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ORIGINAL ARTICLE **OPEN ACCESS**

Development of a Protein-Rich Pan Masala Basundi Premix

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ABSTRACT –
The market for protein supplements, which is in high demand due to the popularity of muscle development, is looking to make a lot of money and is expanding quickly. Consuming a protein rich basundi premix likely in milk helps to make more delicious and nutritious . For more deliciousness adding of pan masala flavour in basundi premix. It include milk powder, powdered sugar, dry fruit powder, pumpkinseed powder, cardamom powder, kesar, betel leaves powder, rose petal powder, Fennel seed powder. This ingredients are dry in tray dryer . Betel leaf or "Pan" is contemplated as "a neglected green gold of India" due to its nutritional, economic, medicinal, social and cultural values. We are mainly targeting aged people, as presently the availability of products targeting aged people is quite lesser than the products targeting for kids and adults. A premix for Basundi rich in protein was developed for general population except diabetic people. No adding any additives in this basundi premix. All ingredients are natural and safe for consumption.
Key words- protein,nutrition , diabetic, delicious, premix, basundi, pan masala.

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INTRODUCTION-

Each nutrient component is prescaled and carefully combined into a premix, which is a commercially manufactured, customised combination. A mixture of ingredients designed to be mixed with other ingredients before use. Cereals, bread, beverages, premixes supplemented with vitamins, some herbs, and nutraceuticals are examples of functional food. A dietary supplement is a product that is used orally and contains one or more components, such as vitamins or amino acids, that are not classified as food but are meant to complement a person's diet.[1]. Due to the craze for muscle building, market demand, the deliciousness of health, and the possibility of being competitive, our goal was to develop a protein-rich product with a good amount of fibre and to carry out the proximate analysis, microbial analysis, sensory analysis, packaging, labelling, and shelf life studies of the product. The primary fuel for body tissue maintenance, including growth and repair, is protein. A form of carbohydrate called fibre [2].
The basundi premix content milk powder, powdered sugar, pumpkinseed powder, cardamom powder, kesar, saunf(Fennel seed)rose petal powder, betel leave powder.
Milk powder –. Milk is a complete food which gives a lactose to human body. Lactose is a fusion of glucose and galactose.Powdered sugar- Powdered sugar mainly used in ready to serve food product because the powdered sugar dissolve or mix very quickly. Pumpkinseed powder - The varieties of pumpkin like CM-14, Pusha vishwas, Arka chandan, Arka suryamukhi, CM-350 and NDPK-24 are found in India. The colour of flesh ranges from yellow to crimson and flesh thickness often varies widely.[18] Approximately 60% protein content by weight, it can be a healthy component of dietary supplements or food to support healthy body weight and overall nutrition. cardamom powder- Cardamom powder is an aromatic, charming taste enhancer made by grinding cardamom to a fine powder. The main components of cardamom essential oil (CEO), which can be employed in food, fragrance, and pharmaceutical applications, are 1,8-cineole, -terpinyl acetate, sabinene, and -linalool. Kesar -. A potent spice with lots of antioxidants is saffron. Saffron is frequently used to treat a variety of ailments, including premenstrual syndrome (PMS), menstrual cramps, Alzheimer's disease, and depression. Fennel seeds, which come from one of numerous varieties of the herb fennel plant, are used to make fennel seed powder. Fennel seeds typically include 8.8 g of water, 15.8 g of protein, 14.9 g of fat, 36.6 g of carbohydrates, 15.7 g of fibre, and 8.2 g of ash per 100 g of edible portion (containing 1.2 g Ca, 19 mg Fe, 1.7 g K, 385 mg Mg, 88 mg Na, 487

mg P and 28 mg Zn). Every 100 g contains: vitamin A (135 IU); niacin (6 mg); thiamine (0.41 mg);and riboflavin (0.35 mg)[3].

Rose petal powder - Rose Petal Powder is a pinkish brown powder with a subtle sweet fragrance, prepared from the dried rose petals. Rose Petals powder contain anti-oxidants that fight off free radicals, skin irritants, excess sebum and germs[4]. Betel leaves powder - an Asian plant that has leaves and red nuts that act as a drug when chewed. betel leaf is good for health. It may have anti-cancer, antioxidant, anti-allergic, antifungal, anti-diabetic, and anticancer properties It is useful in arresting secretion or bleeding and is an aphrodisiac. Shrikhand is a nutritious indigenous fermented dairy product from western India which is semisolid and sweetish-sour in taste. It is well-known for its flavour, taste, pleasant quality, and therapeutic properties . A study was conducted by Yadav to develop a Goat milk shrikhand blended with sapota pulp and betel leaf extract [5]. The product is easy to make and can be consumed by any group of population above the age of 3 years.

