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STARTER CULTURE INFLUENCE ON THE YOGURT PRESERVATION AND SAFETY

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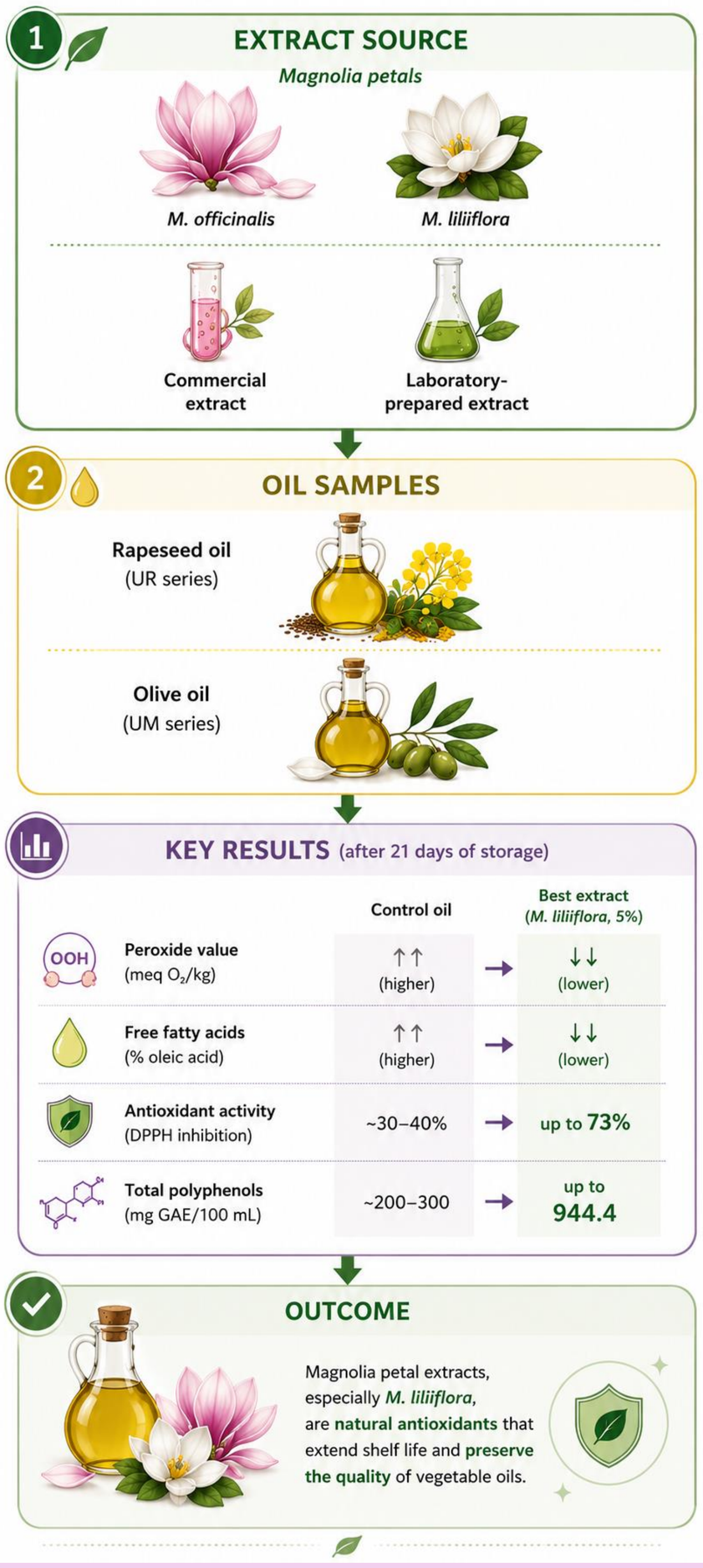
Abstract: Magnolia petal extracts were tested for improving the oxidative stability of rapeseed and olive oils during 21 days of storage. The highest antioxidant activity was recorded for *Magnolia liliiflora* extract (73% DPPH inhibition; 944.4 mg GAE/100 mL), while enriched oils showed lower peroxide and free fatty acid values than control samples. These results demonstrate the potential of magnolia extracts as natural antioxidants for extending the shelf life and quality of edible oils.

• Introduction

Vegetable oils are susceptible to oxidative degradation, which negatively affects their nutritional quality, sensory properties, and shelf life. Natural antioxidants from plant sources, such as magnolia flowers, have gained increasing interest due to their high polyphenol content and antioxidant potential. This study investigated the effect of *Magnolia officinalis* and *Magnolia liliiflora* extracts on the stability and quality of rapeseed and olive oils during storage.

• Materials and methods

• Results and discussions



Magnolia petal extracts improved the oxidative stability of rapeseed and olive oils during 21 days of storage, resulting in lower peroxide and free fatty acid values compared to control samples.

The best results were obtained for *Magnolia liliiflora* extract, which showed the highest polyphenol content (944.4 mg GAE/100 mL) and antioxidant activity (73% DPPH inhibition).

Sensory evaluation indicated improved aroma and taste, suggesting that magnolia extracts can act as effective natural antioxidants for edible oils.

• Conclusions

Magnolia petal extracts, especially *Magnolia liliiflora*, effectively improved the oxidative stability of rapeseed and olive oils during storage. The extracts reduced peroxide and free fatty acid formation while increasing antioxidant protection due to their high polyphenol content and strong DPPH activity. These findings support the use of magnolia extracts as natural antioxidants for enhancing edible oil quality and shelf life.