

Mayonnaise processed for appealing sensory properties

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Introduction

Mayonnaise is an oil in water emulsion, generally produced in high intensity rotor-stator mixers. The taste and texture is appreciated by consumers but local markets value different sensory properties. The effects of processing conditions on appearance, texture and taste are not fully understood. However, it can be hypothesized to primarily depend on mixing intensity (i.e. the rotor tip-speed) and processing time (i.e. the average number of rotor-stator passages)¹. The aim of this study was to evaluate the effect of mixing intensity on the characteristics of mayonnaise.

Methods

A standard recipe for mayonnaise was processed in a rotor-stator mixer using two different mixing intensities (rotor tip-speeds of 4.7 m/s and 7.1 m/s). The processing time was chosen to give the same number of average rotor-stator passages for each rotor speed. Sensory properties were evaluated using a, analytical panel (Quantitative Descriptive Analysis)². Texture was measured instrumentally as curdled consistency by back extrusion (TVT Texture Analyzer, Perten Instruments)³.

Results

The higher mixing intensity (7.1 m/s) led to a more yellow appearance compared to the lower intensity (4.7 m/s). It also resulted in higher resistance to stirring when assessed by the panel and a higher Peak Force A (N) and Adhesiveness (J) measured instrumentally. No effect on taste-related sensory properties was found.

Conclusion

By varying the mixing speed the appearance and texture of mayonnaise was affected, a higher mixing intensity led to a more yellow and firm product. The alterations in processing conditions had no effect on the taste of the mayonnaise.

References

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