



Formulation & Proximate Analysis of Ready- To -Cook Chicken Curry Spice Mix and A Process of its Preparation

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ABSTRACT-

The present work relates to the formulation of a ready-to-cook spice mix and a quick food formulation. In the current effort, a ready-to-cook chicken curry spice mix that is free of artificial color, flavour, and preservative is created. This spice blend is made up of a combination of dried powders using a tray dryer dehydrated powder. Using a tray dryer, vegetables like onions, tomatoes, ginger, garlic, and coriander were dried. Coconut was also used, along with a few carefully chosen spices like bay leaf, asafoetida, cardamom, clove, and cinnamon salt. The Satara market has all of these ingredients on hand. The primary goal of this endeavour is to give instant food while conserving fuel and time while cooking. We investigated the ready-to-cook chicken 9 curry spice mix proximate analysis. It is a quality source of protein & carbohydrate and gives 373.94Kcal/100g.

Keywords- Ready -To-Cook, Spice mix, Dehydrated, cooking time, Energy, Proximate, Flavour

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INTRODUCTION

Ready-to-cook spice mix is the instant food Peoples are the closest substitute for our regular diet, and in recent years, ready-to-eat and ready-to-cook food products have dominated the market. Food preferences and cooking techniques have significantly changed over the past few years as a result of urbanization, cultural change, and social change. We discuss three different categories of ready-to-eat/cook food items, including those based on meat, poultry, and fish as well as those based on fruits, vegetables, cereals, and pulses. A multitude of processing techniques are used to create this kind of food, including extrusion, baking, sterilizing, puffing, coating, cold plasma, HPP, etc. The packaging of these food products and their microbiological safety are essential for extending shelf life. We are emphasizing modern developments in fashion and technology (1).

Dehydration is the most important step in the formulation of chicken curry spice mix (5,6). Fruits and vegetables are abundant in vitamins, carotenoids, ascorbic acid, minerals, and healthy fibre despite their climactic nature and very limited shelf life after harvest. At room temperature and relative wetness, fresh fruits and vegetables typically turn brown, wilt, and lose nutritional content(8). When reduced to greasepaint form, they are easy to maintain, transport, store, and use as ingredients. Fruit and vegetable maquillages have much less water content and water exertion, which increases their shelf life. The loss of essential nutrients during the production process of greasepaint products can also be minimized by carefully selecting the drying methods and shelling accessories. Current work relates to prepared foods that comprise all ingredients and require some cooking steps that are specified on the packaging. This curry mix saves time and fuel when cooking is necessary (9).

Over time, there are more ready-to-cook foods available. The prepared food formulations in this work are provided. The ready-to-cook spice includes salt to taste, 15-20% onion powder, 3-4% tomato powder, 2-3% garlic powder, 1% ginger powder, 20-25% dry coconut powder, 25-30% red chilli powder, and other spices. It also contains 4%-10% cooking oil. The ready-to-cook chicken curry spice blend has less than 5g of moisture per 100g. The pre-mixed spice blend for chicken curry is granular and ready to use. The present work disclosure further provide process of preparing ready to cook chicken curry spice mix. The process comprising cleaning of all material required to ready to cook chicken curry spice mix. a predetermined amount of onion, tomato, ginger, garlic, coriander cutting into small pieces & dry in tray

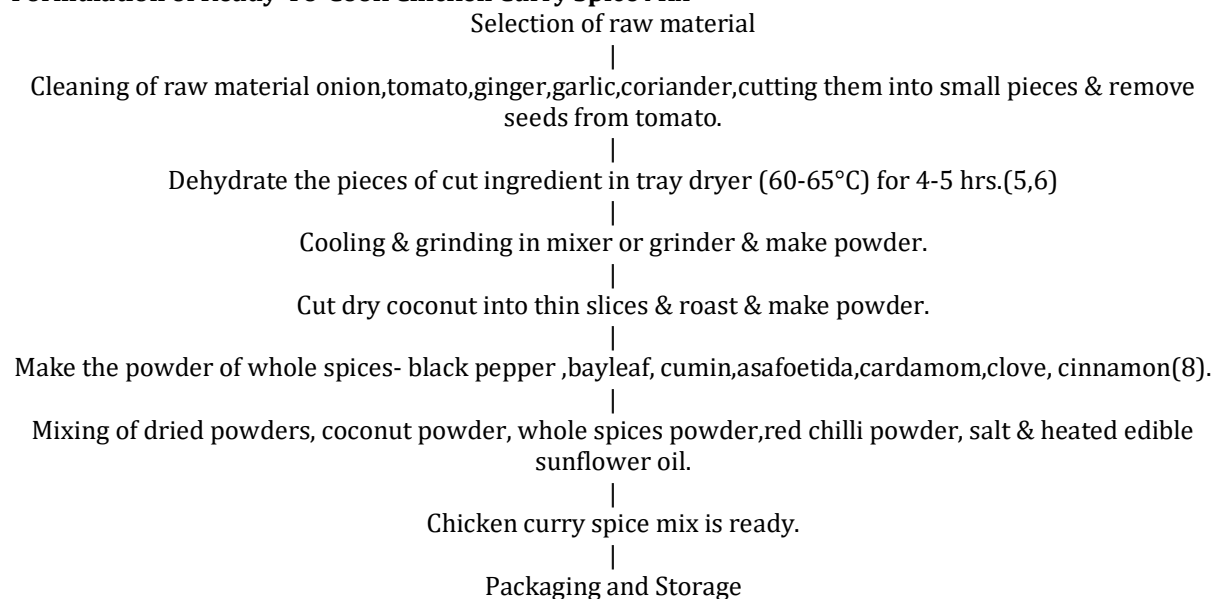
dryer (temperature in the range of 70-75°C) for 4-5 hrs. & make powder of dried ingredients. a predetermined amount of dry coconut is to roast dry coconut flakes & make powder. Then mix the dried ingredient powder, dry coconut powder, red chili powder, spices powder, sunflower oil & salt. the ready to cook chicken curry spice mix is ready (1,2).