MATERIAL AND METHODS

The research on protein rich pan masala basundi premix was carried out at laboratory level in department of Food Processing and Packaging, Yashavantrao Chavan Institute of Science, Satara. During the year 2022-2023.This product manufacturing process include drying, grinding and mixing process. In drying process ingredients like dry fruits , rose petals, betel leaves, fennel seeds are include. This dried ingredients gets grind in grinder . Grinder gives a thin powdered texture to all ingredients. Then the mixing process is carried out.

The protein rich pan masala basundi premix content this ingredients- Milk powder , powdered sugar, dry fruit powder, pumpkin seed powder , cardamom powder, kesar, fennel seed powder, rose petal powder, betel leaves powder are include.

Collection of material-

The raw material was collected or purchased in local market at Satara.

Equipment used-

The moisture content of is determined by using the hot air oven method at department of food processing and packaging of yashaIantrao Chavan institute of Satara.. The tray dryer is available at department of Food Processing and Packaging, Yashwantrao Chavan Institute of Satara. Hot air oven method, Acid- alkali hydrolysis method, Soxhlet method, Kjeldhal method, Muffle furnace were used for determining of moisture, fiber, fat, protein, Ash

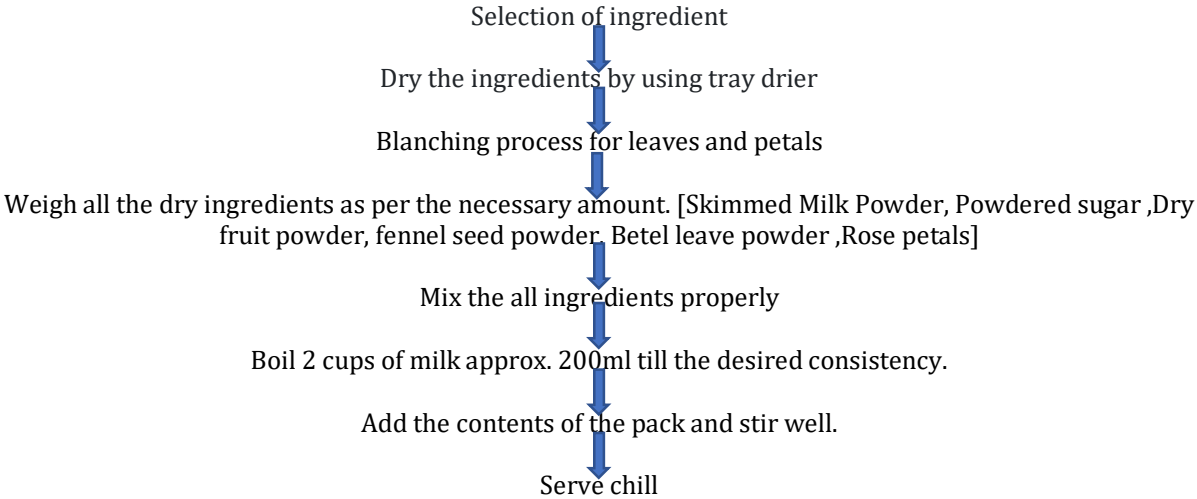
Materials –

The basundi premix content milk powder, powdered sugar, pumpkinseed powder, cardamom powder, kesar, saunf (Fennel seed) rose petal powder, betel leave powder

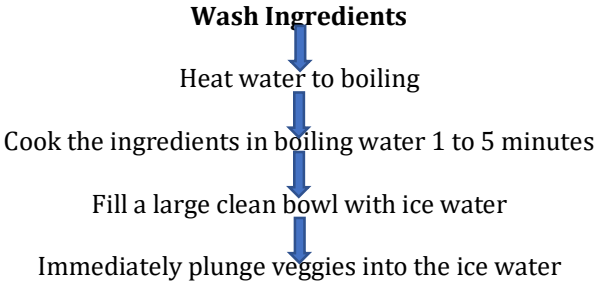
Methods –

1. Raw material collection
2. Blanching
3. Grinding
4. Mixing
5. Sensory evaluation

Flow chart- Standard formulation



Blanching Process-



PROXIMATE EVALUATION OF THE PRODUCT

Using different methods carried out proximate analysis of the product.

Evaluation of Moisture Content

Using hot Drying Method i.e. the conventional method evaluated moisture content of the product. The sample was weighed and treated at 100ºC for 3 hours in the Hot Air Oven [1]

Evaluation of Ash Content

Ash content of the product was evaluated by using Muffle Furnace. The sample was weighed and incinerated to remove the carbon molecules from the product and ignited at 550°C in the muffle furnace[1]

Evaluation of Fat Content

Fat content of the product was determined by using the Soxhlet method. Crude fat was determined using the Soxhlet extractor and Petroleum ether as a solvent. Method mentioned in A.O.A.C Manual.

