

Royal Jelly

Royal Jelly is a creamy white substance synthesized by the common worker bee for the sole nourishment of the Queen bee.

The Queen bee is remarkable in its extended longevity and reproductive capability when compared to the worker bee. The Queen lives almost ten times longer than the worker bee: five years for the Queen, and less than six weeks for the worker bee. The Queen grows to be almost 50% larger than the worker and has exceptional reproductive capabilities, laying almost 2500 eggs in a single day.

So how does the Queen bee achieve this remarkable longevity – Royal Jelly. The Queen is hatched from the same egg as the worker bee but is selected to receive a diet of pure royal jelly, while the common worker bee feeds off honey and other substances around the hive. Royal Jelly transforms the queen into an incredible insect, enhancing its physical performance to remarkable levels.

Not surprisingly, man has shown much interest in this substance, regarding it as the 'elixir' or 'crown jewel' of the hive. Many studies have been performed to try to establish its nutritional content and the effect of its nutrients on living beings.

Despite these extensive studies, the actual chemical make-up of royal jelly is still something of a mystery.

Royal jelly is the only natural source of pure acetylcholine. It has antibacterial and antimicrobial properties and has been implicated as beneficial in a wide range of health conditions. It is associated with benefits to bronchial asthma, insomnia, and many skin problems. It is known to support the immune system and may be of benefit in liver, kidney, and pancreatic diseases as well as stomach ulcers and bone fractures.

What is the chemical composition of Royal Jelly?:- Royal Jelly contains approximately 12% protein, 5-6% lipids and 12-15% carbohydrates. It's B Vitamin content is high, and with 17 amino acids, including all 8 essential amino acids, it is a nutritious hormone-rich substance with a wide spectrum of potential benefits. Royal Jelly also contains around 15% aspartic acid, which is important for tissue growth, muscle and cell regeneration.

Vitamin Content

Vitamin B I (Thiamine)	1.5 to 7.4 mcg.
Vitamin B2 (Riboflavin)	5.3 to 10.0 mcg.
Vitamin B6 (Pyridoxine)	2.2 to 10.2 mcg.
Niacin (nicotinic acid)	91.0 to 149.0 mcg.
Pantothenic Acid	65.0 to 200.0 mcg.

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Biotin	0.9 to 3.7 mcg.
Inositol	78.0 to 150.0 mcg.
Folic Acid	0.16 to 0.50mcg.
Vitamin C	Trace

The amino acids in royal jelly are of significant interest to nutritionists. Long associated with the ability to fight 'free-radicals' in the body, amino acids form the very basis of our chemical make-up, and are essential to growth and the ability to fight infection and disease. In most cases we cannot create our own amino acids, we must ingest them through the foods that we eat. The importance of amino acids and the fact that they are so abundant in bee products warrants special attention. It is in our section '**Amino Acids**' that we will reveal the true potential of Royal Jelly as a nutritive substance that is rich in amino acids.

Royal Jelly and our health:-

Royal Jelly (along with bee pollen, propolis and honey) contains a natural source of essential nutrients which the body needs to maintain good health. Maintaining good health is especially hard in today's increasingly toxic environment. Both our food supply and our diet is often deficient in important nutrients. Therefore, we need to supplement our diet with products such as royal jelly and the other products of the beehive

Royal jelly also has a yeast inhibiting function which may prevent conditions such as thrush and athlete's foot. It is also used to treat muscular dystrophy, MS and Parkinson's disease as well as reduce allergic symptoms and help control cholesterol levels.

Also of significance, Royal Jelly has been found to be of great help in boosting the body's resistance to the harmful side effects of chemotherapy and radiotherapy. These treatments attack the immune system at its very core, and in many cases the actual treatment delivers a debilitating blow and not the illness itself. Royal Jelly with its high amino acid content can help the immune system and provide a basic defense against external elements that ordinarily attack the immune system and reduce our body's capability for defense. Supplementing our diet with Royal Jelly helps to rebuild the good cells that are destroyed by chemotherapy and helps to strengthen the immune system.

