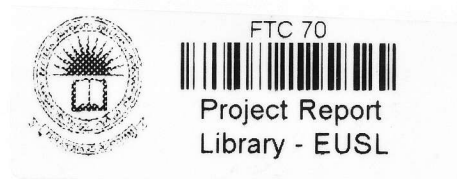


**STUDIES ON NUTRITIONAL QUALITY AND SENSORY
EVALUATION OF CAKE INCORPORATING OYSTER MUSHROOM
POWDER (*Pleurotus ostreatus*)**



BY

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ABSTRACT

Mushroom has been relished as a source of food and medicine throughout the world. Mushrooms are highly nutritive being low calories and loaded with good amount of protein, vitamins and minerals and suitable for any age group. Mushroom powder have huge health and nutritional benefits and can solve many problem of under nutrition and malnutrition. Mushroom powder rich source of protein, fat, minerals, fibers and carbohydrate. It also maintaining very low of sugar and fat. Mushroom contain highly moisture and delicate in texture, these cannot be stored for more than 24 hours at the ambient conditions. This leads to the weight loss, veil opening, browning and microbial spoilage of the product making it unsaleable.

This research was conducted on studies on nutritional quality and sensory evaluation of cake incorporating oyster mushroom powder (*Pleurotus oysteratus*). The total mean value of crude protein, crude fat, fiber, ash, fiber, fat and carbohydrates are 14.10%, 2.45%, 12.18%, 6.50% and 48.16% for mushroom powder. Therefore, successfully combined with wheat flour for cake production would be nutritionally advantageous. The cake were developed using wheat flour and oyster mushroom powder. The various ratio of wheat to mushroom powder used 100:00 (T₁), 95:05 (T₂), 90:10 (T₃), 85:15 (T₄), 80:10 (T₅). Each treatments were tested for their physical, nutritional and sensory qualities. Storage studies were tested for their nutritional qualities, sensory evaluation and microbial qualities to every weeks. The result of nutritional, physical and organoleptic qualities were analyzed statistically by ANOVA using SPSS statical packages to evaluate the significance at P< 0.05.

According to physical parameters of mushroom cake height, weight, volume and density were increased from 4.00 to 4.68 cm, 316.45 to 383.98 g, 615.43 to 720.57 cm³ and 0.51 to 0.53 gcm⁻³. According to nutritional analysis of mushroom cake moisture, ash, protein and fat were increased from 17.66 to 19.47%, 0.46 to 0.89%, 7.07 to 11.44% and 16.92 to 19.92% and carbohydrate content was decreased from 57.81 to 49.14%. In sensory evaluation mushroom cake T₄ gets preference texture (6.80), color (6.70), flavor (6.80), taste (6.80) and overall acceptability (6.60) like attributes than other treatments. T₁, T₃, and T₄ treatments were selected for the storage studies based on the sensory evaluation the overall acceptance of this treatment were (6.40), (6.60), (6.60). These were the highest overall acceptance of whole treatments.

Microbial analysis of storage period was evaluated preferred storage studies for every weeks. After 4 weeks some fungus observed in sample. Based on the analysis cake prepared from five treatments the T₄ (85% wheat flour with 15% mushroom powder) significantly improved sensory evaluation, nutritional analysis to compared to all other treatments. The texture of the cakes with mushroom powder was equally acceptable to the control cake. The overall acceptability of the cakes with mushroom powder was equally acceptable to the control cake.

TABLE OF CONTENT

ABSTRACT	i
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENT	iv
LIST OF FIGURES.....	x
LIST OF TABLES	xi
LIST OF PLATES.....	xii
ABBREVIATION	xiii
CHAPTER 01.....	1
1.0 INTRODUCTION	1
CHAPTER 02.....	5
2.0 LITERATURE REVIEW	5
2.1 Cake	5
2.2 Classification of a cake	5
2.3 Ingredients for cake making.....	6
2.3.1 Wheat flour.....	6
2.3.2 Sweeteners.....	6
2.3.3 Fats	7
2.3.4 Eggs.....	7

2.3.5 Leaveners	8
2.3.6 Dried oyster mushroom powder	8
2.4 Nutritional value of mushrooms	9
2.4.1 Protein	9
2.4.2 Mineral composition	9
2.4.3 Carbohydrate, fibers and fat	9
2.4.4 Vitamins	10
2.5 Medicinal value of mushrooms.....	10
2.5.1 Mushrooms in cardiovascular health.....	11
2.5.2 Low calorie food	11
2.5.3 Prevents cancer.....	11
2.5.4 Regulate digestive system	11
2.6 Overview of mushroom	12
2.7 Morphology of mushrooms.....	13
2.8 Postharvest handling of mushrooms	14
2.8.1 Harvesting of mushrooms	14
2.8.2 Cleaning and washing	15
2.8.3 Packaging and storage.....	15
2.9 Value added mushroom products.....	16
2.9.1 Mushroom soup powder.....	16

2.9.2 Mushroom biscuits	17
2.9.3 Mushroom nuggets	17
2.9.4 Mushroom ketchup	17
2.9.5 Mushroom candy	18
2.9.6 Mushroom chips	18
2.10 Sensory evaluation	18
2.10.1 Needs of sensory evaluation	19
2.10.2 Use of sensory evaluations	19
2.10.3 Requirement of sensory evaluation	19
2.11 Hedonic scale	20
2.12 Qualities assessment of sensory test	20
2.12.1 Appearance	21
2.12.2 Flavor	21
2.12.3 Color	21
2.12.4 Texture	21
CHAPTER 03	22
3.0 MATERIALS AND METHODS	22
3.1 Development of semi-automatic hand mixture	22
3.2 Material used for this study	23
3.2.1 Procurement of materials	23

