



The extraordinary honey bee and its impact on the food we eat

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Honey Bee
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The humble honey bee is responsible for much more than the honey drizzled on our crumpets or porridge. From almonds to avocados to macadamias, **honey bees are vital for the pollination and production of many of our favourite foods.** Honey bees also contribute to the meat we eat with some livestock feed crops dependent on pollination. One third of Australian food that ends up on our plate is dependent on honey bee pollination.

Honey bees are vital to filling our bellies and to the Australian economy. With over 35 food industries' crop production dependent on pollination, the annual contribution of the humble honey bee is **\$14.2 billion¹** to our economy. In addition, honey and hive products also contribute \$147 million in farm gate value (gross value of production) to the Australian economy.



Snapshot of beekeeping in Australia²



Commercial beekeepers

1,800



Tonnes average honey production per year

20k



Commercial hives

530k



In honey crop and beeswax production

\$147m



Production from public forests

39%



Annual contribution of pollination to economy

\$14.2b



Production from private forests

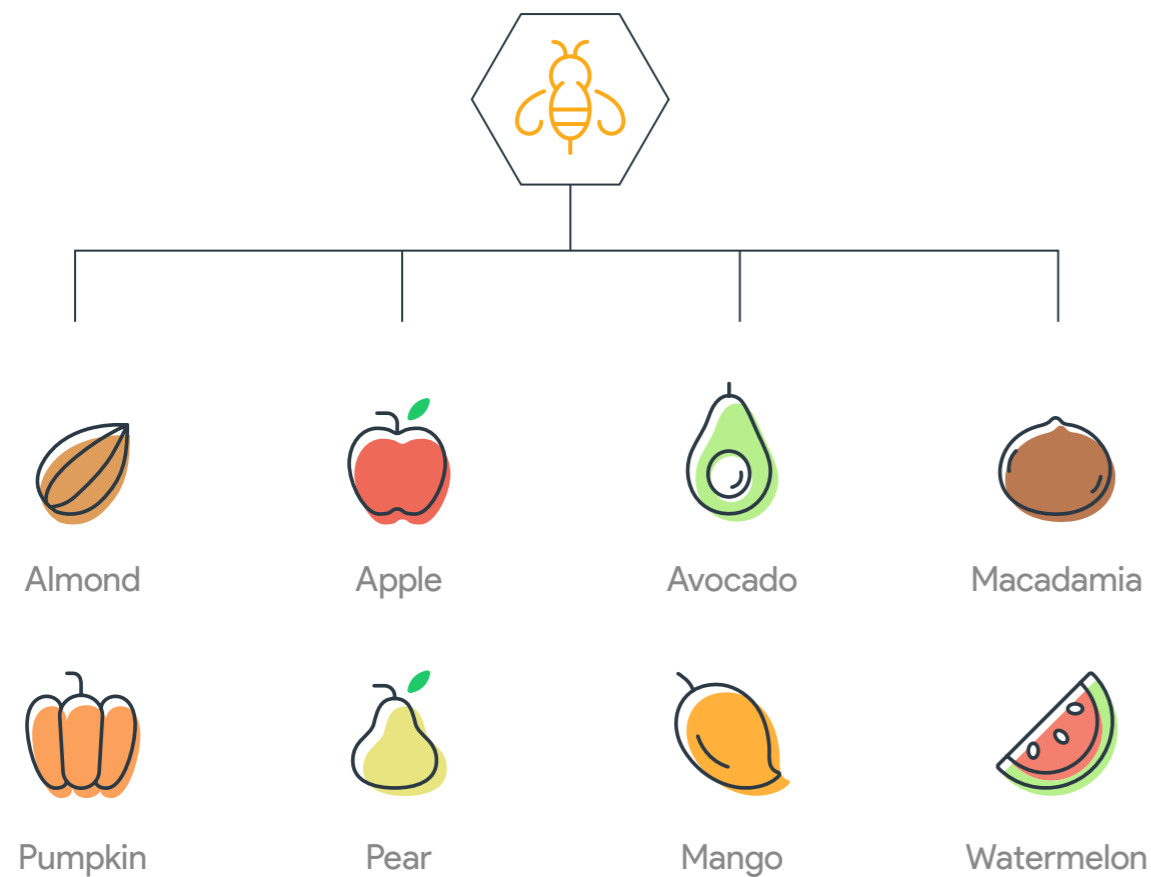
39%

¹Karasinski J M (2018) The economic valuation of Australian managed and wild honey bee pollinators in 2014-15, Curtin University.

²Data sourced from Michael Clarke and Danny Fe Feuvre, Size and Scope of the Australian Honey Bee and Pollination Industry – A Snapshot. Incomplete Working Draft: 27 May 2020 for AgriFutures.