Evaluation of Protein Content

The protein content of the product was evaluated by using kjeldhal method. Method described in A.O.A.C Manual

Evaluation of Carbohydrate Content

Carbohydrates content was determined by using weight difference method subtracting the sum of the values of moisture, protein, fat and ash from 100.

Evaluation of Energy Content

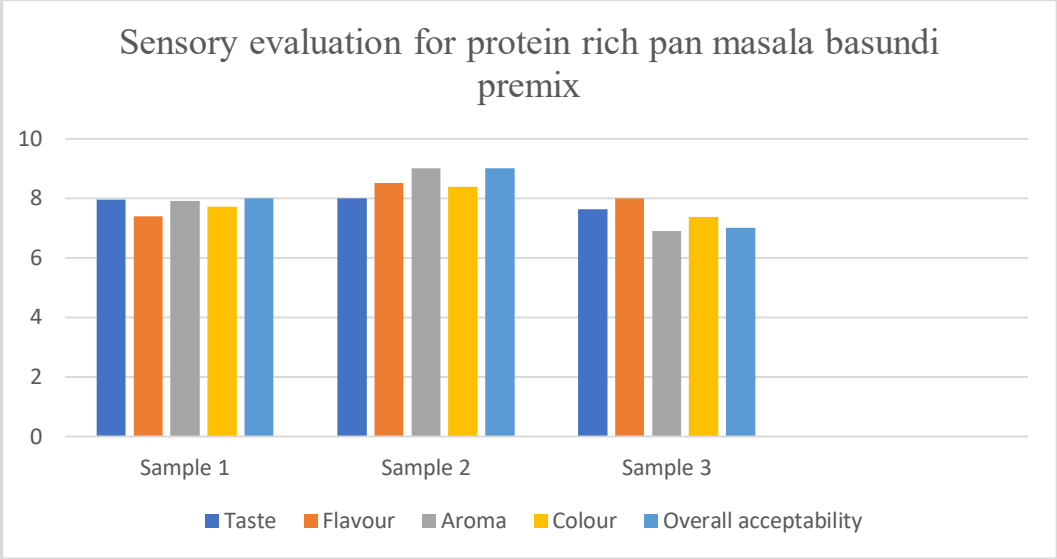
Energy content was determined by multiplying the crude proteins, crude carbohydrates and crude fats by water factors 4, 4 and 9 respectively.

RESULT AND DISCUSSION-

This data is resulting as the compostion of protein rich pan masala basundi premix.For sampling three samples are composed as S1,S2,S3.This samples are differentiate in the proportion of pan powder valuation in basundi premix. In S1 the pan proportion is 5g in 25g of basundi premix ,in , S2 the pan proportion is 2g in 25g of basundi premix and in S3 the pan proportion in 1g in 25g of basundi premix. As per sensory analysis the S2 sample is selected is shown in Table no.1.

Table 1 . Sensory evaluation of protein rich pan masala basundi premix.

Parameters	S1: pan (5g)	S2:pan (2g)	S3: pan (1g)
Taste	7.95	8	7.62
Flavour	7.38	8.51	8
Aroma	7.90	9	6.90
Colour	7.71	8.38	7.37
Overall acceptability	8	9	7



The information of chemical analysis of protein rich basundi premix is carried out in laboratory is shown in table no.2. For moisture content 2 samples are used for a readings S1 and S2. the moisture content is maximum (S2)2.86% and the minimum moisture content is(S1)is Recorded as 2.76% . The protein content in protein rich pan masala basundi premix is recorded as19.33%.The fat content in protein rich pan masala basundi premix is recorded as 6.26%. The ash content in protein rich pan masala basundi premix is recorded as 4.90%. Evaluation of proximate analysis.

Table 2: Chemical composition of protein rich pan masala basundi premix

Nutrients	Value per 100g
Energy	400.46kcal
Carbohydrates	66.1mg
Protein	19.93g
Fat	6.26g
Ash	4.90
Moisture	2.81

CONCLUSION

The protein Rich Pan Masala Basundi Premix is developed with acceptable quality. The final product is Rich in carbohydrate, protein. It beneficial for earn protein. While areca nuts were once thought to be an aphrodisiac, betel leaves are used as a stimulant, an antibacterial, and a breath freshener.Its beneficial for good digestion. For making a good and succesful premix use Blanching process for betel leaves and rose petals. After blanching process for drying the tray dryer is used. The temperature for tray dryer is 65℃,for 5hrs. This process Dry the materials without enzymatic reaction. The Grinding process give a thin powdered property to ingredients. The mixing process mix the all ingredient very well,mixing is the most important stem in premix making. It is Vegetarian and rich in protein (19.93%) and Carbohydrate(66.1%) as competition to other Brands.

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