

**EFFECT OF DIFFERENT EDIBLE OIL COATING ON THE QUALITY
AND SHELF LIFE OF CHICKEN EGGS.**



BY

HISANITHY PARASURAMAN



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**DEPARTMENT OF BIOSYSTEMS TECHNOLOGY
FACULTY OF TECHNOLOGY
EASTERN UNIVERSITY
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ABSTRACT

Edible oil coating is a cost effective and inexpensive method used in chicken eggs in order to preserve the internal, external, nutritional and sensory qualities and also extend the self-life of eggs during the storage at room temperature. The research study was conducted to investigate the effect of different edible oil coating on the quality and shelf life of chicken eggs. Freshly laid, undamaged and cleaned eggs were allowed to oil coating into different edible oils such as sunflower oil, coconut oil, palm oil and gingelly oil and stored at 30°C (room temperature).

The quality parameters such as weight loss, shell weight, air cell height, albumin weight, albumin height, albumin pH, yolk weight, yolk height, yolk diameter, yolk index and Haugh unit and also the nutritional qualities such as moisture, protein, fat and ash and also the sensory analysis was tested at the weekly interval. After 5 weeks of storage the sensory analysis was evaluated by using seven-point hedonic test. The edible oil coated eggs were subjected to statistical analysis by using ANOVA in SPSS statistical software to evaluate at 5% significant level.

The result indicated that the weight loss of edible oil coated eggs has less than the uncoated eggs and the palm oil coated eggs stored at room temperature showed more effective result in reducing weight loss. During the 5 weeks of storage, egg coated with palm oil were showed better result in the retention of albumin weight, albumin height, albumin pH, yolk weight, yolk height, yolk diameter, yolk index and Haugh unit than the noncoated eggs. But the other oil coatings also maintained the quality of eggs but in the overall observation the palm oil was the best treatment among the other

treatments. The internal, external, nutritional qualities were analyzed by using Duncan Multiple Range Test.

Significantly changes ($p < 0.05$) in nutritional qualities were observed between the treatments. The sensory analysis also showed that there were significant ($p < 0.05$) difference in the sensory characteristics such as Color, flavor, taste, texture and overall acceptability. According to Turkey's Standardized Range Test, the best and highest overall acceptability was observed in palm oil coated eggs. The palm oil coated eggs were stored at room temperature was selected as a best treatment which can be kept the eggs for 35 days without spoiled the internal, external, nutritional and sensory qualities and also significantly ($p < 0.05$) differed from other treatment.

According to the result, this study was revealed the potential benefits of edible oils as a coating for eggs in order to satisfy the consumer and market demand and also the edible oil coating can be preserved the qualities of eggs during storage without the need of refrigeration. And also, this edible oil coating is most useable method for the rural and poor people to extent their usage duration of eggs.

TABLE OF CONTENT

| | |
|--|------|
| ABSTRACT | i |
| ACKNOWLEDGEMENTS | iii |
| TABLE OF CONTENT | iv |
| LIST OF TABLES | viii |
| LIST OF FIGURES | ix |
| LIST OF PLATES | x |
| ABBREVIATIONS | xi |
| CHAPTER: 01 | 1 |
| 1.0 INTRODUCTION | 1 |
| CHAPTER: 02 | 5 |
| 2.0 LITERATURE REVIEW | 5 |
| 2.1. Egg | 5 |
| 2.2. Structure of egg | 5 |
| 2.2.1. Egg shell..... | 6 |
| 2.2.2. Shell membrane..... | 6 |
| 2.2.3. Albumin | 7 |
| 2.2.4. Yolk..... | 7 |
| 2.2.5. Air cell..... | 7 |
| 2.3. Nutritional composition of an egg | 8 |
| 2.3.1. Protein | 8 |
| 2.3.2. Lipid | 9 |
| 2.3.3. Carbohydrate | 9 |
| 2.3.4. Vitamins | 9 |
| 2.3.5. Minerals | 10 |
| 2.4. Egg quality | 10 |
| 2.4.1. Egg shell quality..... | 10 |
| 2.4.2. Egg yolk quality | 10 |
| 2.4.3. Egg albumin quality | 11 |
| 2.5. Measures of an egg quality | 11 |
| 2.5.1. Egg weight loss | 11 |
| 2.5.2. Haugh Unit (HU)..... | 12 |
| 2.5.3 Yolk index..... | 12 |
| 2.5.4. pH of egg..... | 12 |

