

P2.22 - ANTIFUNGAL CAPACITY OF A COMMERCIAL FLAVOURING AGENT AGAINST SPOILAGE YEASTS

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ABSTRACT

Yeasts are involved in the spoilage of foods and beverages, causing undesirable changes in the physicochemical and sensory properties of the products that are, often, very evident. Prevention of food spoilage requires good manufacturing and hygienic practices, but additives are also frequently used to hinder yeast growth. Nowadays, consumers and companies are moving from chemical additives towards other options that can be perceived as more natural and less harmful to human health.

With this in consideration, the goal of this study was to assess the antifungal capacity of a commercial flavouring against four *Zygosaccharomyces* species isolated from pastry fillings, *Z. bailii*, *Z. parabaillii*, *Z. bisporus* and *Z. rouxii*, and two yeasts isolated from thermo-sealed packaging used by a pastry company. The flavouring concentrations tested were 0.15%, 0.3%, 0.9%, 1.5% and 3% (w/v), in accordance with the manufacturer's dosage recommendations.

After 48 hours at 25 °C, the commercial flavouring did not inhibit any of the four *Zygosaccharomyces* yeasts, even at 3%. The two yeasts isolated from thermo-sealed packaging were unaffected by flavouring concentrations of 1.5% and below; however, at 3%, the growth of one of the yeasts was reduced, whereas the other was completely inhibited, which indicated a reduction of around 5 log CFU/mL.

While this commercial flavouring did not exhibit antifungal activity against all the tested yeasts, the results are still encouraging. The flavouring tested offers a natural alternative to the chemical preservatives currently used in the pastry industry, such as potassium sorbate. This natural alternative can help to hamper the growth of yeasts that may be detected during the manufacturing process. The presence of yeasts poses a serious threat in terms of food spoilage, product loss and consumer perception.

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