



## SCIENTIFIC INFORMATION

### Scientifically-assured quality

Honey is not only sweet and delicious, but also has health benefits. In addition to fructose and glucose present in the nectar, it contains a wide range of valuable ingredients. These include minerals and enzymes, as well as inhibins, which prevent the growth of bacteria.

The so-called HMF analysis measures how well these valuable ingredients are preserved. It is therefore a crucial quality criterion. Further important quality control factors are the pollen analysis and the determination of the glucose-fructose ratio.

BIHOPHAR honey is tested 3 times without interruption in a detailed control procedure - firstly before dispatch from the apiaries, secondly on arrival and thirdly before bottling. The product is checked for taste, smell, colour, appearance, cleanliness and consistency, as well as its compliance with numerous analytical parameters of the German Honey Ordinance and the German food law. We test its authenticity and conformity to type and check the honey for pesticides and insecticides.

Our honey is only approved for bottling when it obtains a perfect score in the tests of the independent state-certified Institute for Honey Analysis.

Every BIHOPHAR honey jar can be exactly traced using the quality control number and the expiry date on the label. Every control number is linked to a faultless analysis result. This comprehensive and traceable quality control procedure guarantees that you can rely on BIHOPHAR's consistently high quality.

### INGREDIENTS

A small quantity of protein building blocks is present in honey. The proportion is under 0.5%. Over 120 different aromatic substances and organic acids provide the taste and fragrance of honey. Honey is comparatively rich in minerals.

It mainly contains potassium, calcium and magnesium, as well as the trace elements iron, copper and manganese. The composition varies greatly according to the honey variety. Small quantities of vitamins are also present.

The presence of Vitamin C and various B vitamins, such as B1, B2, B6, biotin, pantothenic acid and folic acid has been determined. In addition to certain hormones, honey contains numerous enzymes (sometimes called ferments). These include starch and sugar-splitting substances, which are also responsible for the crystallisation of honey.

A particularly-valuable component of honey is the inhibins, which inhibit the growth of bacteria.

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## POLLEN ANALYSIS

### **Honey's characteristic fingerprint**

In every honey jar we will find flower pollen, which gets stuck on the coat of the bees while they are visiting the flowers and so finds its way into the honey. The pollen therefore gives us information on the plants the bees have visited and identifies the honey as surely as a fingerprint marks a person.

A pollen analysis under a microscope shows exactly which plants the honey has come from. The pollen composition information can even be used to determine exactly in which geographical region the bees collected their nectar. Each plant's pollen is different from the pollen of another flower.

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## HMF ANALYSIS AND DIASTASE VALUE

### **Valuable checks**

Many valuable ingredients of honey are heat-sensitive. Therefore BIHOPHAR honey is, of course, extracted cold from the honeycomb, gently sieved, carefully bottled and stored. The hydroxymethylfurfural (HMF) content and the diastase number indicate whether honey has been overheated. Diastase is an important enzyme (ferment) in honey.

Through heating, diastase will be damaged and the diastase number will sink. According to the German Honey Ordinance, the diastase number must be 8 as a minimum. Hydroxymethylfurfural (HMF) reacts even more sensitively. Freshly-extracted honey contains next to no HMF. When heated and stored too long the HMF value of the honey increases.

The honey ordinance prescribes a maximum HMF content of 40 mg per 1 kg of honey. Honey that naturally has a low diastase value may only contain 15 mg HMF. Adherence to these values is checked before every honey batch is bottled at BIHOPHAR's own laboratories and by food testing authorities. The honey is only approved for bottling after the appropriate test certificate is presented.

In this way we guarantee that the valuable ingredients of BIHOPHAR honey are preserved to the maximum extent in each glass.

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