| | |
|---|----|
| 2.6 Factors affecting egg quality | 13 |
| 2.6.1. Storage condition | 13 |
| 2.6.2. Temperature | 14 |
| 2.6.3. Humidity | 14 |
| 2.6.4. Physiological status | 14 |
| 2.7 Preservation of shell eggs..... | 15 |
| 2.7.1. Importance of shell eggs preservation..... | 15 |
| 2.7.2. Methods of shell eggs preservation..... | 15 |
| 2.7.2.1. Wet immersion method..... | 15 |
| 2.7.2.1.1. Lime sealing method..... | 15 |
| 2.7.2.1.2 Water glass method..... | 15 |
| 2.7.2.2 Cold storage | 16 |
| 2.7.2.3. Gaseous atmosphere..... | 16 |
| 2.7.2.4. Pasteurization | 16 |
| 2.7.2.5. The use of edible coating in eggs..... | 16 |
| 2.7.2.5.1. Polysaccharide coatings | 17 |
| 2.7.2.5.2. Protein coatings..... | 17 |
| 2.7.2.5.3. Bio active coatings | 18 |
| 2.7.2.5.4. Lipid coatings..... | 19 |
| 2.7.2.5.4.1. Oil coatings | 20 |
| 2.8. Sensory evaluation | 21 |
| 2.8.1. Importance of sensory analysis..... | 21 |
| 2.8.2. Hedonic scale | 21 |
| 2.8.3. Qualities assed by sensory evaluation..... | 21 |
| CHAPTER: 03 | 22 |
| 3.0. METHODOLOGY..... | 22 |
| 3.1. Materials..... | 22 |
| 3.1.1 Materials used for the study | 22 |
| 3.1.2. Materials collection..... | 22 |
| 3.2. Sample size..... | 23 |
| 3.3. Experimental design..... | 23 |
| 3.4. Edible oil coating treatment and storage | 23 |
| 3.5. Development of Egg shell cracker | 24 |
| 3.5.1. Materials..... | 24 |

| | |
|---|----|
| 3.5.2. Procedure..... | 24 |
| 3.6. Determination of Internal and External quality | 25 |
| 3.6.1. External quality parameters..... | 25 |
| 3.6.1.1. Egg weight loss | 25 |
| 3.6.1.2. Egg shell weight..... | 26 |
| 3.6.1.3. Air cell height..... | 26 |
| 3.6.2. Egg internal quality parameters | 26 |
| 3.6.2.1. Height of yolk | 27 |
| 3.6.2.2. Diameter of yolk | 27 |
| 3.6.2.3. Height of albumen..... | 27 |
| 3.6.2.4. Weight of egg yolk..... | 28 |
| 3.6.2.5. Weight of egg albumen | 28 |
| 3.6.2.6. Albumin pH..... | 29 |
| 3.6.2.7. Yolk Index..... | 29 |
| 3.6.2.8. Haugh Unit..... | 29 |
| 3.7. Nutritional analysis | 29 |
| 3.7.1. Determination of Moisture..... | 30 |
| 3.7.2. Determination of Protein..... | 31 |
| 3.7.3. Determination of Fat | 33 |
| 3.7.4. Determination of Ash..... | 34 |
| 3.8. Sensory Analysis..... | 35 |
| 3.8.1. Materials used for the Organoleptic analysis..... | 36 |
| 3.8.2. Coding and serving the sample | 36 |
| 3.9. Shelf-life evaluation | 37 |
| 3.10. Statistical analysis | 37 |
| CHAPTER: 04 | 38 |
| 4.0 RESULT AND DISCUSSION | 38 |
| 4.1. Edible oil coating on chicken eggs..... | 38 |
| 4.2. Effects of different edible oil coatings on the external qualities of eggs.... | 39 |
| 4.2.1. Weight loss of different edible oil coated eggs..... | 39 |
| 4.2.2. Egg shell weight..... | 40 |
| 4.2.3. Air cell Height..... | 41 |
| 4.3. Egg internal quality parameters | 42 |
| 4.3.1. Egg albumin weight | 42 |

