

Press release

Medex confirms the efficiency of royal jelly in alleviating inflammation processes in the body for the first time ever

Six decades of investing in development – Medex is the first in Slovenia to check the safety and quality of its honey

Ljubljana, 28 February 2023 – Medex plays one of the central roles in the world in upgrading the traditional use of bee products with clinically supported innovations. They have been investing in research for six decades now. Today, they develop safe and effective products in a modern laboratory, and they actively cooperate with public research institutions with their own registered R&D team. This was also the case with the research about the effects of royal jelly, with which Medex was the first in the world to confirm royal jelly's efficiency in alleviating inflammation processes in the body.



From left to right on the photo: Teja Mižigoj, Quality Department Manager, Rok Kopinč, PhD, Head of Development, Vesna Virant, Director of Medex Trade d. o. o.

The family-owned company Medex, which this year already celebrates its venerable 69 years of operation, is a pioneer of apitherapy in Slovenia and around the world, which means that

bee products are used for therapeutic purposes. The company improves people's lives with natural, effective and innovative food supplements based on bee products. And Medex plays one of the central roles in the world in upgrading the traditional use of bee products with clinically supported innovations. "I am proud that for 60 years, Medex has been investing in the development of our state-of-the-art laboratory, where we develop innovative products based on bee products. When researching the effects of bee products, our registered R&D team also actively cooperates with public research institutions," said **Vesna Virant**, Director of Medex Trade and in charge of marketing and sales. Over ten employees work in the lab, of which four PhDs (two in the field of bee products).

Medex is the first in the world to confirm the effectiveness of royal jelly on systemic inflammation

Recently, the biggest developments have been recorded especially in the field of research into the effectiveness of **royal jelly** and propolis. In cooperation with the Faculty of Health Sciences of the University of Primorska, researchers conducted a study on the effects of royal jelly and were the first to confirm its effectiveness on systemic inflammation.

Royal jelly has been used for centuries as a vitality tonic and support for the immune system, and new research has revealed ever-new effects of royal jelly on many aspects of human health, such as influencing hormonal balance, slowing down ageing, and stimulating brain functions. In its products, Medex uses exclusively royal jelly with a standardised content of the key active ingredient 10-HDA, which is found in nature exclusively in royal jelly (it is the most important short-chain fatty molecule – 10-hydroxydecenoic acid). Royal jelly, enriched with vitamins, has been available to consumers for many years under the brand name Gelée Royale, and is also included as an active ingredient in a number of other products. In the ROYAL BALANCE™ formula, for example, it is used in combination with saffron in the new product Beeharmony™ for relieving menopause symptoms.

Propolis also has antimicrobial and anti-inflammatory effects, but only in the right doses with a guaranteed constant content of flavonoids

The latest clinical studies have proven that flavonoids from propolis, in addition to relieving sore throat and pharynx, for which propolis was most often used, also have positive effects on the immune system, digestive tract (ulcers, inflammation), oral mucosa (aphthae, gum inflammation) and teeth (prevention against caries). The only assurance that propolis will indeed have antimicrobial and anti-inflammatory effects, as demonstrated by clinical studies, is to ensure the correct daily dose and a constant content of flavonoids, which are best known for their antioxidant effect, regardless of the season and source of propolis. That is why Medex only uses propolis with a standardised flavonoid content, expressed by the APF® factor (Active Propolis Flavonoids). APF® 50 indicates that the product contains 50 mg of flavonoids per ml,

and the dosage is also adapted to the flavonoid content and the results of clinical studies. APF® products are included in the Propolis defense line, which contains the unique Bio Propolis defense water-based spray, the strongest of its kind in the world and produced in an organic way.

Propolis defense products are a line of the strongest standardised propolis on the market, which can be alcohol or water based. They are available in the form of spray and lozenges, and are effective in relieving pain in the throat and pharynx and for the health of the oral mucosa, while propolis tincture is suitable for maintaining a healthy mucosa of the digestive tract and stimulating the immune system. And for those who do not like the taste of propolis, new Propolis defense capsules enriched with zinc and vitamin A are now available.

The first in Slovenia to start checking the quality and safety of each jar of its honey

Medex has been warning for many years that there is an increasing number of low-quality and untested honey on the market with illegal residues of pesticides, insecticides, antibiotics and heavy metals, or even fake honey. That is why it was the first in Slovenia to offer the “Check your honey” service to consumers seven years ago. At www.medex.si/preveri-med, enter the five-digit LOT number on the Medex honey lid and get quality and safety analyses that were conducted in accredited laboratories at home and abroad – for each and every jar of filled honey.



