

Best Management Practices For Hive Health

A Guide for Beekeepers: Chapter 8, Nutritional Management

by Honey Bee Health Coalition

Honey bees require carbohydrates, proteins (amino acids), lipids (fats), vitamins, sterols, and minerals for normal growth and development. All these nutrients are supplied by the nectar and pollen bees collect. Uncontaminated water also is an important dietary input. Bees use water to maintain a constant temperature and humidity within the hive, to process nectar and pollen, and to liquefy crystallized honey. Water may also be a minor source of dietary minerals.

Nectar

water, different sugars, and trace minerals and is the main source of energy. Bees convert nectar to honey to be stored, but can also consume it directly for fuel. Without honey the hive will die. Bees can also use other sugar sources like syrup, soda, fruit, etc. if necessary.

Pollen

honeybee's main source of protein, lipids, vitamins, minerals, and sterols. A colony without enough pollen cannot rear brood and grow and is vulnerable to disease. Bees store excess pollen as bee bread

Why feed bees

Colonies that run out of pollen will slow or cease brood production, and the population will decline. Worker bees may also cannibalize brood to survive. Colonies that run out of honey stores and do not have access to nectar (or supplemental sugar feeding) may starve.

Starvation is a common cause of colony death overwinter and, in some instances, during spring buildup.

If there are too few bees to convert food stores to energy, the colony may also starve with a hive full of honey. Perhaps a shortage of pollen prohibited brood rearing.

What to feed bees

Sugar (nectar substitute)

1. Sugar syrup made with white cane or beet sugar.

1:1 syrup to stimulate brood production and pollen collection (spring)

2:1 syrup for storage (fall) 4 gal per hive.

NOTE: Do not feed syrup below 50 degrees F.

2. Honey from disease-free colonies. If in frames, uncap them. If liquid, dilute. This may cause robbing if there is a dearth and honey is offered near hives.

3. Dry sugar and fondant (bees need to dissolved to use. Bees will not store dry sugars and would only be used to feed bees in danger of starvation if nothing is available.

DO NOT USE

brown sugar, raw sugar, molasses, liquid invert sugar sources like high fructose corn syrup.

How To feed Sugar

- * Hive top feeders (pails or Apimaye)
- * Frame Feeders
- * Resealable plastic bags
- * Open feeding
- * Entrance feeders (not recommended)

