

HONEY BEE BEST MANAGEMENT PRACTICES

A QUICK GUIDE for growers

Providing a safe environment for honey bees to forage, and maximising the number of almond flowers pollinated is a year-round activity. Here is a summary of what growers can do in their orchard to promote bee activity while keeping bees safe.

This is a guide only. Any improvements to these practices will only improve your outcome. Especially consider the communication with your beehive provider. The more information you can provide to them and the earlier you can provide it will allow better preparation of beehives to ensure a successful pollination outcome.

Summer - December to February



- ✓ Establish early contact with your beekeeper and/or bee broker to indicate your pollination needs (number of hives). Beekeepers can begin to prepare hives in autumn.
- ✓ Manage summer weed control in and around hive locations to minimise weed-seed build up (caltrop and gentle Annie).
- ✓ Monitor your orchard for early signs of pests and disease. Manage orchard inputs to prevent pest and disease and implement orchard hygiene practices to reduce the need for pesticides.

Autumn - March to May



- ✓ Plant flowering cover crops in late March to ensure maximum use of rainfall. Alternatively, encourage voluntary weeds e.g. turnip weed, clovers and brassicas to establish that flower at the same time as almonds.
- ✓ Contact your beekeeper and/or bee broker to discuss pollination agreements and document expectations for each party including hive standards; stocking rates; hive locations; audit arrangements; timing of hive movements (in and out); maintaining water sources; and pesticide plans. Negotiate a price based on the agreement details.
- ✓ Contact third party auditor/beekeeper to arrange details for hive health assessment.
- ✓ Develop and document a pesticide plan in consultation with agronomists, agricultural suppliers and beekeepers. Nominate pesticides that are not dangerous or toxic to bees.
- ✓ Communicate details and specifications of the pesticide plan to spray operators including the honey bee BMP quick guide for spray operators.



- ✓ Maintain suitable locations for bee hives including all-weather roads for heavy vehicle access and providing enough area to load and unload hives. Keep areas free of weeds during the year to prevent build-up of weed seeds (in particular three corner jack).
- ✓ Update first-aid kits with EpiPens, review procedures and train all staff in responding to bee stings and allergic reactions including anaphylaxis.

Winter – June to August (Pre-bloom)

