from the same supplier are metal and widely recycdable (we do not use plastic lids)

We use a heat shrink plastic container safety anti-tamper seal which is recyclable.

Our labels are made from a biodegradable paper with non-toxic inks.

Cut Comb boxes are bespoke and unique to Kings Orchard, these have been locally sourced and manufactures from 100% biodegradable materials with non-toxic inks, with a widely recyclable clear PVU lid.

The only commercially available cut comb boxes are made from single use plastic and do not meet with our aim of a high level of sustainability

Energy use

Heaters and honey warmers are set on thermostatic control units to reduce power use, all lighting is now LED. We are investigating solar power units for water heating and power generation, and have rainwater collection systems in place.

Environment

We are constantly working towards sustainable methodology as a part of a solution to climate change. We work with farmers within the agricultural and horticultural sectors to provide honey bees as pollinators to increase yields of crops that in turn reduced the need for fertilisers, boost productivity, sequesters carbon and reduces emissions of greenhouse gasses.

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