# HP-35: Extraction and Incorporation of Spirulina Extract into a Mayonnaise Product

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**Subject description:** Spirulina is characterized by its exceptional richness in phenolic compounds, which gives it several exploitable biological activities to improve the nutritional and the organoleptic quality of different types of food.

**Objectives:** The objective of this study is to evaluate the antibacterial activity of spirulina extract against two pathogenic strains; *E.coli* and *S. aureus*, as well as , it evaluates the effect of its incorporation on the organoleptic quality of mayonnaise product.

**Methods:** The analysis of phenolic compounds in spirulina is performed, followed by the evaluation of its antibacterial effects in both pathogenic strains; *E.coli* and *S. aureus*. Subsequently, the spirulina is integrated into the mayonnaise to assess its organoleptic quality and to measure its pH.

**Results and discussion:** The results obtained show that the total polyphenols dose has a non-negligible content of 70 g EAG / mg of spirulina. In addition, the spirulina extract exerts a small inhibitory activity against *E. coli* and *Staphylococcus aureus* compared to the antibiotic Tetracycline with inhibition diameters of 8 mm and 7 mm respectively. The incorporation of spirulina powder in mayonnaise with a proportion of 1% and 2% maintains the stability of product acidity, yet it has no effect on its consistency and acceptability. However, it has a significant effect on organoleptic parameters such as color, taste and aroma.

**Conclusion:** This study illuminates the valuable contributions of spirulina's phenolic compounds in both antibacterial activity and the organoleptic enhancement of food products, paving the way for potential applications in human nutrition and culinary experiences.

**Keywords:** spirulina, polyphenols, antibacterial activity, mayonnaise, organoleptic quality.