Study on Propolis Quality from China and Uruguay

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Z. Naturforsch. **55 c,** 778–784 (2000); received March 20/May 8, 2000

Propolis, Phenolic Constituents, ROO•-Scavenging Potential Activity

The composition, bacteriostatic and ROO•-scavenging potential activities of fifteen propolis samples from various botanic and geographic origins were determined to obtain objective information related to propolis quality. Variance analysis showed significant differences ($p \leq 0.05$) in the contents of polyphenols, flavonoids and active components between fresh and aged propolis. The state of the product (fresh or aged) could be differentiate by using flavonoid pattern and biological activities. A minimum propolis concentration of 80 μg/ml was required inhibit *Bacillus subtilis* and *Staphylococcus aureus* while 800 μg/ml was required to inhibit *Escherichia coli* using fresh propolis. Aged propolis inhibit *B. subtilis* and *S. aureus* at concentration of 100 μg/ml and *E. coli* at 1000 μg/ml. A minimum flavonoids percentage of 18 g/100 g and a maximum ROO•-scavenging potential activity of 4.3 μg/ml were determined in fresh propolis. Flavonoids levels in aged propolis were approximately 20% lower than in fresh propolis. A maximum flavonoids percentage of 19.8 g/100 g and a ROO•-scavenging potential activity between 5.7 to 6.4 μg/ml in aged propolis were quantified. Another objective was to assess the use of ROO•-scavenging potential activity in propolis quality.