

Factsheet #301

PACKAGED BEES - HANDLING, HIVING & SPRING MANAGEMENT

Packaged bees are used to establish new colonies and replace winter losses. Packages may come from southern British Columbia and New Zealand, while queens are imported from New Zealand, Australia, Hawaii and the continental USA. All bee imports into Canada require a federal import permit.

A. The Package of Bees

A package of bees usually weighs 1 or 1.5 kg (2 or 3 lbs). The 2 lbs package contains approximately 8,000 bees; the 3 lbs package has about 12,000 bees. The bees are shipped in a box with four wooden sides and screened material in the front and back. It is 22 cm (8.5") high, 40 cm (16") wide and 14 cm (5.5") deep. An inverted can filled with sugar syrup and placed inside the box provides feed for the bees during transit. Some New Zealand packages are shipped in tubular containers with a gelled feeding source.

The package contains a young queen that had started laying prior to being caged and shipped. The queen is kept in a small wooden cage with one screened side. The caged queen is well-protected during transit and fed through the screen. This contact with the bees improves her acceptance when the package is hived.

B. Ordering Packages

Packages should be ordered early. Orders can be placed with a BC producer or local supplier. Some local beekeeper clubs place a large single order to economize on price, permits and shipping.

When ordering from overseas sources, valid federal import permits must accompany shipment. For detailed information, please contact the Canadian Food Inspection Agency (CFIA) at 403-292-5828 (www.inspection.gc.ca).

Packages should arrive approximately 10 to 12 weeks prior to the main nectar flow. In northern areas, the nectar flow does not start until July, allowing for packages to arrive in mid to late April.

For southern areas where the nectar flow starts in mid to late June, a late April delivery does not offer enough time for population build up unless a three-pound package or nuc is used. Beekeepers in southern areas are less dependent on packages since wintering of bees is easier.

C. Getting Ready for Package Arrival

- Equipment and supplies must be ready before packages arrive. Bottom board, hive body, inner cover and hive cover should be ready to use. Combs should be selected and placed in the brood chamber.
- **Preparation of the brood chamber.** Nine or ten frames are used in the brood chamber. When using ten, start with nine frames when the package is installed, and add the tenth frame one week later.

Use frames with honey and pollen stores when available. If the frames are numbered 1 to 9, then frames 1, 2, 8, and 9 should contain honey, while 3 and 7 should have pollen. The central frames 4, 5, and 6 should be about 75% free of honey and pollen to provide room for brood development. Some dead brood from the previous year (disease free!) in the centre frames is of no concern because the bees will quickly clean it out.

Install an entrance reducer for the colony to conserve energy and prevent robbing.

When many colonies are being established from packages, entrances must be blocked off completely by stuffing grass to prevent robbing. The grass can be replaced with an entrance reducer only after the bees have settled.

- **Apiary Site Selection.** A sunny, wind-protected and well drained location should be selected. Sunlight will warm the colony and stimulate foraging.
- **Sugar Syrup.** Prepare a sugar syrup solution of 1:1 sugar-water before the package is installed. Antibiotics may be added for foulbrood disease control. Read the label for rate of application. Add the antibiotic to COOL syrup only, just before using. *(Note: When introducing bees from outside sources, it is recommended to apply antibiotics. For normal beekeeping management practices, BC Ministry of Agriculture and Lands no longer recommends the preventative use of antibiotics. Use drugs only when needed.*

D. Handling Packages on Arrival

- **Care on Arrival.** When transporting packages from the pick up point to the apiary, prevent chilling or overheating. If packages are transported in an open truck or trailer in colder weather, a tarpaulin should be used. Check for overheating, especially during frequent or longer stops. *(Carry water hose or plastic bucket for emergency. In case of longer stops in warm weather, hose packages directly or sprinkle water from bucket).*

After arrival, bees should be kept at room temperature (not exceeding 21°C). Sprinkle the screen sides with warm sugar syrup or use a handheld spray bottle not previously used for pesticide applications. DO NOT use a brush in applying syrup onto the screens as this may injure the feet and tongues of the bees. After the bees have filled themselves with syrup, they will remain quiet until the package is hived. Keep the packages at about 18°C and preferably in a dark storage area. Packaged bees cannot be kept for much longer than 7 days.

E. Installing Packages

- **Timing.** Have the hive equipment in position before bringing the package to the apiary. Take off the lid and inner cover, and temporarily remove three or four adjacent frames from the brood chamber. These frames may be from the centre, right or left side of the brood chamber.