MATERIAL AND METHODS-

The present work entitled on Formulation & Proximate Analysis of Ready- To -Cook Chicken Curry Spice Mix And A Process of its Preparation was carried out in the laboratory of Department of Food Processing & Packaging of Yashwantrao Chavan institute of Science, Satara.

Raw Material: - The required material onion, tomato, ginger, garlic, coriander, coconut and some selected spices like red chili powder, black pepper, bay leaf, cumin, asafoetida, cardamom, clove, cinnamon salt, refined sunflower oil is procured from the local market.

Formulation of Ready-To-Cook Chicken Curry Spice Mix-



1. Selection of raw material- Selection of raw material - onion, tomato, ginger, garlic, coriander, coconut and some selected spices like red chili powder, black pepper, bay leaf, cumin, asafoetida, cardamom, clove, cinnamon salt, refined sunflower oil was purchased in satara local market.

2. Cleaning of raw material- Cleaning of material such as peeling of onion peeling of garlic, washing of ginger, coriander & tomato was carried out (2).

3. Cutting of raw material- Cutting of cleaned onion, garlic, ginger, coriander, tomato & remove seed from tomato into small pieces.

4. Dehydration- Dehydration is the process in that removing of water is done to extend shelf life. in dehydration step cut ingredients onion, garlic, ginger, coriander, tomato placed in trays of tray dryer & dry till all moisture content removed. (60-65°C for 4-5 hrs).

5. Making powder of dried ingredients- after drying let them cool & make powder in the grinder or mixture & sieve the powders differently (5,6).

6. Coconut powder- make the dry coconut powder by dried coconut. slice the dried coconut & roast the sliced coconut & grind it after cooling.

7. Making whole spices powder- roast the whole spices like black pepper, bay leaf, cumin, asafoetida, cardamom, clove, cinnamon & make powder.

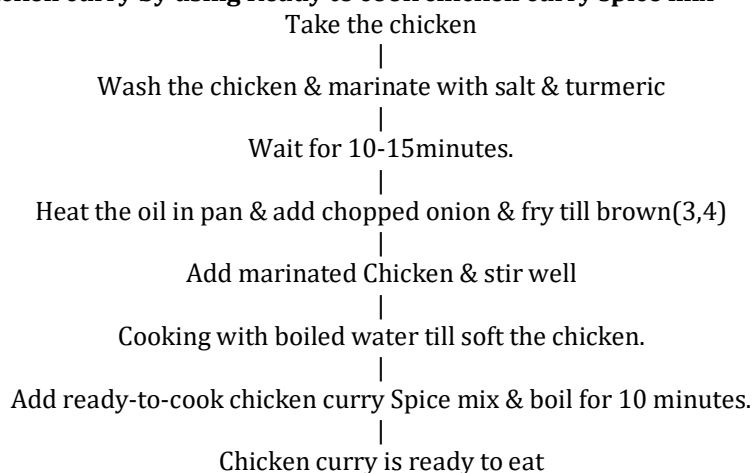
8. Heating of oil- heating of few amount of sunflower oil & cool it.

9. Mixing of all Ingredient- Mixing of all ingredients like dried powders of onion, tomato, ginger, garlic, coriander, dried coconut powder, whole spices powder, red chilli powder, salt & refined sunflower oil & mix properly.

10. Grinding of Mixed Spice mix- Grind the mixed mixture again to smooth texture. Ready-to-cook chicken curry spice mix is ready.

