

Bee Pollen

Sales and Curing Since 1989.

The average composition of dried pollen: Water (air-dried-pollen), Crude protein, Ash, Ether extracts (crude fat), Carbohydrate, Reducing sugars, Non-reducing sugars, Starch, Undetermined. Since the composition of pollen changes from species to species, variation in absolute amounts of the different compounds can be very high. Protein contents of above 40% have been reported, but the typical range is 7.5 to 35%: typical sugar content ranges from 15 to 50% and starch content is very high (up to 18%) in some wind-pollinated grasses (Schmidt and Buchmann, 1992). Composition of pollen and bee-collected pollen however, has to be distinguished.

The major components are proteins and amino acid, lipids (fats, oils or their derivatives) and sugars. The minor components are more diverse. All amino acids essential to humans (phenylalanine, leucine, valine, isoleucine, arginine, histidine, lysine, methionine, threonine and tryptophan) can be found in pollen and most others as well, with proline being the most abundant. Many enzymes (proteins) are also present but some, like glucose oxidase which is very important in honey, have been added by the bees. This enzyme is therefore more abundant in "beebread" than in fresh pollen pellets.

Only 16 of the 31 fatty acids found in pollen had been identified by 1989 (Shawer et al. 1987 and Muniategui et al., 1989). Palmitic acid is the most important one, followed by myristic, linoleic, oleic, linolenic, stearic acids etc. Simal et al., (1988) list 7 sterols, including cholesterol. Mono-, di- and triglycerides are fairly abundant, too.

Most simple sugars in pollen pellets such as fructose, glucose and sucrose come from the nectar or honey of the field forager. The polysaccharides like callose, pectin, cellulose, lignin sporopollenin and others are predominantly pollen components. After storage in the comb the further addition of sugars and enzymes creates beebread, through lactic acid fermentation.

Benefits of pollen Improvements, Cures with benefits, Athletic performance, Cancer in animals, Digestive assimilation, Colds, Rejuvenation, Acne, General vitality, Male sterility, Skin vitality, Anemia, Appetite, High blood pressure, Hemoglobin content, Nervous and endocrine disorders, Sexual prowess,

Ulcers Performances (of a race horse). Several decades of observations in Western European countries and a few clinical tests have shown pollen to be effective in treating prostate problems ranging from infections and swelling to cancer (Denis, 1966 and Ask-Upmark, 1967).

The uses of pollen:

1- As medicine, 2- As food (The major use of pollen today is as a food or, more correctly, as a food supplement. The stimulative effect of pollen and its possible improvement of food conversion in humans as well as animals, should be of particular interest to those who have an unbalanced or deficient diet; 3- Very nutritious for children. 4. In cosmetics. 5- For crop pollination.

6- For pollution monitoring (Since the 1980's, experiments have shown that pollen collected by honeybees reflects environmental pollution levels when examined for metals, heavy metals and radioactivity, (Free et al., 1983; Crane, 1984 and Bromenshenk et al., 1985). Only a good mixture of different species of pollen can provide the average values mentioned in the tables describing the composition of pollen. The real value of diversity of pollen content, however, lies in the balance of these nutrients and the synergistic effect of the diversity as well as more subtle effects or characteristics related to their origin rather than their quantitative presence. Those very subtle characteristics and sensitive compounds are easily lost with improper storage and processing, something to carefully watch when making or buying quality products containing "bee" pollen. The greatest risk of allergic reactions exists with the direct consumption of pollen. This, however, can be avoided by consuming pollen packed in capsules or coated pills which prevent direct contact with any mucous membranes. Once in the digestive tract, the body generally does not show any allergic reaction. Again, careful trials by sensitive individuals are recommended if consumption is assisted upon. As a precaution, everybody, even those people who have not known any pollen allergies before, should first try very small quantities of the pollen or the product containing the pollen. Allergic reactions normally occur within a short period of time, from a few minutes to a few hours.

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