To install the bees, first take the package, grasp the feeding can with one hand, and lift it up about one inch. Then, while holding the feeding can, give the package a sharp shock by hitting the ground. This will shake the bees onto the bottom of the cage, allowing for quick removal of the can without clinging bees. While the bees are still at the bottom, quickly remove the queen cage being held by a metal strip in a slit next to the can opening.

Keep the queen cage separate. Take the package, insert upside down into the hive and shake the bees through the hole. Continue to shake until all the bees have been dislodged from the cage. Once in the hive, bees may be lightly sprayed with sugar syrup or clean water to reduce flying and drifting. This should not be done when the weather is cold.

After the bees have been hived, gently re-install the frames.

- **Releasing the Queen.** Before release, check on the condition of the queen. If the queen is dead, contact your shipper or dealer for replacement.

If the queen has been with the bees in the package for 3 days or longer, use the direct release method. Lightly sprinkle some sugar syrup through the screen to dampen the queen's wings, as this will prevent flight. Carefully remove one of the staples of the queen cage without allowing the screen to open. Hold the queen cage down in the hive where the bees are, partially remove the screen and allow the queen to walk out onto the combs.

If the queen and the bees have not been together for 3 days, do not release the queen. Place the cage vertically between 2 centre frames so that the bees can feed the queen through the screen. After 1 or 2 days, remove the cork for the queen to come out.

F. Feeding

Feeding syrup helps the colony to settle down and establish itself. If an inner cover is used, the feeding can or jar is inverted and placed over the hole. Make sure the lid of the feeding jar or can has very small holes to prevent leakage of sugar syrup. (*Note: The holes in the lid can be prepared using a nail. Make sure the sharp edges point inward to prevent bee injury while feeding on the syrup*). After the inverted can or jar has been installed, place an empty super on the inner cover and close the hive with the lid. This will protect the syrup from cooling down rapidly as well as prevent robbing. Alternatively, a frame feeder can be used inside the hive.

G. Management of Packaged Bees

Bees are perishable and colonies continuously lose bees, which are normally replaced by new bees during the beekeeping season. In a package, there is no brood and consequently no replacement. After installation, the population of bees will continue to decline for several weeks. The queen will start laying 2 or 3 days after installation, but it will take another 21 days before the first replacement bees emerge. To assist in colony establishment and maximize brood development, keep the hive entrance small, and ensure ample pollen and sugar or honey reserves.

Providing ample feed is most important. Prepare a heavy syrup mix of 2 parts sugar to 1 part of water and feed the bees whenever weather prevents foraging and nectar secretion. This is particularly important during the spring dearth period, after dandelion and fruit bloom.

Second most important is the presence and performance of the queen. Look for eggs and capped brood. If the brood is patchy or the capped brood is raised, the queen may be poorly mated and need prompt replacement.

When & What to Check:

On day 4 or 5 after package installation, check for brood to confirm that the queen is laying. Select a comb in the centre of the cluster by first removing outer frames. Carefully lift the frame and look for eggs. Eggs are small, white and stand right up in the bottom of the cell. If eggs are present, place the frame back into the hive. It is not necessary to continue inspecting frames and search for the queen.

After 10 – 14 days, check again for brood and brood pattern. Solid capped brood pattern should be present. If the queen is absent or the brood is unsatisfactory, a new queen should be introduced. (Do NOT use the direct release method).

If brood appears spotty and irregular, closely examine for brood diseases. When suspect cells are found, collect sample(s) and mail to the Apiculture office for identification. Also refer to **Factsheet #205-Honeybee Disease Detection** and **#204 – Antibiotics for Bee Disease Control**.

H. Use of Foundation

Straight beeswax foundation can be used instead of drawn combs. It is recommended to provide the package colony with at least two frames of drawn comb so the queen can start laying.

When foundation frames are used, it is imperative to offer the bees plenty of syrup (2 parts sugar : 1 part water). One should plan for about 20 liters (5 gallons) per hive. With ample syrup, about 25% of the comb will be drawn in 8 days, 45% in 12 days and 80% in 21 days. (*Note that for every kilogram of wax, at least four kilograms of syrup are needed*).

Summary

For the successful development of a package colony, the following should be provided:

- sunny, well drained, wind protected site
- entrance reducer
- plenty of sugar syrup and pollen
- regular checks for queen performance

For further information about spring management, refer to **Factsheet #401 – Spring Management** or visit BC Ministry of Agriculture and Lands website www.al.gov.bc.ca/apiculture.