65% of horticultural and agricultural crops require honey bees for pollination

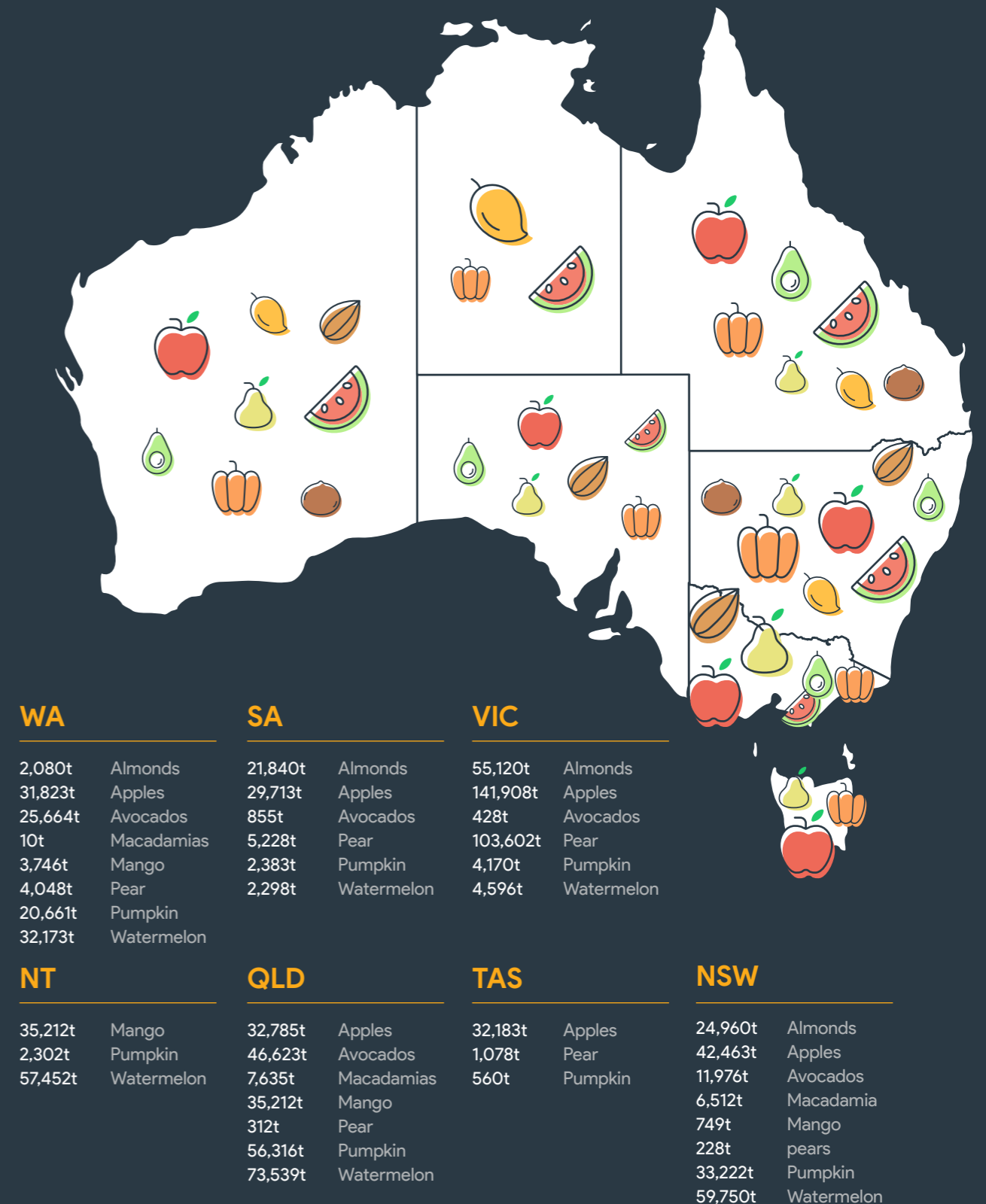
In Australia, 65% of horticultural and agricultural crops introduced since European settlement require honey bees for pollination. Various tree, vine, broadacre and seed crops are largely dependent on this process for their yield. Without bees these fruits, seeds, nuts and vegetables would not make it from the paddock to our plates. The eight industries examined here show the importance of honey bees and pollination services for Australian agriculture and the nation's food security.



These industries are **70%-100%** dependent on honey bee pollination for the production of crops.

Crop production by state 2018/2019

States and territories across Australia are dependent on honey bees and pollination services to produce hundreds and thousands of tonnes (t) of crop.



