## **Farming**

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### HEALTH BENEFITS OF ROYAL JELLY

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University Institute of Agricultural Scienes, Chandigarh University, Mohali, Punjab, India. Royal jelly was discovered in 1933 by the German Nobel Prize Dr F. Bergius. A white and viscous jelly-like substance is a form of hypopharyngeal and mandibular gland secretion from the worker bees. It is also known as a "superfood" that is solely consumed by the queen bee. Royal jelly is also fed to the honeybee larvae upon hatching and helps to nurture the brood.

It is the exclusive nutrient offered to the immature young larvae in their first 2-3 days of maturation besides being used as a portion of food specifically for the queen bee throughout her entire life cycle. Royalactin is the main compound roval ielly that allows morphological change of a larva into the queen bee. This superfood is the main reason for the longevity of the queen bee compared to the other bees. Royal jelly is widely used as nutritional complex to help combat various chronic health conditions. Furthermore, it is one of the profitable remedies for human beings in both traditional and modern medicine.

Royal
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#### ANTI-DIABETIC EFFECT

These nutrients may provide some of the royal jelly's potential health benefits, though more research on this unique substance is needed. It is a long-term metabolic condition that is triggered by aberrant insulin production and insulin resistance. It is possible for diabetics to develop several liver disorders, such as cirrhosis of the liver, hepatocellular carcinomas, hepatitis C, and acute liver failure, due to insulin deficiency in the body's tissues. A healthy blood sugar and cholesterol level depend on the liver's role as an insulin-dependent organ. Royal jelly lowered fasting blood glucose and serum glycosylated haemoglobin levels in women while increasing insulin concentration. Serum glycosylated haemoglobin levels that are lower than normal are associated with decreased risk of cardiovascular disease

#### **NEURODEGENERATIVE AND AGING DISEASES**

The majority of aged people have poor mental health and performance as a result of ageing, such as in the case of Alzheimer's disease (AD)." Royal jelly boosts the elderly's appetite and weight by stimulating their physical and mental functions. Royal jelly was found to have neuroprotective properties in Alzheimer's patients in research. In the elderly, the behavioural and neurochemical effects of royal jelly were invested chemically.

#### WOUND HEALING

Improvement of the wound-healing properties of royal jelly To improve sphingolipid levels, human fibroblasts were used in wound healing models in both the lab and in the field, where they were successful in migrating and decreasing collagen production. When applied to desquamated skin lesions, royal jelly reduced the healing time.

Royal jelly typically contains about 60% to 70% water, 12% to 15% proteins, 10% to 16% sugar, 3% to 6% fats, and 2% to 3% vitamins, salts, and amino acids

The royal jelly dressing is also an effective way of treating diabetic foot ulcers besides standard treatments. This is due to its vasodilation effects around the affected wound, which can help to dilate the blood vessels to enhance blood flow. It also helps to prevent infections due to its antimicrobial activities.

## MAY REDUCE HEART DISEASE RISK BY IMPACTING CHOLESTEROL LEVELS

Both animal and human studies demonstrate that royal jelly may positively impact cholesterol levels and thereby reduce heart disease risk. Though the exact mechanism remains unclear, specific proteins in royal jelly may help lower cholesterol. One 12-week study found that rabbits supplemented with royal jelly significantly reduced their total and "bad" LDL cholesterol levels by 28% and 23%, respectively. Similarly, a one-month human study saw an 11% and 4% reduction in total and "bad" LDL cholesterol levels in people taking about 3 grams of royal jelly daily.

# ANTIOXIDANT PROPERTIES MAY SUPPORT HEALTHY BRAIN FUNCTION

Royal jelly may boost brain function. One study revealed that stress-induced mice treated with royal jelly had lower levels of stress hormones and a more robust central nervous system than the control group. A separate study resulted in improved memory and reduced symptoms of depression in postmenopausal rats given royal jelly.

Another animal study showed that rats treated with royal jelly were better able to remove certain chemical deposits in the brain associated with Alzheimer's disease. Most of these studies attribute the protective effect on the brain and nervous tissue to royal jelly's antioxidant capacity.

Royal jelly is sold as a supplement or in skin creams to enhance collagen production, ease premenstrual and postmenopausal symptoms, and improve overall health.

#### ANTI-CANCER PROPERTIES

Chemotherapy and other cancer treatments come with significant negative side effects, including heart failure, inflammation and gastrointestinal (GI) issues.

Royal jelly may reduce some of the negative side effects associated with certain cancer treatments. One study revealed a significant reduction in chemotherapy-induced heart damage in humans supplemented with royal jelly. One very small human study indicated that topically applied royal jelly may prevent mucositis, a cancer treatment side effect that causes painful ulcerations in your digestive tract. Though encouraging, these studies don't offer definitive conclusions regarding royal jelly's role in cancer treatment.