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Studies on Preparation of Cheesy Chicken Pops/Balls

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***Abstract*- The present investigation is carried out with the objectives to uplift the nutritional value and shelf life of cheesy chicken pops/balls by using dried chicken powder. Various trials were taken for the formulation of recipe with varying quantity of different raw materials like rice flour, corn starch, chickpea flour & chicken powder. The result outcome of this research is that good quality chicken pops/ nuggets can be prepared by using chicken powder & other types of flour rather than wheat flour. This is a good source of proteins, carbohydrates and minerals like phosphorus, potassium etc. As per the sensory evaluation of the product by using 9 point hedonic scale method by the semi trained panel members, chicken pops/balls having good consumer acceptability can be prepared. The prepared cheesy chicken pops/balls can be stored for long time with nitrogen packaging.**

Keywords – Chicken powder, nitrogen packaging, protein.

I. INTRODUCTION

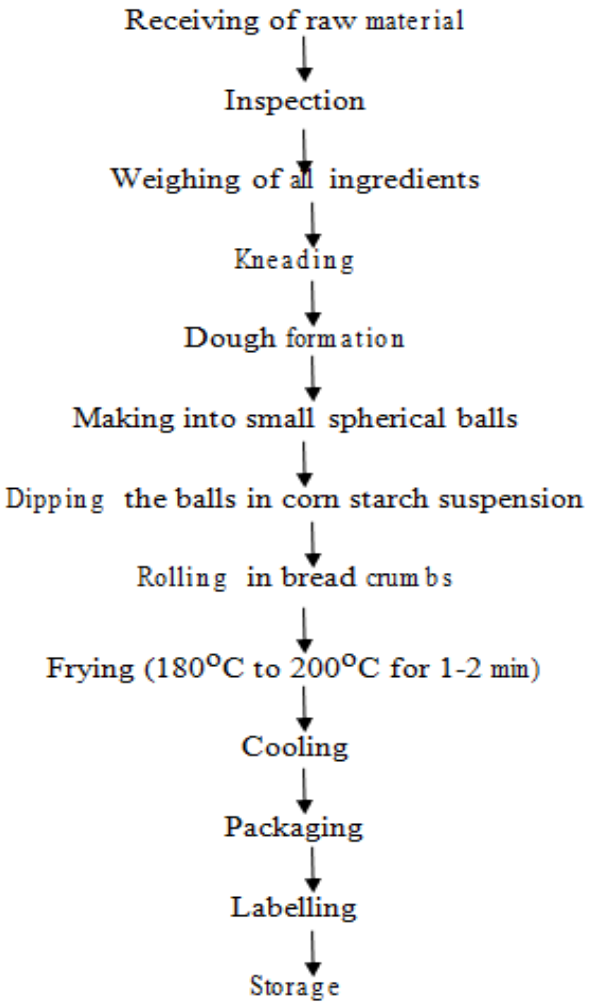
India being a 3rd largest producer of poultry stands one of largest consumer of poultry too. The cheesy chicken pops/balls are a snack food consisting of small, spherical or nearly spherical pieces of chicken combined with flour. It can be prepared and eaten in various cuisines. It's a kind of fried snack and served with tomato ketchup in general. Chickens with high protein and low fat content have increased the demand in Indian market. Besides, chicken is a very good source of minerals and vitamins. Ounce of skinless chicken breast provides 7g protein, 143 calories, 3g total fat and 1g saturated fat. Chicken is considered as complete protein food due to its all essential amino acid content. Rice flour is a product of milling. Rice flour is widely used as a good substitute for wheat flour, which may causes celiac disease and gluten intolerance. In the preparation of chicken balls efforts were taken in such a way to prepare protein rich, appealing, low cost ready to eat snack product.

II. MATERIALS AND METHODS

Raw material

The raw materials required to prepare chicken pops such as raw chicken, rice flour, chickpea flour, etc. The boneless chicken was dried in cabinet drier at 65˚C for 24 hours.

Manufacturing of chicken balls



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Optimization of cheesy chicken pops

The optimization process was carried out with the formulation of chicken powder, rice flour, corn starch, chickpea flour composition was optimized by sensory evaluation of final product by semi-trained panel members.

