Effect of Freezing Storage on the Quality of Pita Bread.

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Aim of the study.
Method.
Results and Discussions.



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In this study, we evaluated effect freezing storage on the quality traits for the pita bread (color, Texture , microbiological safety and consumer acceptance of bread).

Introduction: Freezing of bread is today's common practice in the bread Preservation in Palestine. The benefit of freezing process:- \checkmark extreme prolongation of bread shelf-life. \checkmark reduced bread waste. \checkmark related economical losses.

 \checkmark gave consumers fresh bread at any time of the day.

Disadvantages.

Study design

Materials and equipments:

- A total of 20 loaves of pita bread were purchased from the Huso bakery in Tulkarm.
- Instruments: chromameter ,texture analyzer, autoclave, Incubator.
- Questionnaire.







Physical characteristics:

Crust color was measured using a chromameter which was calibrated using a white reference tile: lightness(L*), redness(a*), yellowness(b*).





1.



Textural properties:

Two slices were taken from each loaf for evaluations. The textural profile analysis (TPA) equipped with a load cell of 50 kN , each bread slice was compressed twice by 30% of the initial sample height.









- •Springiness= D2/D1
- •Gumminess= Hardness *(Area2 /Area1)
- •Chewiness= Gumminess*springiness.





Sensory characteristics

The sensory evaluation of breads was conducted by ten assessors of students & employees. A 10-point hedonic rating scale was used, for 6 properties including (crust color, crust characteristic, crumb color, grain &texture ,flavor & test ,chewing).



Study design

Statistical Analysis:

- The results were statistically evaluated by using the ANOVA option of the GLM procedure present in SAS software (Minitab). The main effects of freeze storage on the quality traits of Pita bread (sensory, texture, color L*a*b*, and microbiological analysis) were evaluated.
- Means were separated using Tukey's honestly test of the GLM procedure (Minitab).

Results & Discussions















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Take of Message

- The results of our study showed that the consumption of frozen bread during two months of freezing is safe and acceptable to the consumer.
- The project will also be continue until an cut off point appears.