Royal Jelly also contains the amino and gamma globulin, which helps your immune system fight off viral infections. It also contains sterols, phosphorous compounds and acetylcholine, which is needed to transmit nerve messages from cell to cell.

Like propolis, royal jelly also appears to have anti-tumor properties. A team of Japanese researchers gave royal jelly to one of two groups of laboratory mice before transplanting different types of cancer cells in them. The royal jelly had dramatic effects on sarcoma cells. The life-span of the mice was extended by

about one-fifth and tumor sizes were about half the size, compared with untreated mice, according to a report in the journal *Nippon Yakurigaku Zasshi-Folia Pharmacologica Japonica* (Feb. 1987;89:73-80).

Associated Benefits:- Many of the benefits of Royal Jelly are associated with its high concentration of essential amino acids, and we refer you to our chapter on amino acids for more information and more possible benefits to explore.

In short, Royal Jelly has been noted for its positive benefits on:

- energy
- chronic fatigue
- skin / hair / nails / bones / joints
- hormonal regulation
- asthma
- sexual vitality / impotence
- weight regulation
- rejuvenation - recovery from illness
- immune system stimulant
- cholesterol levels
- cardiovascular health
- anti-depressive / anti-anxiety
- high blood pressure
- mental condition / memory
- depression
- arthritis
- liver ailments / conditions
- eczema / impetigo / skin disorders
- diabetes

Can Man Recreate Royal Jelly? – Evidently not. Studies have uncovered some of the nutritional properties of this substance, but much remains undiscovered.

Dr. Albert Saenz of the Pasteur Institute in Paris wrote:

"Numerous studies ... demonstrate the existence of fractions in Royal Jelly which correspond to 97 percent of the substance, plus an undermined fraction whose very presence could explain the remarkable and mysterious properties of Royal Jelly." He continues, " Here's yet another product of the beehive with a touch of the bee's magic in it. I suppose some day science will figure out what these unidentifiable elements are and some researcher will try to manufacture them. Until then, the only place to get these mystery nutrients is from the bees."

How is Royal Jelly Processed for Human Consumption? – Royal Jelly is a liquid containing approximately 67% water, and as such is prone to contamination once it is removed from the sterile environment of the beehive.

Once removed from the hive it must be processed quickly to prevent contamination, ideally within two or three hours. Processing generally involves one or a combination of the following steps:

- Treating the product with a chemical preservative.
- Lyophilizing the product (removing the water, often termed freeze-drying)
- Adding a natural preservative like honey.
- Freezing the substance or attempting to maintain it in a refrigerated state.

The favored process is lyophilizing or freeze-drying. This removes the water without effecting the nutrient quality of the product and creates a white powder which can be capsulated for human consumption. Once in capsulated form the product generally has a shelf life of 4 years and does not require refrigeration.

Many questions are raised about the nutritional quality of Royal Jelly, and usually relate to the issue of processing:- "freeze-dried versus non-freeze dried".

Freeze drying 'locks-in' the nutritional content of the product and removes any doubts about handling the product down the line. For example, if you choose liquid royal jelly which is sold as 'requiring refrigeration', how do you know that the product has been stored and transported in a refrigerated state, and that it isn't in a partially decomposed state with diminished nutritive properties?

Summary:-

Royal Jelly – A veritable jewel of nutrition and recognized as a potent bringer of energy, health and vitality.

It is rich in minerals, natural hormones, B vitamins, fatty acid, and folic acids, along with aspartic acid which is important for tissue regeneration and growth.

It contains all essential amino acids required to sustain life.

It is taken as a stress reducer and to promote recovery from fatigue. Its balancing properties are associated with many benefits to our important body systems and for this it is taken by a large number of menopausal women, and by men looking for improved sexual vitality.

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