Table No.1 Optimization of cheesy chicken pops

Ingredients	T1(g)	T2(g)	T3(g)	T4(g)	T5(g)	T6(g)
Chicken Powder	8	10	12	13	14	15
Rice flour	53	52	51	51	50	50
Chickpea flour	11	9	8.5	8	7	7
Corn starch	29	27	25	25	24	24
Cheese	2 Cubes	2 Cubes	2 Cubes	2 Cubes	2 Cubes	2 Cubes
Salt	2	2	2	2	2	2
Spices	4	4	4	4	4	4
MSG	-	-	0.02mg	-	-	-

Sensory evaluation of Cheesy chicken pops: - The sensory evaluation of prepared chicken pops was carried out as per the 9 point hedonic scale method. The semi- trained panel of 5 members was there for sensory evaluation. Panelists were instructed to evaluate how much they like appearance, texture and overall acceptability of chicken pops on hedonic scale.

III. RESULT AND DISCUSSION

Nutritive value of chicken

Chicken is rich in many vitamins and minerals essential for human health and is a good food choice for dieters as well as bodybuilders and everyone in-between. Like beef, fish and other types of poultry, chicken is high in protein. Each ounce of meat provides 7g protein. A typical portion is about 4 ounces or the size of a deck of cards and provides 28g protein. According to Nutrition Data, skinless chicken breast provides the least amount of calories and fat, about 143 calories, 3g total fat and 1g saturated fat for half of a large boneless, skinless breast, or a 95g serving.

Table No.2 Chemical composition of chicken

Nutrients	Per 100g
Energy (kcal)	102.0
Protein	22.4g
Carbohydrate	0.70g
Sugar	0.7g
Fat	1.1g
Sodium	0.04g

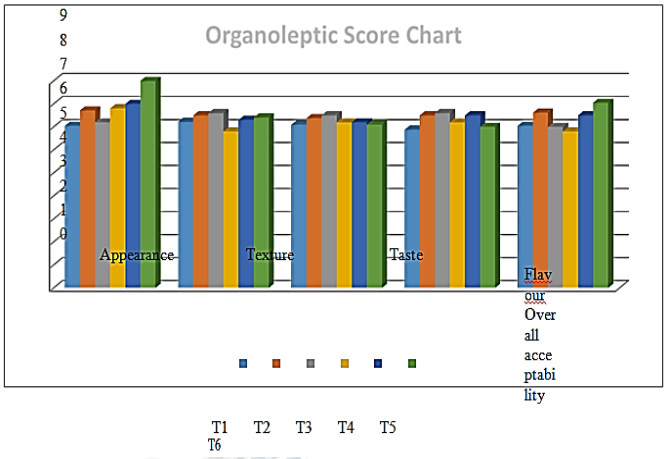
According to Table No.2 chicken is an excellent source of protein. According to the National Chicken Council, in each 100 grams of cooked skinless, boneless chicken breast, you will find 31 grams of protein – more than half of the daily recommended amount.

Table 3. Organoleptic evaluation of meat balls

Sample	T1	T2	T3	T4	T5	T6
Color & appearance	7.05	7.72	7.2	7.8	8.0	9.0
Texture	7.22	7.5	7.6	6.8	7.3	7.4
Taste	7.1	7.38	7.5	7.2	7.2	7.1
Flavors	6.88	7.5	7.6	7.2	7.5	7.0
Overall Acceptability	7.05	7.61	7.0	6.8	7.5	8.05

With holding to above Table No.3 According to sensory evaluation, sample T6 was found more significant than other two samples.

Organoleptic Score Chart



Graph No.1 Organoleptic Score Chart of cheesy chicken pops

Nutrients	Per 100g
Energy (kcal)	458.3
Carbohydrate	53.8g
Fat	19.5g
Protein	16.9g
Ash	2.65g
Fibre	2.79g
Moisture	3.31g
Iron	0.32mg

Table No.4 Physicochemical analysis of cheesy chicken pops

The prepared product is of good nutritional value and contributes important nutrients. The results pertaining to chemical composition are narrated in above Table 4. The values related to chemical composition exploits that it contains energy 458.3 kcal, carbohydrates 53.8g, proteins 16.9g, fats 19.5g, saturated fat 2.0g and iron 0.32mg.

IV. CONCLUSION

The chicken powder and rice flour are good sources of nutrients like proteins, carbohydrates, iron, selenium, etc. Good quality chicken pops can be prepared by using dried chicken powder, rice flour and chickpea flour. The prepared chicken pops can be stored for specified time under prompt conditions like, suitable packaging (nitrogen packaging) and ambient temperature (preferably refrigeration). The prepared product is a good source of proteins which can contribute in reducing protein malnutrition.

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