

Effect of different liquid on canned tuna

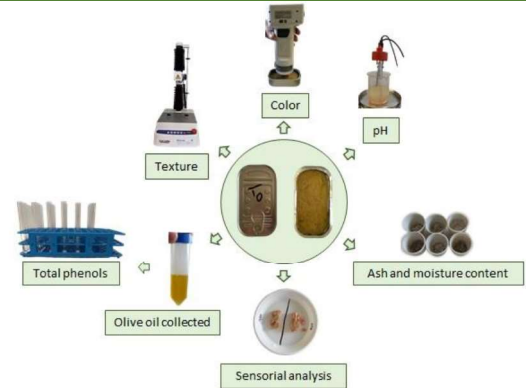
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Introduction and Objectives

Olive oil and fish are two products with a great tradition in Portugal and high importance in the Mediterranean Diet. The beneficial properties of these foods for health, associated with their sensory characteristics, make them highly appreciated by consumers. With the present work, the effect of using extra virgin olive oils (AVE) with different intensities of fruitiness (ripe fruity, light green fruity and intense green fruity) as a filling liquid in canned tuna was studied in comparison with other liquids that are commonly used (refined olive oil and sunflower oil) in terms of physicochemical and sensory characteristics.

Material and Methods



Results and Discussion

The Hue (h) had an average value close to 76, varying between 74.4 in the intense green olive oil and 76.6 in the light green olive oil. The hardness evaluated by the maximum peak (Figure 1), varied between 12.5 and 17.5 kg, with lowest value observed in the light green olive oil. The fraturability (Figure 2), this ranged between 3.4 and 4.1 Kg, with lowest value being observed in the intense green olive oil. Regarding pH, this ranged between 5.53 and 5.62, with the lowest value being observed in refined oil. With regard to moisture and ash contents, mean values of 60% and 1.3% (f.w.) were determined, respectively. Total phenols (Figure 3), were not detected in sunflower oil and refined olive oil. In the remaining liquid medium, the values varied between 190 and 304 mg Gallic Acid Equivalents/Kg of olive oil for the ripe olive oil and the intense green olive oil, respectively. 3

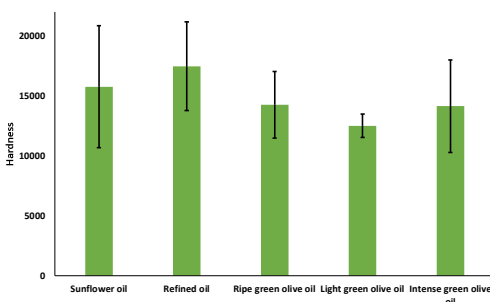


Figure 1 – Texture analysis (Hardness).

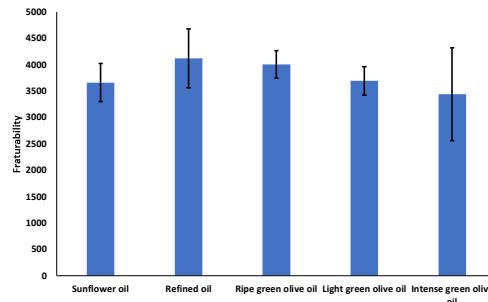


Figure 2 – Texture analysis (Fraturability).

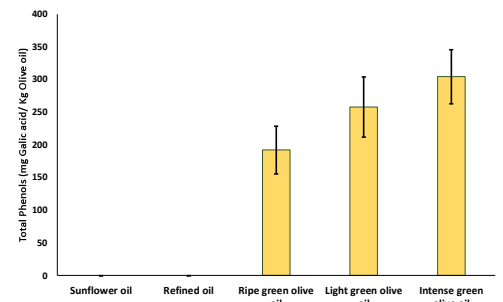


Figure 3 – Total phenols (mg Galic acid/Kg Olive oil).

The sensory evaluation (Figure 4), it was observed that tuna had the highest color in refined oil and the lowest in the sunflower oil. As for the tuna aroma, it was more intense in sunflower oil, refined oil and ripe oil. Regarding tuna flavor, it was more intense in sunflower oil, refined olive oil and ripe olive oil.

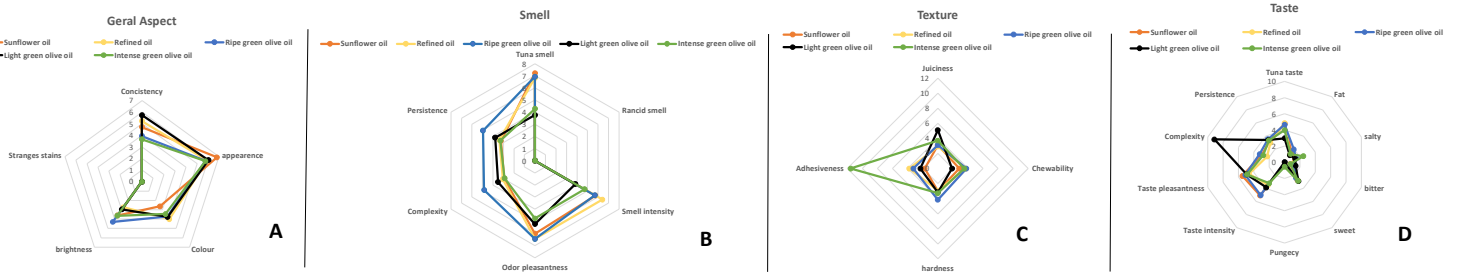


Figure 4 – Sensory analysis. In the figure 4A is represented the geral aspect. The figure 4B show de smell of tuna, the 4C the texture and the last one (Figure D), the taste of tuna .

Conclusion

It was found that of all the liquid medium used in this trial, no major differences were observed, except for sensory analysis and in the content of total phenols in the liquid medium, which improved according to the increase in the fruitiness of the olive oils.

Acknowledgements: The authors are grateful to the Foundation for Science and Technology (FCT, Portugal) for financial support by national funds FCT/MCTES to CIMO (UIDB/00690/2020) and to Associate Laboratory for Green Chemistry-LAUV (UIDB/50006/2020). Nuno Rodrigues thanks to National funding by FCT- Foundation for Science and Technology, P.I., through the institutional scientific employment program-contract.