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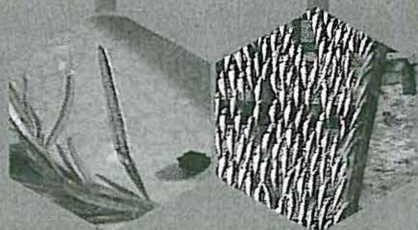
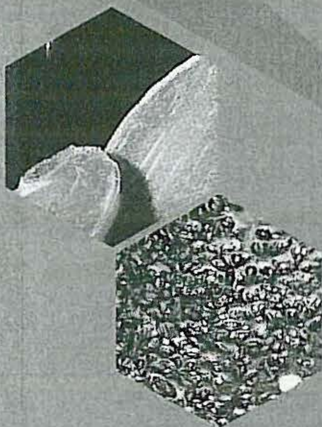


Resumos



7º Encontro de Química dos Alimentos

Alimentos: Tradição e Inovação, Saúde e Segurança

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Bioactive properties of pollen samples collected in the Northeast of Portugal

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Reactive oxygen species are formed during normal cellular metabolism, but when present in high concentration they become toxic. Mammalian cells possess intracellular defences such as superoxide dismutase, catalase or glutathione peroxidase in order to protect the cells against excessive levels of free radicals. Also exogenous addition of compounds such as vitamins (A, E, β-carotene), minerals (selenium, zinc), or proteins (transferring, ceruleoplasmin, albumin) can provide additional protection.[1] Lipid peroxidation is also a major cause of food deterioration, affecting colour, flavour, texture and nutritional value.[3] Radical scavengers may protect cell tissues from free radicals, thereby preventing diseases such as cancer. The enhance prevalence of infectious diseases is also becoming a world wide problem. Additionally, the resistance problem demands that a renewed effort should be made to seek antimicrobial agents effective against pathogenic microorganisms resistant to current treatment[2]. In fact, pollen has been recently pointed by its therapeutically interest and excellent nutritional value[3].

We will report the antimicrobial activity and chemical assays on the antioxidant activity of pollen samples collected from *Cistus ladanifer* (Esteva) and *Rubus sp.* (Silva) of the Northeast of Portugal. Gram positive (*Bacillus cereus, B. subtilis*), Gram negative (*Pseudomonas aeruginosa, Escherichia coli*) bacteria, and *Candida albicans* as a representative of fungi were used for screening the in vitro antimicrobial activity of the samples. The minimal inhibitory concentrations (MICs) were determined by radial diffusion. The reducing power was evaluated measuring absorbance at 700 nm after mixing the samples with ferric compounds; a higher absorbance indicates a higher reducing power. The scavenging effects on DPPH (1,1-diphenyl-2-picrylhydrazyl) radicals were determined measuring the decay in absorbance at 517 nm due to the DPPH radical reduction, indicating the antioxidant activity of the samples in a short time. Total phenols were determined using Folin-Ciocalteau reagent and measuring the absorbance at 750 nm, using a calibration curve of gallic acid[4].

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