3.2.2 Preparation of mushroom powder	23
3.2.3 Preparation of wheat flour	24
3.3 Development of cake	24
3.4 Different combinations of mushroom powder and wheat flour for composite cake.	26
3.5 Organoleptic Analysis.....	26
3.5.1 Materials used for organoleptic analysis	27
3.5.2 Serving the sample for organoleptic analysis.....	28
3.6 Physical evaluation of cake incorporating Oyster mushroom powder.	28
3.6.1 Height and length	28
3.6.2 Weight	28
3.6.3 Volume	29
3.6.4 Density	29
3.7 Nutritional analysis	29
3.7.1 Determination of moisture content.....	29
3.7.2 Determination of ash content	30
3.7.3 Determination of crude fiber content	32
3.7.4 Determination of crude protein	33
3.7.5 Determination of Fat	36
3.8 Microbiological analysis.....	37

3.8.1 Total plate count.....	38
3.9 Storage studies and shelf-life evaluation	39
3.10 Statistical analysis	40
CHAPTER 04.....	41
4.0 RESULT AND DISCUSSION.....	41
4.1 Nutritional composition of the freshly made oyster mushroom powder	41
4.2 PHYSICOCHEMICAL ANALYSIS OF MUSHROOM CAKE	42
4.2.1 Physical characteristics of developed mushroom cake	42
4.2.1.1 Height	42
4.2.1.2 Weight	42
4.2.1.3 Density.....	43
4.2.1.4 Volume	44
4.3 Organoleptic qualities analysis of freshly made mushroom cake.....	44
4.3.1 Texture	45
4.3.2 Color.....	46
4.2.3 Flavor	46
4.2.4 Taste	47
4.2.5 Overall acceptability	47
4.4 Nutritional analysis of freshly made wheat flour-mushroom powder cake.....	48
4.4.1 Moisture content.....	48

4.4.2 Ash content.....	49
4.4.3 Carbohydrate content	49
4.4.4 Protein content.....	50
4.4.5 Fat content	51
4.5 Changes in quality characteristics of wheat flour – mushroom powder composite cakes during storage.....	52
4.5.2 Changes in moisture content of mushroom cake during storage period	53
4.5.3 Ash content of mushroom cake during the storage period.....	54
4.5.4 Protein content of mushroom cake during the storage period.....	55
4.5.5 Fat content of mushroom cake during the storage period	56
4.6 Organoleptic analysis of mushroom cake during the storage period	56
4.7 Evaluation of microbial quality	58
CHAPTER 05.....	59
CONCLUSIONS	59
SUGGESTIONS FOR FUTURE RESEARCH WORK	61
CHAPTER 06.....	62
REFERENCES	62
APPENDIX.....	i

LIST OF FIGURES

Figure 3. 1: Flow chart for the preparation of mushroom powder.....	24
Figure 3. 2: Flow chart for the preparation of cake.....	25
Figure 4. 1: Protein content of each treatments.....	50
Figure 4. 2: Fat content of each treatments	51
Figure 4. 3: Changes in moisture content during the storage period	53
Figure 4. 4: Changes in ash content during the storage period	54
Figure 4. 5: Changes in protein content during the storage period	55
Figure 4. 6: Changes in fat content during the storage period	56

LIST OF TABLES

Table 3. 1: Experimental design.....	26
Table 3. 2: Treatments of preparation of mushroom cake	26
Table 4. 1: Composition of dried mushroom powder.....	41
Table 4. 2: Physical properties of freshly made of wheat flour- mushroom powder cake	43
Table 4. 3: Organoleptic analysis of freshly made mushroom cake	45
Table 4. 4: Nutritional composition of wheat flour – mushroom powder cake for different treatment combinations	48
Table 4. 5: Different combinations of mushroom powder and wheat flour for composite cake selected for storage studies	52
Table 4. 6: Moisture, Ash, Protein, Fat and Carbohydrate content mean value of different combination of wheat – mushroom powder cake during the storage period.....	52
Table 4. 7: Organoleptic characteristics of cake after four weeks of storage at ambient temperature.....	57
Table 4. 8: Result of microbial study	58

LIST OF PLATES

Plate 2. 1: Morphology of mushroom (Gobinath 2015).....	13
Plate 3. 1: Semi-automatic hand mixture.....	23
Plate 3. 2: Cake prepared with different amounts of added Mushroom.....	27
Plate 3. 3: Oven dried mushroom cake of each treatment.....	30
Plate 3. 4: Ash content of cake in each treatment	31
Plate 3. 5 : 1.25% H ₂ SO ₄ Solution filtering through muslin cloth.....	33
Plate 3. 6: 1.25% NaOH filtered solution	33
Plate 3. 7: Digestion unit.....	35
Plate 3. 8: Distillation unit.....	35
Plate 3. 9: Titration unit.....	35
Plate 3. 10: End point of titration	35
Plate 3. 11 Fixed the extraction	37
Plate 3. 12: Extracted fat	37
Plate 3. 13: Petri dishes with media and cake sample of each treatment	39
Plate 3. 14: Storage studies of mushroom cake.....	39