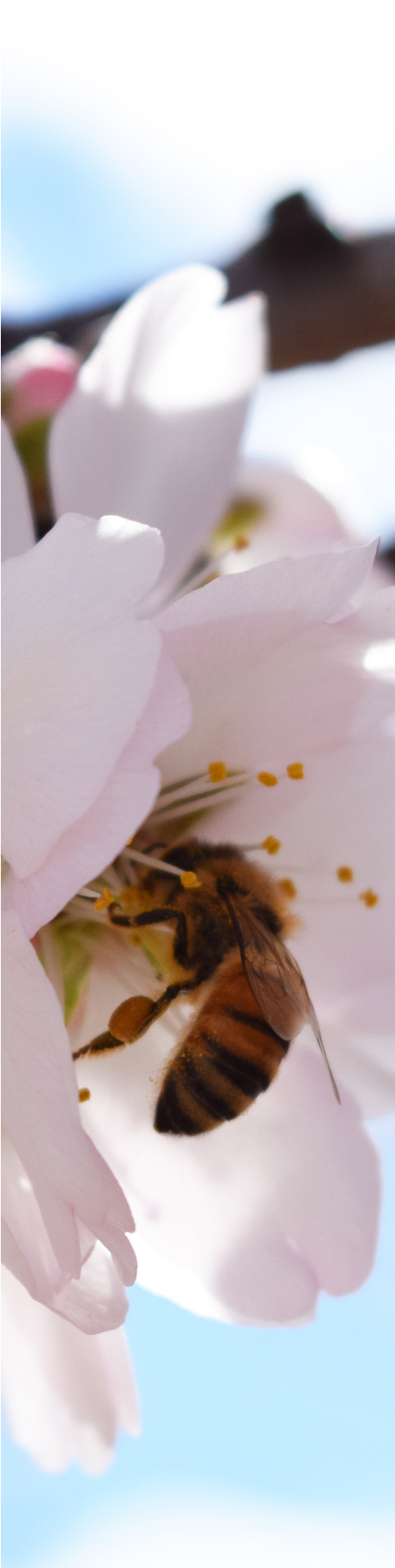


- ✓ Execute pollination agreements including a map for hive locations.
- ✓ Seek a signed Certificate of Compliance (against the National Bee Biosecurity Code of Practice) from your apiarists.
- ✓ Notify neighbours at least 10 days before bee hives will be brought into the orchard and the full period that hives may be present.
- ✓ Do not spray any insecticide in the ten days prior to hives being moved into the property or while hives are on the orchard.
- ✓ Monitor flower buds across the orchard and ring the beekeeper when buds start to swell and green tips show, to arrange hive delivery targeting 5-10% flowering. This may happen more quickly in warm weather or delayed with cool conditions.
- ✓ Inspect the property for any site hazards such as open drains, orchard wires, fences, irrigation pipes, ditches, and clearly identify the location of these hazards with hazard tape/witches' hats etc. Notify the beekeeper in writing prior to arrival and arrange for a site inspection during daylight hours.

Winter – June to August (Bloom)



- ✓ Be ready to receive trucks arriving at night to unload hives.
- ✓ On arrival, inspect vehicles, hives, machinery and equipment for signs of soil, plant material, weed-seeds, honey, wax and colony debris. Consider using high pressure wash-down facilities with disinfectant to remove any contamination and dispose of waste.
- ✓ Notify the third-party auditor of hive arrival and organise a hive health audit/assessment within seven days. Keep the beekeeper informed of audit details so they can assist with accessing hives and minimise disruption to the colony.
- ✓ Maintain clean water sources with floats or landings for bees to rest and drink. Replace water sources weekly and immediately after any pesticide sprays.
- ✓ Do not spray insecticides while bees are in the orchard and only use chemicals discussed and agreed with the beekeeper as listed in the pesticide plan.



- ✓ Avoid spraying fungicides during the day (between 8:00am and 5:00pm). Stop spraying before sunrise allowing enough time for the spray to dry and before foraging starts that day. Thoroughly flush any insecticide or residual chemical from tanks and spraying equipment before spraying. Dispose of any insecticide-contaminated liquid or other bee-toxic material so that bees cannot gain contact. **Refer to the honey bee BMP Quick Guide for Spray Operators.**
- ✓ Notify beekeeper, with a minimum of 48 hours' notice, if there is a change to the pesticide plan or before spraying fungicides with "dangerous or toxic to bees" on the label.
- ✓ Walk through orchards during bee flight hours and look for bees carrying pollen on their legs indicating pollination is taking place.
- ✓ Monitor areas around hives and notify the beekeeper immediately of any signs of dead or dying adult bees. Report any suspected pesticide-related event to your relevant state government agency as soon as possible. Record date, time, location, wind direction, sprays used, and collect samples or photos should an investigation be required.
- ✓ Monitor flowering across the orchard and keep the beekeeper informed about the rate of flowering. Pollination is finished when 90% of flowers, on the latest blooming variety, are at petal fall. Bees need to be removed at this time if not provided with an alternate food source.
- ✓ Honey bees are loaded onto trucks/heavy vehicles in the afternoon to allow foraging bees to return to the hives on the truck before driving away. Growers are responsible for ensuring all parties involved in the heavy vehicle supply chain use safe practices during loading and transporting hives within their control.
- ✓ Consider providing washdown facilities and remove any soil, plant material or weed seed from trucks or equipment prior to leaving the orchard and reducing the spread to other properties.

Spring – September to November



- ✓ After hive removal, check within 1-2 kilometres of where hives were located. Bees may still be foraging.
- ✓ Before making insecticide applications, register your spray through the [BeeConnected](#) app to check for hives and alert beekeepers in the area.
- ✓ Review the pollination season and document any issues that need to be addressed or any improvements that could be made for the next year. Communicate these to the beekeeper as soon as possible to facilitate discussion and avoid last minute problems.

**Hort
Innovation**
Strategic levy investment

**ALMOND
FUND**

This project has been funded by Hort Innovation using the almond research and development levy and funds from the Australian Government. For more information on the fund and strategic levy investment visit horticulture.com.au