Photo: Nataša Lilek, PhD, beekeeper, licensed honey tester, member of the International Honey Commission (IHC) and of Medex's R&D team



Photo: Domen Jaklič, PhD, member of Medex's research team

STATEMENTS BY SPEAKERS:

Vesna Virant, Director of Medex Trade: *"I often say that we love bees and we also respect them a lot. The evidence of science forms the basis of our operation and is reflected in every Medex product. We want to support the traditional use of bee products with clinically proven effects, which is why we devote a lot of time and effort to clinical trials. We have a registered R&D team with several PhDs, which actively participates in conducting research on bee products and develops new products. By combining the power of natural bee products with modern science, we create innovative, safe and effective food supplements with standardised, patented and clinically proven ingredients in the right doses and combinations to ensure efficacy for consumers. Our core mission is to help users improve their quality of life in all life stages. With the power of bees and proof of science."*

Rok Kopinč, PhD, Head of Development and Head of Medex's registered research team: *"In-house research activity is very important in a company like Medex, as it is the only way we can offer consumers safe and effective products that, when dosed correctly, can profit from the effects proven by clinical studies. One of the pillars of Medex's development activity is the reliable standardisation of key active ingredients. The stability of the active ingredients and bioavailability are also important factors – that the product contains all the substances listed on the packaging until the end of its shelf life, in such a way that the maximum proportion of the active ingredient is available to the bloodstream. Finally, there is also taste, which is an important criterion for consumers. Research into the efficacy of bee products, which are the basic active ingredient of most Medex products, is in full swing, mechanisms of effectiveness and ever-new functionalities are being discovered in many areas of human health."*

Nataša Lilek, PhD, beekeeper, licensed honey tester, member of the International Honey Commission (IHC) and of Medex's R&D team: "Honey can be exposed to physical, chemical or microbiological risk factors, so it is very important that good beekeeping practices are followed during production. *The requirements regarding the quality and safety of honey are defined in the national regulations on honey and the regulations of the EU Commission. There are many myths circulating about how to check the quality of honey: from turning the jar upside down and checking if a bubble appears, to various tests with water and fire. In reality, however, it is not possible to assess the quality of honey with the naked eye alone, nor it is possible rely solely on sensory properties. The only reliable and verifiable quality test is the one performed in laboratories. With the [Check your honey](#) service, consumers can use the LOT number on the Medex honey lid to obtain an analysis sheet and see for themselves the composition of the honey and its suitability according to professionally established parameters.*"

More about royal jelly: Royal jelly is one of many bee products. It is the queen bee's only food and allows her to live up to 50 times longer than normal bees. On average, bees live one to two months, and the queen bee lives for four to five years. Humans have been using royal jelly for the relief of health issues since time immemorial, and today its effects are increasingly confirmed by the results of clinical research.

Royal jelly is a whitish, jelly-like substance with which nurse bees feed their brood. It contains all the necessary nutrients for bee development, as well as a range of unique bioactive substances found nowhere else in nature. Among them are short-chain fatty molecules, the most important of which is 10-HDA (10-hydroxy-decenoic acid). Royal jelly is what determines whether a bee larva will develop into a queen or a worker bee. If the bees feed the larva exclusively with royal jelly, it develops into a new queen, but if the larva is stopped with royal jelly after three days, it develops into a worker bee.

Royal jelly can therefore control the expression of genes and influences the action of hormones. Even though the queen bee is genetically exactly the same as other bees in the beehive, she is twice the size of other bees due to exclusively consuming royal jelly, lives the longest (she can outlive 15 generations of bees) and the only fertile bee in the beehive beside drones.

More about the study: In collaboration with the Faculty of Health Sciences of the University of Primorska, Medex conducted a study entitled *Effects of consuming royal jelly on lipid profile, satiety, inflammation and antioxidant capacity in asymptomatic overweight adults*.

A double-blind, placebo-controlled, randomised study included individuals with a mildly elevated body mass index (BMI). People with a BMI above 25 kg/m², because of the increased proportion of body fat, usually have signs of early-stage chronic inflammation and thus an increased risk of developing diseases related to systemic inflammation, such as type 2 diabetes, cardiovascular diseases, fatty liver and in extreme cases, even cancer. After 8 weeks of consumption of 2000 mg of royal jelly in a capsule, anthropometric measurements and blood analyses in the body of the participants detected a decrease in inflammatory processes (decrease in C-reactive protein and increase in anti-inflammatory factors), increase in antioxidant levels (increase in bilirubin, an endogenous antioxidant), decrease in total cholesterol and an increase in leptin, the hormone that triggers feelings of satiety.

More about propolis: People have been using propolis or bee glue, with which bees protect their hive and ensure the health of the bee colony, for centuries, and today the antibacterial, antiviral and antifungal effect of propolis is also confirmed by clinical studies. Bees collect plant resin on tree buds, which protects plants from microorganisms, as it contains natural dyes – flavonoids. Bees enrich the resin with the secretions of their glands and add wax. If traditionally propolis was used mainly to soothe a sore throat and pharynx, most recent clinical studies have proven that flavonoids from propolis have positive effects on the immune system, digestive tract (ulcers, inflammation), oral mucosa (aphthae, gum inflammation) and teeth (prevention against caries). The only guarantee that propolis will really have antimicrobial and anti-inflammatory effects, proven by clinical studies, is the content of flavonoids and the correct dosage.

If we want a product with propolis to have a consistent and reproducible effect, it is necessary to ensure a constant content of flavonoids, regardless of the season and the source of propolis. For this purpose, Medex only uses propolis with a standardised flavonoid content expressed by the APF[®] factor (Active Propolis Flavonoids), whereby both the raw material and the final product are standardised. APF[®] 50 indicates that the product contains 50 mg of flavonoids per ml, and the dosage is also adapted to the flavonoid content and the results of clinical studies.