

BENEFITS OF THE ROYAL JELLY

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Royal jelly is secreted by the hypo pharyngeal gland (sometimes called the brood food gland) of young worker (nurse) bees, to feed young larvae and the adult queen bee. Royal jelly is always fed directly to the queen or the larvae as it is secreted; it is not stored. This is why it has not been a traditional beekeeping product. The queen larvae cannot consume the food as fast as it is provided and royal jelly accumulates in the queen cells. The exact definition of commercially available royal jelly is therefore related to the method of production: it is the food intended for queen bee larvae that are four to five days old.

On average the queen develops in 15.5 days while worker bees require 21 days

in its life span: the queen lives for several years as compared to a few months for the worker bees and its behavior: the queen lays up to several thousand eggs a day while workers lay eggs only occasionally. Unlike workers, the queen never participates in any common hive activities.

It is mainly the spectacular fertility and long life-span of the queen, exclusively fed on royal jelly, which have suggestively led people to believe that royal jelly produces similar effects in humans. In the early 1950's, articles began to appear, particularly in the French beekeeping press, in praise of the virtues of royal jelly, referring to research conducted in several hospitals.

Physical characteristics of royal jelly:

Royal jelly is a homogeneous substance with the consistency of a fairly fluid paste. It is whitish in color with yellow or beige tinges, has a pungent phenolic odour and a characteristic sour flavor. It has a density of approximately 1.1 g/cm³. Certain debris in royal jelly, is a sign of purity as, for example, the ever present fragments of larval skin. Wax fragments too, are encountered more or less regularly, but their presence is largely dependent on the collection method. Stored royal jelly often develops small granules due to precipitation of components.) and is partially soluble in water. Aqueous solutions clarify during basification with soda.

The principal constituents of royal jelly are water, protein, sugars, lipids and mineral salts. Although they occur with notable variations (Table below) the composition of royal jelly remains relatively constant when comparing different colonies, bee races and time.

Water makes up about two thirds of fresh royal jelly, but by dry weight, proteins and sugars are by far the largest fractions.

Composition of royal jelly
(Minimum/Maximum)

Water 57%/70%, Proteins (N x 6.25), 17% of dry weight/45% of dry weight, Sugars 18% of dry weight/ 52% of dry weight, Lipids 3.5% of dry weight/19% of dry weight, Minerals 2% of dry weight/3% of dry weight.

The sugars consist mostly of fructose and glucose in relatively constant proportions similar to those in honey. Fructose is prevalent. In many cases fructose and glucose together account for 90% of the total sugars.

The total ash content of royal jelly is about 1 % of fresh weight or 2 to 3 % of dry weight. The major mineral salts are, in descending order: K, Ca, Na, Zn, Fe, Cu and Mn, with a strong prevalence of potassium .

Vitamin content of royal jelly in m g per gram of fresh weight (Minimum/Maximum)

Thiamine: 1.44/ 6.70, Riboflavin: 5/25, Pantothenic Acid : 159/265, Pyridoxine:1.0/48, Niacin: 48/88, Folic acid:0.130/0.530, Inositol: 80/350, Biotin: 1.1/19.8

People who have taken royal jelly said that they soon experienced a feeling of general well-being, i.e. an effect on their physical output (resistance to fatigue), intellectual performance (greater learning capacity and better memory) and on their mental condition (greater self-confidence, feeling of well-being and euphoria). In other words, royal jelly appears to act as a general stimulant, improving immune response and general body functions.

Except in Asia, probably the largest use of royal jelly is in cosmetics. Royal jelly is included in many dermatological preparations, but mostly in those used for skin refreshing, and skin regeneration or rejuvenation. It is also used in creams or ointments for healing burns and other wounds.

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Reference: www.aalalbeet.4t.com

