

Exploring the antioxidant benefits of different types of honey

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Citrus honey has an increased abundance of antioxidants in comparison to other standard types of honey, according to a new study by University of the West of Scotland (UWS). The research is published in the journal

Antioxidants.

Antioxidants are chemicals that reduce or prevent the effects of [free radicals](#): unstable molecules that can damage cells, causing illness, disease, and aging.

Research led by UWS academics, in collaboration with a range of international partners, looked at antioxidant activity in the most common types of floral honey, including clover, citrus and marjoram; discovering that compounds found in citrus honey significantly boosted the overall antioxidant properties.

Professor Milan Radosavljevic, vice-principal research, innovation and engagement, said, "Scientific investigations have shown that free radicals, DNA damage, and cell malignancy are directly linked.

"Our natural resources generate an abundance of produce with varied and far-reaching [health benefits](#) and research such as this is needed to highlight pragmatic opportunities to develop new, low-cost treatments and therapies for a range of illnesses and diseases."

The study looked at honey samples from crude and prepared honey, analyzing their metabolite profiles, revealing that citrus honey has the greatest antioxidant activity. Researchers believe this is due to the presence of secondary compounds which were only found in citrus and marjoram honey—hesperetin, linalool, and caffeic acid—with greater quantities available in [citrus](#) varieties.

Dr. Mostafa Rateb, UWS School of Computing, Engineering and Physical Sciences, said, "Honey is known to have many health benefits, such as antioxidant, anti-inflammatory, antibacterial, and immune system-stimulating qualities. However, its antioxidant action is complicated to measure due to being connected to various substances,

including enzymes, sugars, and plant substrates.

"Our research looked to isolate compounds to understand which variety of honey generated the greatest [antioxidant activity](#), thus producing the best protection against harmful free radicals."

Between January 1981 and September 2019, 1,881 drugs have been approved for use against various diseases—46% of the molecules used in these drugs are either natural, or derived from [natural sources](#).

More information: Maha Montaser et al, ¹H-NMR Metabolic Profiling, Antioxidant Activity, and Docking Study of Common Medicinal Plant-Derived Honey, *Antioxidants* (2022). [DOI: 10.3390/antiox11101880](#)

Provided by University of the West of Scotland

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