

A rectangular inset image showing a microscopic view of yeast cells, likely Saccharomyces cerevisiae, with a textured, greenish-yellow appearance. The cells are clustered and show some internal structure.

**XVII JORNADAS  
DE BIOLOGIA  
DE LEVEDURAS  
"NICOLAU VAN UDEN"**

19 - 20 DE JUNHO DE 2009 | UNIVERSIDADE DO MINHO, BRAGA

### Hive products effect against fermentative spoilage yeasts

Mónica Rogão, Leandro Moreira, Ana Paula Pereira, Margarida Morais, Teresa Dias, Letícia Estevinho

CIMO (Centro de Investigação de Montanha) – Instituto Politécnico de Bragança

Hive products have recently being in the centre of the international scientific community attention, due to its biological properties.

Honey is a sweet aliment produced by honey bees and derived from the nectar of flowers. Propolis is prepared by bees through the collection of resins from trees and flowers. Bee pollen is the male seed of flowers that is collected by honey bee and is mixed with bee secretions.

The antimicrobial activity of hive products has been studied namely using pathogenic yeasts, regarding their use on traditional medicine. On the other hand, in literature are not reported studies concerning theirs bioactivity against fermentative spoilage yeasts, however its significance in food spoilage is increasing, essentially due to the new food products development.

The main objective of this study was evaluated the effect of three hive products (honey, propolis and pollen - collected in the Northeast of Portugal) against the fermentative spoilage yeasts.

For this purpose was used fermentative spoilage yeasts - *Zygosaccharomyces bailli*, isolated from wine, and *Zygosaccharomyces rouxii* and *Zygosaccharomyces mellis* isolated from honey, and *Saccharomyces cerevisiae* was used as control.

Broth dilution method was performed in order to evaluate the antifungal activity of these products.

The impact of the different hive products on the survival of fermentative spoilage yeasts was analyzed by calculating the percentage of each product, necessary to reduce 50% of the population ( $IC_{50}$ ).

The results show that all hive products have antifungal properties, however the  $IC_{50}$  values depends of the strains and hive product.

In conclusion, the obtained data are promising for the food industry, since these products could be used to increase shelf-life of food products.