

Analysis of propolis

Monitoring recommendations

High quality propolis should be tested for common quality parameters, in particular the content of polyphenols.

Furthermore, as a natural bee product with a highly variable composition, propolis also has to be free of any antibiotic residues derived from beekeeping practices and from contaminants caused by pollution. Raw propolis is known to accumulate considerable amounts of pesticides as well as heavy metals, especially Lead.

How can you set up an effective control strategy for risk based monitoring?





Propolis is a natural bee product with a highly variable composition, especially with regards to the polyphenols it contains. Significant differences between propolis resins can be observed depending on its botanical and geographical origin.

Intertek is a world-leading expert in the analysis of honey and hive products. We are proud to offer our customers a tailored service, with practical advice and fast, reliable test results.

Our Service

Intertek's comprehensive service includes an extended pesticide analysis which incorporates the Liquid Chromatography - Mass Spectrometry (LC-MS/MS) technique and currently covers over 400 substances. Our recommended analysis for raw propolis resin and propolis products (dry and alcoholic liquid extracts) includes:

Quality parameters:

- Total polyphenols by Folin-Ciocalteu method (calibration against a mixture of pinocembrin and galangin). The polyphenol content should exceed certain amounts depending on the origin of the propolis
- Wax content (Soxhlet extraction)
- Ash content
- Specific flavonoids and phenolic acids by High Performance Liquid Chromatography-Ultra Violet (HPLC-UV) Diode array: the determination of 16 common polyphenols in propolis, e.g. pinocembrin, galangin and chrysin as the main flavonoids in Poplar-type propolis

We also offer the determination of flavonoids using other photometric methods. These include the Quercetin method with aluminium chloride or

the Hyperoside method according to the European Pharmacopoeia. We can implement certain other polyphenols upon request.

Antibiotics:

- Chloramphenicol by LC-MS/MS (prohibited substance in the EU)
- Sulfonamides and Trimethoprim by LC-MS/MS
- Tetracyclines by LC-MS/MS
- Streptomycin by LC-MS/MS

Pesticides:

- Multi-residue analysis by Gas Chromatography-Mass Spectrometry (GC-MS/MS) and LC-MS/MS
- Or a selection of pesticide classes (e.g. Organochlorines, Organophosphates and Pyrethroids by GC-MS/MS)

Contaminants

- Heavy metals (e.g. Lead)

Other parameters upon request:

- Microbiology (e.g. according to the European Pharmacopoeia)

Benefiting You

- We are the experts in the analysis of honey and hive products, including propolis
- You receive a tailored service, with practical advice and fast, reliable test results
- We test approximately 60,000 honey samples per year for quality parameters, veterinary drugs and/or authenticity. This information is added to a comprehensive database which is used for providing specific analytical recommendations to our customers
- Our specialists will support you in developing individual risk-based monitoring plans for your products, including guidance on which parameters should be analysed and at what intervals
- You will benefit from our wealth of experience, enabling you to minimise your risks and optimise your cost to benefit ratio
- We can also advise on legislation where required

With You All The Way

Propolis testing and analysis is just one of a suite of services we provide to ensure the safety and quality of your products.

Intertek is one of the world's leading food safety testing, auditing, inspection and certification bodies. Our blend of expert analytical and advisory services help our customers to achieve compliance and improve safety, quality and efficiency.

Whatever safety or quality issues you face, we have the flexibility and the experience to deliver the right solutions for your business.

- **Risk Management:** Improve performance, reduce risk and free up valuable resource
- **Global Quality Guarantee:** applied to commodities, food ingredients and food products
- **Traceability through the supply chains:** including raw and semi-manufactured foodstuffs and final products in all food categories and special interest products
- **Global Coverage:** network of highly skilled and experienced experts to ensure smooth transition in the supply chain.

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About Intertek

At Intertek, it is our sole mission to provide not only the one-stop-shop you seek for all food services but to establish a trusted partnership with your business - consistently adding value and increasing your competitive advantage in the industry with every step we take together.

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