Hives and honey bees required for Australian production

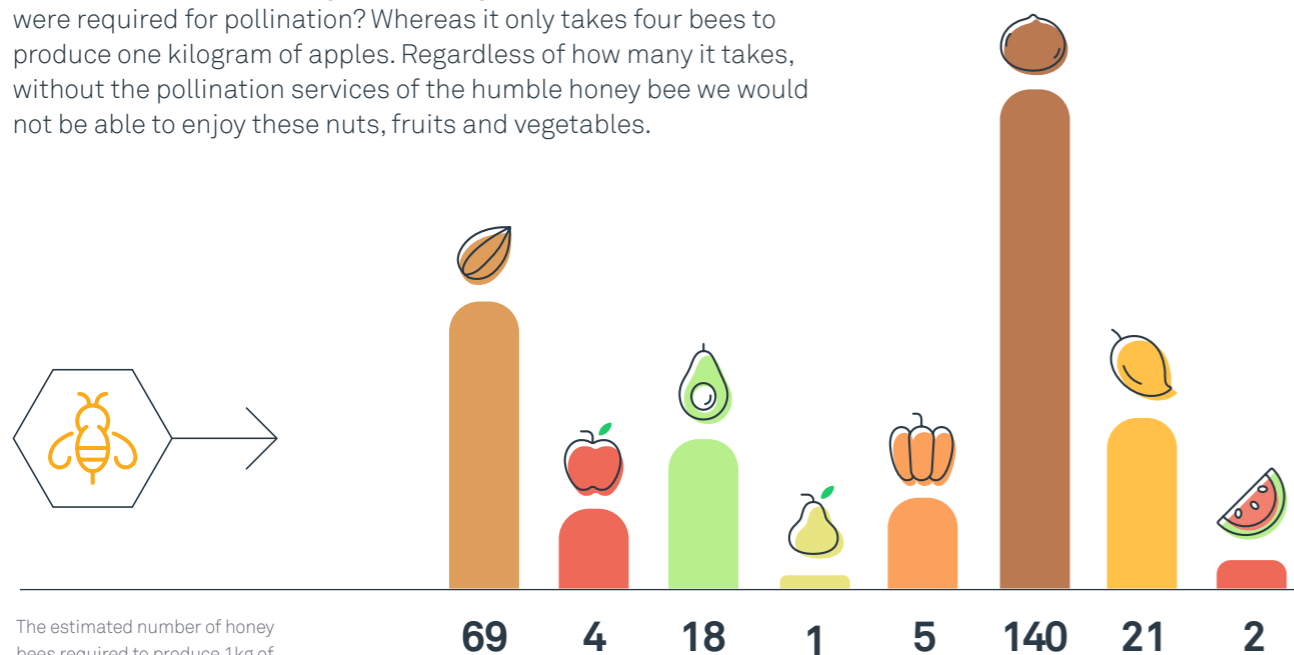
Commercial beekeepers provide pollination services to ensure production of our favourite food crops. For pollination each hive contains between 40,000 and 70,000 honey bees (depending on the crop being pollinated). The honey bees pollinate the fruit by taking pollen from one flower to the same or a different flower. This is an important process to produce nuts, fruits and vegetables of these industries, along with many others.



The conservative estimated number of hives and honey bees required to produce crops across Australia.

Honey bees required to produce 1kg of crop

Did you know for each kilogram of mangos you eat, 21 honey bees were required for pollination? Whereas it only takes four bees to produce one kilogram of apples. Regardless of how many it takes, without the pollination services of the humble honey bee we would not be able to enjoy these nuts, fruits and vegetables.



The estimated number of honey bees required to produce 1kg of crop from each industry.





Hives required per hectare

The number of hives per hectare (ha) required to produce crops is different for each industry. The exact number depends on many factors, including:

- Grower awareness of the importance of pollination
- Grower willingness to pay for pollination
- The attractiveness of the crop to honey bees
- The crop's ability to generate honey and pollen
- The crop variety used and the presence of unmanaged honey bee colonies.



4/ha



4/ha



5/ha



2.5/ha



2.5/ha



2.5/ha



8/ha

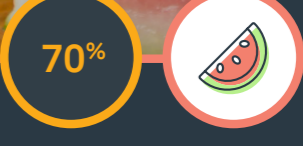
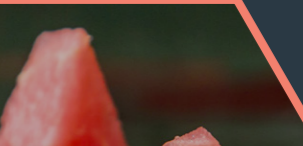


3.5/ha



The conservative (lower) estimated number of hives per hectare to produce crops.

Snapshot of each industry



dependence on honey bee pollination



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This document is a summary of content
taken from Clarke, M & Le Feuvre, D (2020)
Size and Scope of the Australian Honey Bee
and Pollination Industry – A Snapshot

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