| | |
|--|----|
| 4.3.2. Albumen Height..... | 43 |
| 4.3.3. Albumin pH..... | 44 |
| 4.3.4. Yolk weight..... | 45 |
| 4.3.5. Yolk Diameter..... | 46 |
| 4.3.6. Yolk Height..... | 47 |
| 4.3.7. Yolk Index..... | 49 |
| 4.3.8. Haugh Unit..... | 50 |
| 4.4. Nutrient analysis..... | 52 |
| 4.4.1. Moisture..... | 52 |
| 4.4.2. Protein..... | 54 |
| 4.4.3. Fat..... | 55 |
| 4.4.4. Ash..... | 56 |
| 4.5. Shelf-life evaluation..... | 57 |
| 4.6. Sensory Analysis of edible oil coated eggs..... | 58 |
| 4.6.1. Colour..... | 59 |
| 4.6.2. Taste..... | 59 |
| 4.6.3. Flavour..... | 60 |
| 4.6.4. Texture..... | 60 |
| 4.6.5. Overall Acceptability..... | 60 |
| CHAPTER: 05..... | 61 |
| CONCLUSIONS..... | 61 |
| 5.0 SUGGESTIONS FOR THE FURTHER RESEARCH WORK..... | 63 |
| CHAPTER:06..... | 64 |
| 6.0 REFERENCE..... | 64 |
| APPENDIX | |

LIST OF TABLES

| | |
|--|----|
| Table 4. 1: Effect of edible oil coating on the weight loss..... | 39 |
| Table 4. 2: Changes in the egg shell weight of edible oil coated eggs. | 40 |
| Table 4. 3: Changes in the albumin weight of edible oil coated eggs..... | 42 |
| Table 4. 4: Changes in the albumin height of edible oil coated eggs..... | 44 |
| Table 4. 5: Changes in the albumin pH of edible oil coated eggs..... | 45 |
| Table 4. 6: Changes in the Yolk weight of edible oil coated eggs..... | 45 |
| Table 4. 7: Effect of edible oil coating on the Yolk Index..... | 49 |
| Table 4. 8: Effect of edible oil coating on the Haugh Unit. | 51 |
| Table 4. 9: Effect of edible oil coating on the Protein content of eggs..... | 55 |
| Table 4. 10: Effect of edible oil coating on the Fat content of eggs. | 56 |
| Table 4. 11: Effect of edible oil coating on the Ash content of eggs. | 57 |
| Table 4. 12: Effect of edible oil coating on the sensory analysis of eggs. | 59 |

LIST OF FIGURES

| | |
|--|----|
| Figure 2. 1. Basic nutrition in edible parts of egg (a) Egg albumin (b) Egg yolk (Godbert, 2019)..... | 8 |
| Figure 3. 1. Flow chart for the procedure of edible oil coating on chicken eggs..... | 23 |
| Figure 4. 1: Changes in the Air cell height of edible oil coated eggs..... | 41 |
| Figure 4. 2: Effect of edible oil coating on the yolk diameter. | 47 |
| Figure 4. 3: Effect of edible oil coating on the yolk height. | 48 |
| Figure 4. 4: Effect of edible oil coating on the Moisture content of eggs. | 53 |

LIST OF PLATES

| | |
|--|----|
| Plate 2. 1. Structure of chicken egg (Adegbenjo <i>et al.</i> , 2020)..... | 5 |
| Plate 2. 2. Physiochemical changes associated with storage of egg (a) Air cell, (b) modifications during storage (Godbert, 2019)..... | 13 |
| Plate 3. 1. Different edible oil coatings on eggs..... | 24 |
| Plate 3. 2. Egg shell cracker | 25 |
| Plate 3. 3. Egg weight measured by using electronic scale..... | 25 |
| Plate 3. 4. Egg shell weight measured by using electronic scale | 26 |
| Plate 3. 5. Air cell height measured by using Vernier calliper..... | 26 |
| Plate 3. 6. Yolk height measured by using Vernier calliper..... | 27 |
| Plate 3. 7. Yolk diameter measured by using Vernier calliper..... | 27 |
| Plate 3. 8. Albumen height measured by using Vernier calliper..... | 28 |
| Plate 3. 9. Yolk weight measured by using electronic scale | 28 |
| Plate 3. 10. Albumen weight measured by using electronic scale..... | 28 |
| Plate 3. 11. Oven dried egg samples for determination of moisture content..... | 30 |
| Plate 3. 12. Digestion, Distillation, Titration for determination of Protein..... | 31 |
| Plate 3. 13. Determination of fat content for egg samples by using Soxhlet. | 34 |
| Plate 3. 14. Ash content in each treatment's egg samples..... | 35 |
| Plate 3. 15. Arrangement of boiled eggs for Sensory analysis..... | 35 |
| Plate 4. 1. Internal quality of different edible oil coated eggs during 5 weeks of storage..... | 58 |