11. Packaging & Storage- Packaging & storage of spice mix is done to avoid contamination & store for long life.

Preparation of chicken curry by using Ready to cook chicken curry spice mix-



1. Take the chicken pieces & wash the chicken to avoid contamination.
2. Marinate the chicken pieces with few amounts of salt & turmeric & wait for 10-15 minutes.
3. Heat the edible oil in pan & add chopped onion & fry the onion till brown.
4. Add marinated chicken into pan & stirring properly & cook the chicken with boiled water till the chicken soft. now, chicken soup is ready (3,4).
5. Add ready-to-cook chicken curry spice into cooked chicken soup & boil it for 10 minutes. chicken curry is ready. Garnish it with fresh coriander leaves.

Analytical Methods For Proximate Analysis -

Determination of moisture content -

The moisture content of ready to cook chicken curry masala by using hot air oven method (7). 10g of sample was taken in pre-weighed empty petri plate & dried in hot air oven at 100°C till constant weights were obtained (6-7 hrs.) (plates were cooled in desiccator) then, moisture content was calculated by using formula-

$$\text{Moisture content(\%)} = \frac{(W1-W2)}{\text{Weight of sample}} \times 100$$

Where, W1=Weight (g) of the sample before drying.

W2= Weight (g) of the sample after drying.

Determination of total ash content -

The Muffle furnace method is used to determined total ash content in ready-to-cook chicken curry spice mix(7). The 5g of sample taken & approx.5ml alcohol was added to it. These was ignited in muffle furnace for 5-6 hrs. at 550°C for ashing. the total ash content can be expressed s percentage by using the formula-

$$\text{Ash(\%)} = \frac{(\text{weight of crucible after ashing})-(\text{weight of empty crucible})}{\text{Weight of sample}} \times 100$$

Determination of protein content -

The kjeldhal method is used to determined the protein content in Ready-to-cook chicken curry spice mix(7). 2g of sample was digested with conc.H₂SO₄ with catalytic mixture CuSO₄:Na₂SO₄ (1:3).the digested sample was distilled & titrate with 0.1N NaOH. the percentage of nitrogen was calculated by using factor 6.25. formula-

$$\text{Nitrogen (\%)} = \frac{\text{Difference in B.R.} \times \text{N} \times 0.014}{\text{Weight of sample}} \times 100$$

% Protein =% Nitrogen×6.25

N-Normality of NAOH

B.R.- Burette Reading.

Determination of Fat Content -

The fat content is determined by using the soxhlet apparatus method(7). moisture free sample was used & extraction was carried out by using petroleum ether (B.P.40-60°C).2g of moisture sample taken in thimble & petroleum ether was taken in preweighed round bottom flask.after completion of 6 siphons the extraction process was stopped & then remaining petroleum ether in round bottom flask was evaporated & it was weighed. The percentage of fat was calculated by using formula -

$$\text{Fat(\%)} = \frac{(\text{Final Weight of Flask}) - (\text{Weight of Empty Flask})}{\text{Weight of sample}} \times 100$$

3.5 Determination of carbohydrate-

Carbohydrate (%) = [(100 - (% of moisture + % of protein + % of fat + % of ash))].

3.6 Determination of Energy-

Energy(Kcal) = [(Carbohydrates x 4 kcal/g) + (protein x 4 kcal/g) + (fat x 9 kcal/g)].

RESULT AND DISCUSSION

In order to increase the spice mix's shelf life, several techniques, such as dehydration onions, tomatoes, ginger, garlic, and coriander, were used in its preparation. Some spices were added to the spice mixture to improve the flavour of the chicken curry, including bay leaf, cumin, asafoetida, cardamom, clove, and cinnamon. To extend the shelf life of spice blends, salt and refined sunflower oil are added since they function as natural preservatives.

The Ready-to-Cook Chicken Curry Spice Mix done with proximate analysis to determine its protein, carbohydrate, fat, moisture, fibre, and ash content. It provides 55.80g of carbohydrates, 11.83g of protein, 12.38g of fat, 9.82% of ash, and 12.17% of moisture in 100 gram of spice mix. It also provides 373.94 Kcal. (table no.1)

The preparation of chicken curry by using ready-to-cook Chicken curry spice mix was carried out. (Shown in fig.2). & the color, flavour, consistency, Mouthfeel & overall acceptability was good.



Fig.1(Ready-to-cook Chicken curry spice mix)



Fig.2(Preparation of chicken curry)

2. Proximate Analysis- The Proximate analysis of ready-to-cook chicken curry spice mix was carried out.

Table 1 :- Proximate analysis result of ready-to-cook chicken curry spice mix.

Sr. No	Nutrients	Value per 100g
1.	Energy	373.94Kcal
2.	Carbohydrate	53.80g
3.	Protein	11.83g
4.	Fat	12.38g
5.	Ash	9.82%
6.	Moisture	12.17%

CONCLUSION

The creation of curry using the ready-to-cook chicken curry spice mix was done after studying the formulation of the spice mix. Therefore, it is very simple and time & fuel saving to prepare chicken curry using a ready-to-cook spice blend. The determination of carbohydrate, protein, fat, and fibre was done as part of the proximate analysis. 100g of the chicken curry spice blend provides 373.94Kcal of energy.

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