



Atlantic Tech Transfer Team  
for Apiculture



## Feeding Honey Bees

### Nutrition

As honey bees return from blueberry pollination, summer pasture and adequate food sources are needed. Optimal nutrition and good honey flows stimulate healthy colonies through improved hygienic behaviour, increased brood rearing, increased life span and adequate food stores. Pollen with a minimum of 20% crude protein provides the best nutrition, and good bee yards can supply this nourishment.

### Natural Forage

Plants that provide good honey flow in the summer are needed in close proximity (ideally within 500 m) to bee yards, and a diversity of flowers is best. Nutritional flowering plants for honey bees after blueberry pollination include raspberry, clovers (white, red, alsike, sweet), birdsfoot trefoil, phacelia, borage, wild rose (pictured above), and linden trees. Other plants that are lower in crude protein but are accessible and attractive to bees are sunflower, purple coneflower, black eyed Susan, coreopsis, bergamot, goldenrod and fireweed. Further information on natural forage for bee feeding can be found in the resources



listed at the end of the fact sheet and in the ATTTA fact sheet *Creating a Bee Yard*.

### Feeding Bees

There are key times to watch for the need for supplemental feeding, through either pollen patties or sugar syrup, or both. Feeding bees may be necessary throughout the summer, particularly when making splits. New splits may need sugar syrup and/or pollen patties to encourage bees to draw out foundation (new frames) and to stimulate brood production. Note: Avoid feeding sugar syrup during the summer to hives from which honey will be harvested as the syrup can end up in the honey supers.

### Sugar Syrup

Several types of feeders are available for sugar syrup. Popular methods of feeding in the Atlantic region include frame feeders (division board feeders), bottle feeders, pail or bucket feeders, tray feeders and plastic bag feeders set on top of the frames. There are pros and cons to each type of feeder. Medication such as fumagillin (an antibiotic) can also be provided to splits/nucleus colonies (nucs) through sugar syrup to address nosema concerns, particularly if bees are under stress from splitting. Remember to follow the label directions.



#### Funders and Contributors:

Bleuets NB Blueberries

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PEI Beekeepers' Association

Jasper Wyman and Son

When feeding bees in the summer, both 1:1 and 2:1 sugar to water mixtures are commonly used. To mix sugar syrup, dissolve white sugar in hot water and stir thoroughly. Do not use boiling water; boiled sugar syrup can lead to hydroxymethylfurfural (HMF) being formed, which is toxic to bees. The amount of sugar syrup each hive needs varies. Signs to look for include: whether foundation is being drawn out, whether brood is developing, how fast the hives are consuming sugar syrup, and if there are plentiful natural nectar and pollen resources in the yard (i.e. a good honey flow). Checking the hives every 7- 10 days to see if they require more food is good practice. If using a division board feeder to supply sugar syrup within the hive, remember to put a floating object in the feeder to prevent bees from drowning (a thin strip of wood or a branch works fine).

### Honey

Feeding honey to bees is an option. Honey frames placed next to brood frames can stimulate brood rearing and colony development. Drawbacks include robbing (bees may smell honey and start robbing nearby colonies) and the potential for disease transfer (diseases can be transferred from old frames or via spores in the honey). Feeding honey is more common in the autumn and early spring. Setting honey bees hives in a yard that has good natural forage is a better option if possible.

### Pollen Supplements and Substitutes

Pollen supplements and substitutes can be fed to bees in different ways. Some beekeepers prefer to leave pollen pellets on top of the bars or in frames of empty, drawn comb. In the Atlantic region, beekeepers commonly feed pollen patties. Pollen patties are useful for sustaining or encouraging brood rearing when there are limited natural pollen sources in the bee yard. Patties can be homemade or purchased commercially. Note the percent natural pollen content; many beekeepers find that higher pollen contents (> 15%) are more attractive to bees, provide better nourishment and are worth the extra cost. When feeding a nuc, half a pollen patty each feeding event may be sufficient.



*A pollen patty rests on the top of the frames and a division board feeder is located at the edge of the hive.*

More information on options for feeding sugar syrup and pollen patties can be found on the ATTTA webpage <http://www.perennia.ca/fieldservices/honey-bees-and-pollination/>.

### Resources

NASA 2015. Honey bee forage map. <http://honeybeenet.gsfc.nasa.gov/Honeybees/Forage.htm>

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Somerville, D. 2005. Fat bees skinny bees. A manual on honey bee nutrition for beekeepers.

USDA. 2015. Attractiveness of agricultural crops to pollinating bees for the collection of nectar and/or pollen.

Venturini, E. M., Drummond, F. A. and Hoshide, A. K. 2015. Enhancing wild bees for crop pollination: Sowing bee pasture for New England’s wild lowbush blueberry. <https://extension.umaine.edu/blueberries/wp-content/uploads/sites/56/2010/05/2015-Bee-Pasture-Fact-Sheet.pdf>

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